



# TEEGALA KRISHNA REDDY ENGINEERING COLLEGE (UGC-Autonomous)

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Accredited by NAAC with 'A' Grade, Accredited by NBA

Medbowli, Meerpet, Balapur(M), Hyderabad, Telangana- 500097  
Mob: 8498085218. Email: [info@tkrec.ac.in](mailto:info@tkrec.ac.in), [www.tkrec.ac.in](http://www.tkrec.ac.in)



### 3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

College Code: R9

22-23								
Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal		
						Link to website of the Journal	Link to article/paper /abstract of the article	Is it listed in UGC Care list
Performance Evaluation of special Concrete with Steel Slag and waste Glass	Mohammed Muneeruddin Khan , TKREC	Civil Engineering	European Chemical Bulletin	Jun-23	2063-5346	<a href="http://eurchembull.com">European Chemical Bulletin (eurchembull.com)</a>	<a href="#">Microsoft Word - Performance of concrete made with steel slag and</a>	Scopus preview - Scopus - yes
Partial Replacement of Cement with Rice Husk Ash and Jaggery in Cement Concrete.	POKURI CHAITANYA , ALA HARSHAVARDHAN, VALLURI	Civil Engineering	IJTE- International journal of techno engineering	Jun-23	2057 - 5688	<a href="#">IJTE International Journal of Techno-Engineering Homepage</a>	<a href="#">Partial- Replacement- of-Cement- with-Rice- Husk-Ash- Jaggery-in-</a>	Scopus - yes
Reduction of Harmonics to Improve Power Quality in Distribution Lines using a Series	T. Madhubabu	EEE	2023 7th International Conference on Trends	May 2023	ISBN: 979-8-3503-9728-4	<a href="https://www.acof.org">https://www.acof.org</a>	<a href="https://doi.org/10.1109/ICOE156765.2023.10126006">https://doi.org/10.1109/ICOE156765.2023.10126006</a>	YES



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High Voltage DC-DC Converter with Standalone Application & Editing stage	T. Madhubabu	EEE	International Journal of Applied Power Engineering (IJAPE)	JUNE 2023	2252-8792	<a href="https://ijape.iaescore.com/">https://ijape.iaescore.com/</a>	DOI: 10.11591/ijape.v12.i4.pp.384-390	YES	
Output Voltage and Power Factor Improvement for Non-Conventional Energy Generation &151-156	Dr N. Ralashakar Varma	EEE	2023 7th International Conference on Trends in	May 2023	979-8-3503-9729-1	<a href="https://www.acinf.org/">https://www.acinf.org/</a>	<a href="https://doi.org/10.1109/ICOE156765.2023.10125899">https://doi.org/10.1109/ICOE156765.2023.10125899</a>	YES	
15 Level Inverter for Stand-Alone Applications &1439-1443	N. Ralashakar Varma	EEE	2023 7th International Conference on Computing	April 2023	978-1-6654-6409-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICC/MCS6507.2023.10083851">https://doi.org/10.1109/ICC/MCS6507.2023.10083851</a>	YES	
Different Types of Faults Detection and Identification in Synchronous Generator Using MFO-based FL	Dr.B.Vidyasaga	EEE	European Chemical Bulletin	JUNE 2023	E-ISSN:2063-5346	<a href="https://eurchembull.com/upload/paper/c5a11dabe3f7e6597ca907fd715cb81a.pdf">https://eurchembull.com/upload/paper/c5a11dabe3f7e6597ca907fd715cb81a.pdf</a>	<a href="https://eurchembull.com/uploads/paper/c5a11dabe3f7e6597ca907fd715cb81a.pdf">https://eurchembull.com/uploads/paper/c5a11dabe3f7e6597ca907fd715cb81a.pdf</a>	YES	
AUTOMATIC FIRE CONTROL SYSTEM IN RAILWAYS & 2147-2152	Dr.B.Vidyasaga	EEE	European Chemical Bulletin	May-2023	E-ISSN:2063-5346	<a href="https://eurchembull.com/uploads/paper/45187920b68e7b3e43494dc3be20dc16.pdf">https://eurchembull.com/uploads/paper/45187920b68e7b3e43494dc3be20dc16.pdf</a>	<a href="https://eurchembull.com/uploads/paper/45187920b68e7b3e43494dc3be20dc16.pdf">https://eurchembull.com/uploads/paper/45187920b68e7b3e43494dc3be20dc16.pdf</a>	YES	



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								College Code: R9
Renewable Energy Source Fed Multilevel Inverter & 786-791	Ankanthi Manjula	EEE	2023 International Conference on Intelligent	Mar-23	978-1-6654-7452-8	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICDIOT56793.2023.10053486">https://doi.org/10.1109/ICDIOT56793.2023.10053486</a>	YES
POWER QUALITY IMPROVEMENT USING UPQC &2439-2445	Ankanthi Manjula	EEE	European Chemical Bulletin	JUNE 2023	E-ISSN:2063-5346	<a href="https://eurchembull.com/uploads/paper/c9c8417e56a89c1b456fae2d248fe188.pdf">https://eurchembull.com/uploads/paper/c9c8417e56a89c1b456fae2d248fe188.pdf</a>	<a href="https://eurchembull.com/uploads/paper/c9c8417e56a89c1b456fae2d248fe188.pdf">https://eurchembull.com/uploads/paper/c9c8417e56a89c1b456fae2d248fe188.pdf</a>	YES
Time-Domain Control Algorithms of DSTATCOM in a 3-Phase, 3-Wire Distribution System &781-785	K. Santhosh	EEE	2023 International Conference on Intelligent	March 2023	978-1-6654-7452-8	<a href="https://eurchembull.com/uploads/paper/c9c8417e56a89c1b456fae2d248fe188.pdf">https://eurchembull.com/uploads/paper/c9c8417e56a89c1b456fae2d248fe188.pdf</a>	<a href="https://doi.org/10.1109/ICDIOT56793.2023.10053535">https://doi.org/10.1109/ICDIOT56793.2023.10053535</a>	YES
BI-DIRECTIONAL AC-DC CONVERTER FOR ELECTRIC VEHICLE	K. Santhosh	EEE	INTERNATIONAL JOURNAL OF RESEARCH HAND	JUNE 2023	2348-1269	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B4011">https://ijrar.org/viewfull.php?p_id=IJRAR23B4011</a>	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B4011">https://ijrar.org/viewfull.php?p_id=IJRAR23B4011</a>	YES
Power Generation of Wind-PV-Battery based Hybrid Energy System for Standalone AC Microgrid	Nagasridhar Arise	EEE	2023 5th International Conference on Smart Systems	March 2023	978-1-6654-7468-9	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICSS1T55814.2023.10060963">https://doi.org/10.1109/ICSS1T55814.2023.10060963</a>	YES



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College Code: R9

HARMONIC REDUCTION IN VSG USING FUZZY LOGIC CONSIDERING NONLINEAR LOADS	Nagasridhar Arise	EEE	INTERNATIONAL JOURNAL OF RESEARCH AND	JUNE 2023	2348-1269	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B3774">https://ijrar.org/viewfull.php?p_id=IJRAR23B3774</a>	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B3774">https://ijrar.org/viewfull.php?p_id=IJRAR23B3774</a>	YES
Case study on Ni-MH Battery & 1559-1564	N Ramesh Babu	EEE	2023 2nd International Conference on Applied Artificial	JUNE 2023	978-1-6654-5631-9	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICAAIC56838.2023.10140812">https://doi.org/10.1109/ICAAIC56838.2023.10140812</a>	YES
Closed Loop Control of Induction Motor Using Hall Effect Speed Sensors & Accepted	N Ramesh Babu	EEE	3rd International Conference on Pervasive Computing	June - 2023	979-8-3503-0009-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://10.1109/ICCESS7224.2023.10192666">https://10.1109/ICCESS7224.2023.10192666</a>	YES
CLOSED-LOOP CONTROL OF BLDC MOTOR USING HALL EFFECT SENSORS & Editing Stage	B Ramesh	EEE	International Journal of Applied Power Engineering (IJAPE)	JUNE 2023	2252-8792	<a href="https://ijape.iaescore.com/">https://ijape.iaescore.com/</a>	<a href="https://ijape.iaescore.com/">https://ijape.iaescore.com/</a>	YES
MODELLING AND SIMULATION OF GRID INTERCONNECTION OF VARIABLE SPEED WIND	B Ramesh	EEE	INTERNATIONAL JOURNAL OF RESEARCH AND	JUNE 2023	2348-1269	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B3827">https://ijrar.org/viewfull.php?p_id=IJRAR23B3827</a>	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B3827">https://ijrar.org/viewfull.php?p_id=IJRAR23B3827</a>	YES



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Grid-Connected 3L-NPC Inverter with PI Controller Based on Space Vector Modulation & 94-98	Kalagotla Chenchireddy	EEE	2023 9th International Conference on Advanced	May- 2023	979-8-3503-9738-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICACSS57279.2023.10113092">https://doi.org/10.1109/ICACSS57279.2023.10113092</a>	YES
3-Phase 7-Level Diode Clamped Inverter for Standalone Application & 309-314	Kalagotla Chenchireddy	EEE	2023 Third International Conference on Artificial Intelligence	FEB 2023	978-1-6654-6217-4	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICAIS56108.2023.10073661">https://doi.org/10.1109/ICAIS56108.2023.10073661</a>	YES
Fuel Cell based Grid Connected Two-Level Inverter & 1628-1632	K.R.Sree Jyothi	EEE	2023 International Conference on Sustainable	April 2023	978-1-6654-9200-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICSC0556580.2023.10104523">https://doi.org/10.1109/ICSC0556580.2023.10104523</a>	YES
Reduction of THD and Power Quality Improvement by using 48-pulse GTO-based UPFC in the Transmission	K.R.Sree Jyothi	EEE	2023 7th International Conference on Computing	April 2023	978-1-6654-6409-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICCMCS6507.2023.10083821">https://doi.org/10.1109/ICCMCS6507.2023.10083821</a>	YES
Design and Implementation of Three-phase Three Level NPC Inverter	Dhasharatha G	EEE	2023 7th International Conference on Trends in	May 2023	978-1-6654-6409-3	<a href="https://www.acof.org/">https://www.acof.org/</a>	<a href="https://doi.org/10.1109/ICOE156765.2023.10125979">https://doi.org/10.1109/ICOE156765.2023.10125979</a>	YES



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College Code: R9

Z-source inverter for standalone application &26-30	Dhasharatha G	EEE	9th International Conference on Communication and Electronics	JUNE 2023	978-8-3503-9662-1	<a href="https://icoecs.org/">https://icoecs.org/</a>	<a href="https://icoecs.org/">https://icoecs.org/</a>	YES
Induction Motor Speed Control Through Vector Control Approach & 1069-1074	M Rosaiah	EEE	2023 International Conference on Sustainable	April 2023	978-1-6654-9200-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICSC5556580.2023.10104959">https://doi.org/10.1109/ICSC5556580.2023.10104959</a>	YES
Grid-Connected Inverter Fed from PV Array &1433-1438	V Kumar	EEE	2023 7th International Conference on Computing	April 2023	978-1-6654-6409-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICCMCS6507.2023.10083810">https://doi.org/10.1109/ICCMCS6507.2023.10083810</a>	YES
Wind - Battery Controller Based Standalone Alternating Current Microgrid Applications &	M Rosaiah	EEE	2023 International Conference on Sustainable	April 2023	978-1-6654-9200-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICSC5556580.2023.10104926">https://doi.org/10.1109/ICSC5556580.2023.10104926</a>	YES
PERFORMANCE IMPROVEMENT OF GRID INTERFACED HYBRID SYSTEM USING DISTRIBUTED	Sanagari Lavanya	EEE	INTERNATIONAL JOURNAL OF RESEARCH AND	JUNE 2023	2348-1269	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B3792">https://ijrar.org/viewfull.php?p_id=IJRAR23B3792</a>	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR23B3792">https://ijrar.org/viewfull.php?p_id=IJRAR23B3792</a>	YES



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Distribution System Power Quality Improvement using IRP Theory & 1450-1454	V KUMAR	EEE	2023 7th International Conference on Computing	April 2023	978-1-6654-6409-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICC-MC56507.2023.10084162">https://doi.org/10.1109/ICC-MC56507.2023.10084162</a>	YES
Performance Improvement of Photo Voltaic fed Series Active Power Filters for Distributed	CH Sai Deepak	EEE	INTERNATIONAL JOURNAL OF RESEARCH AND	JUNE 2023	2348-1269	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR2383832">https://ijrar.org/viewfull.php?p_id=IJRAR2383832</a>	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR2383832">https://ijrar.org/viewfull.php?p_id=IJRAR2383832</a>	YES
Reduced Device Count 9-Level Inverter for Standalone Applications & 1422-1428	Ghanapuram Satheesh kumar	EEE	2023 7th International Conference on Computing	April 2023	978-1-6654-6409-3	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://doi.org/10.1109/ICC-MC56507.2023.10084282">https://doi.org/10.1109/ICC-MC56507.2023.10084282</a>	YES
Power Optimization Scheme On Induction Motor Using Artificial Neural Network	CH Prasanna	EEE	INTERNATIONAL JOURNAL OF RESEARCH AND	JUNE 2023	2348-1269	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR2383773">https://ijrar.org/viewfull.php?p_id=IJRAR2383773</a>	<a href="https://ijrar.org/viewfull.php?p_id=IJRAR2383773">https://ijrar.org/viewfull.php?p_id=IJRAR2383773</a>	YES
Analysis Of Heart Disease Prediction Using Machine Learning Classification Algorithms	Dr. K. Venkata Murali Mohan	ECE	JOURNAL OF OPTOELECTRONICS LASER	Aug-22	1005-0086	<a href="https://www.gdzig.org.in/pdf/IJOI_7.pdf">https://www.gdzig.org.in/pdf/IJOI_7.pdf</a>	<a href="https://www.gdzig.org.in/pdf/IJOI_7.pdf">https://www.gdzig.org.in/pdf/IJOI_7.pdf</a>	YES



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An effective hierarchical image coding approach with Hilbert scanning	Dr. K. Venkata Murali Mohan	ECE	International Journal of System Assurance Engineering and	Jul-23	0976-4348	<a href="https://link.springer.com/article/10.1007/s13198-023-02060-6">https://link.springer.com/article/10.1007/s13198-023-02060-6</a>	<a href="https://link.springer.com/article/10.1007/s13198-023-02060-6">https://link.springer.com/article/10.1007/s13198-023-02060-6</a>	YES
A novel framework for optimizing the edge network node for wearable devices	Dr.P.Padmaja	ECE	Measurement: Sensors	June 2023	2665-9174	<a href="https://www.sciencedirect.com/journal/measurement-sensors/about/insights#abstract">https://www.sciencedirect.com/journal/measurement-sensors/about/insights#abstract</a>	<a href="https://www.sciencedirect.com/science/article/pii/S2665917423000764">https://www.sciencedirect.com/science/article/pii/S2665917423000764</a>	YES
Intelligent smart zones based vehicle speed control for avoid accidents	Dr. K. Srinivasa Reddy	ECE	Gradiva Review Journal	March 2023	0363-8057	<a href="https://gradivareview.com/volume-9-issue-3-2023/">https://gradivareview.com/volume-9-issue-3-2023/</a>	<a href="https://gradivareview.com/volume-9-issue-3-2023/">https://gradivareview.com/volume-9-issue-3-2023/</a>	YES
Milli meter Wave antenna for 5G wireless communication system	Dr.G.Shirisha	ECE	Journal of Algebraic statistics	Aug 2022	1309-3452	<a href="https://publishoa.com/index.php/journal">https://publishoa.com/index.php/journal</a>	<a href="https://publishoa.com/index.php/journal/article/view/800/681">https://publishoa.com/index.php/journal/article/view/800/681</a>	YES
Laser security system using IOT	SD.Reshma	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publicpaper/IJIRT159130PAPER.pdf">https://ijirt.org/master/publicpaper/IJIRT159130PAPER.pdf</a>	YES



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Multi Class Alzheimer'S Detection Using Deep Learning Technique	M.Aishwarya	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159063PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159063PAPER.pdf</a>	YES
Mountain Climber Monitoring system	M V V Satyanarayana Chowdary	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159151_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159151_PAPER.pdf</a>	YES
<u>Soldier security monitoring system using iot</u>	M Renu Babu	ECE	IRJMETS	March-2023	2582-5208	<a href="https://www.irjmets.com/">https://www.irjmets.com/</a>	<a href="https://www.doi.org/10.56726/IRJMETS34708">https://www.doi.org/10.56726/IRJMETS34708</a>	YES
Touch screen based home appliance control system using wireless communication	M Renu Babu	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159109_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159109_PAPER.pdf</a>	YES
<u>Digital transformation of modern Village using ESP32 Micro controller</u>	V.Amulya	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159052_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159052_PAPER.pdf</a>	YES



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Medbowli, Meerpet, Hyderabad - 97.



# TEEGALA KRISHNA REDDY ENGINEERING COLLEGE (UGC-Autonomous)

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Medbowli, Meerpet, Balapur(M), Hyderabad, Telangana- 500097  
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College Code: R9

Water Atm With Bottle Dispenser	B Jamuna	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/Article?manuscript=159124">https://ijirt.org/Article?manuscript=159124</a>	YES
Wireless solar charging and solar tracking system for electric vehicle	Dr. K. Srinivasa Reddy	ECE	TJER	May 2023	2349-9249	<a href="https://gradivareview.com/volume-8-issue-12-2022/">https://gradivareview.com/volume-8-issue-12-2022/</a>	<a href="https://gradivareview.com/volume-8-issue-12-2022/">https://gradivareview.com/volume-8-issue-12-2022/</a>	YES
Traffic Light Control System using Raspberry Pi and OpenCV	Sunkari Prathyusha	ECE	International Journal of Research Publication and Reviews	March 2023	2582-7421	<a href="https://www.ijrpr.com/callfp.php">https://www.ijrpr.com/callfp.php</a>	<a href="https://ijrpr.com/uploads/V4/ISSUE3/IRPR10691.pdf">https://ijrpr.com/uploads/V4/ISSUE3/IRPR10691.pdf</a>	YES
Smart Vehicle Parking System And Child Safety In Parked Vehicle	Veerella Lavanya	ECE	Journal of Interdisciplinary Cycle Research	March 2023	0022-1945	<a href="https://www.ijrpr.com/callfp.php">https://www.ijrpr.com/callfp.php</a>	<a href="https://ijrcjournal.com/index.php/volume-xv-issue-v-may-2023/">https://ijrcjournal.com/index.php/volume-xv-issue-v-may-2023/</a>	YES
Baby Incubator using Zigbee Technology	Veerella Lavanya	ECE	International Journal of Research Publication and Reviews	March 2023	2582-7421	<a href="https://www.ijrpr.com/callfp.php">https://www.ijrpr.com/callfp.php</a>	<a href="https://ijrpr.com/uploads/V4/ISSUE3/IRPR10888.pdf">https://ijrpr.com/uploads/V4/ISSUE3/IRPR10888.pdf</a>	YES



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College Code: R9

Water Quality System For Aquaculture Using Iot	K. Bhargavi	ECE	IRJMETS	April-2023	2582-5208	<a href="https://www.irjmets.com/">https://www.irjmets.com/</a>	<a href="https://www.irjmets.com/uploads/files/paper/issue_4_april_2023/35272/final/fin_iri">https://www.irjmets.com/uploads/files/paper/issue_4_april_2023/35272/final/fin_iri</a>	YES
PAPR Reduction in OFDM System using Partial Transmit Sequence and Precoding Techniques	D. Ramadevi	ECE	International Journal of Research Publication and Reviews	March 2023	2582-7421	<a href="http://www.iirpr.com">www.iirpr.com</a>	<a href="https://iirpr.com/uploads/V41SSUE3/IIRPR10892.pdf">https://iirpr.com/uploads/V41SSUE3/IIRPR10892.pdf</a>	YES
Water Quality System For Aquaculture Using Iot	K. Bhargavi	ECE	IRJMETS	April-2023	2582-5208	<a href="https://www.irjmets.com/">https://www.irjmets.com/</a>	<a href="https://www.irjmets.com/uploads/files/paper/issue_4_april_2023/35272/final/fin_iri">https://www.irjmets.com/uploads/files/paper/issue_4_april_2023/35272/final/fin_iri</a>	YES
PAPR Reduction in OFDM System using Partial Transmit Sequence and Precoding Techniques	D. Ramadevi	ECE	International Journal of Research Publication and Reviews	March 2023	2582-7421	<a href="http://www.iirpr.com/">http://www.iirpr.com/</a>	<a href="https://iirpr.com/uploads/V41SSUE3/IIRPR10892.pdf">https://iirpr.com/uploads/V41SSUE3/IIRPR10892.pdf</a>	YES
Forest Fire Accident Detection and Prevention Using Image Processing	B Rekha	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/?qclid=Ci0KCQwla-hBhD7ARIsAM9tOKuAN19xKvcNzwskuBDA">https://ijirt.org/?qclid=Ci0KCQwla-hBhD7ARIsAM9tOKuAN19xKvcNzwskuBDA</a>	YES



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**College Code: R9**

<u>Smart Automatic Engine Locking System For Drunk And Driver With Automatic Challan Generation System</u>	Ch. Shekar	ECE	IRJMETS	March-2023	2582-5208	<a href="https://www.irjmets.com/">https://www.irjmets.com/</a>	<a href="https://www.irjmets.com/uploadedfiles/paper/issue_3_march_2023/34829/final/final_i">https://www.irjmets.com/uploadedfiles/paper/issue_3_march_2023/34829/final/final_i</a>	YES
Advanced Railway security system for Track fault detection	Dr E Radhamma	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/Article?manuscript=159041">https://ijirt.org/Article?manuscript=159041</a>	YES
ML Based Blind Assistance System	B Rekha	ECE	IJIRT	April 2023]	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://www.google.com/url?sa=t&amp;source=web&amp;rct=j&amp;op=89978449&amp;url=https://ijirt.org/uploads/V41SSUE3/IJRPR10777.pdf">https://www.google.com/url?sa=t&amp;source=web&amp;rct=j&amp;op=89978449&amp;url=https://ijirt.org/uploads/V41SSUE3/IJRPR10777.pdf</a>	YES
Solar sea weather and pollution transmitter buoy	Dr E Radhamma	ECE	IJRPR	Mar 2023	2582-7421	<a href="https://www.ijrpr.com">https://www.ijrpr.com</a> > ...	<a href="https://www.ijrpr.com/uploads/V41SSUE3/IJRPR10777.pdf">https://www.ijrpr.com/uploads/V41SSUE3/IJRPR10777.pdf</a>	YES
<u>An Artificial Intelligence Based Driver Drowsiness Detection System Using Live Image With Automatic</u>	N Aravind	ECE	IRJMETS	March-2023	2582-5208	<a href="https://www.irjmets.com/">https://www.irjmets.com/</a>	<a href="https://www.irjmets.com/uploadedfiles/paper/issue_3_march_2023/34829/final/final_i">https://www.irjmets.com/uploadedfiles/paper/issue_3_march_2023/34829/final/final_i</a>	YES



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College Code: R9

Wireless Data Encryption Decryption For Security In Army Applications	N Aravind	ECE	Journal of Interdisciplinary Research	April-2023	0022-1945	<a href="https://www.hindawi.com/journals/iip/2021/547274/">https://www.hindawi.com/journals/iip/2021/547274/</a>	<a href="https://www.hindawi.com/journals/iip/2021/547274/">https://www.hindawi.com/journals/iip/2021/547274/</a>	YES
IOT Based school children transportation safety system	K. Shiva Prasanna,	ECE	IJIRT	Apr 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publications/IJIRT159129-PAPER.pdf">https://ijirt.org/master/publications/IJIRT159129-PAPER.pdf</a>	YES
Fingerprint Based Electronic Voting Machine Using Arduino	Y.Prathyusha	ECE	Journal of Engineering Sciences	July/2022,	0377-9254	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://jespublication.com/upload/2022-V13I7090.pdf">https://jespublication.com/upload/2022-V13I7090.pdf</a>	YES
Vehicle Detection And Automatic Controlling System At Sharp Turning Edge Roads	K. Bhulakshmi	ECE	IRJMETS	July-2022	2582-5208	<a href="http://www.irjournals.com">http://www.irjournals.com</a>	<a href="https://www.irjournals.com/uploadedfiles/paper/issue_7_july_2022/27580/final/fin_irjmets.com">https://www.irjournals.com/uploadedfiles/paper/issue_7_july_2022/27580/final/fin_irjmets.com</a>	YES
360 Degree Radar For Defense Application	Dr.D.Vemana Chary	ECE	IJCRT	June-2022	2320-2882	<a href="https://ijcrt.org/papers/IJCRT22A6926.pdf">https://ijcrt.org/papers/IJCRT22A6926.pdf</a>	<a href="https://ijcrt.org/papers/IJCRT22A6926.pdf">https://ijcrt.org/papers/IJCRT22A6926.pdf</a>	YES



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								College Code: R9
LoRa based Wireless Weather Station with WebServer	K Bhulakshmi	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publis hedpaper/IJIRT 159472_PAPER .pdf">https://ijirt.org/master/publis hedpaper/IJIRT 159472_PAPER .pdf</a>	YES
Smart Vehicle Parking System And Child Safety In Parked Vehicle	V Lavanya	ECE	Journal of Interdiscipli nar y Cycle Research	March/20 23	0022-1945	<a href="https://icriourn al.com/index.ph p/volume-xv- issue-v-may- 2023/">https://icriourn al.com/index.ph p/volume-xv- issue-v-may- 2023/</a>	<a href="https://drive.g oogle.com/file /d/19ED- Rt17fnQ9O3vx O8AsbIPX0kiTR bcS/view">https://drive.g oogle.com/file /d/19ED- Rt17fnQ9O3vx O8AsbIPX0kiTR bcS/view</a>	YES
Gesture Controlled Robotic Vehicle For Gas Leakage Detection	S Prathyusha	ECE	Journal of Interdiscipli nar y Cycle Research	March/20 23	0022-1945	<a href="https://icriourn al.com/index.ph p/volume-xv- issue-v-may- 2023/">https://icriourn al.com/index.ph p/volume-xv- issue-v-may- 2023/</a>	<a href="https://icriourn al.com/?s=Ge sture+Controll ed+Robotic+V ehicle+For+Ga s+Leakage+Det">https://icriourn al.com/?s=Ge sture+Controll ed+Robotic+V ehicle+For+Ga s+Leakage+Det</a>	YES
Wireless Sensor Monitoring Node Based on Automatic Tracking Solar Powered Panel for Paddy	Dr.S.Nagireddy	ECE	IJIRT	March- 2023	159456	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publis hedpaper/IJIRT 159456_PAPER .pdf">https://ijirt.org/master/publis hedpaper/IJIRT 159456_PAPER .pdf</a>	YES
Design And Implementation Of Gesture Based Human Computer Interface	SD Reshma	ECE	Journal of Interdiscipli nar y Cycle Research	March/20 *23	0022-1945	<a href="https://icriourn al.com">https://icriourn al.com</a>	<a href="https://drive.g oogle.com/file /d/15ZCx3qAP KpZJPZOOI-XR 5FUUwBy20N3 /view">https://drive.g oogle.com/file /d/15ZCx3qAP KpZJPZOOI-XR 5FUUwBy20N3 /view</a>	YES



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College Code: R9

Algorithm For Credit Card Fraud Detection Using Machine Learning With Python	B Nireesha	ECE	Journal of Interdisciplinary Cycle Research	March/2023	0022-1945	<a href="https://icrijournal.com">https://icrijournal.com</a>	<a href="https://drive.google.com/file/d/2495/">Normal.nickel.i e/2495/</a>	YES
Self Confidence Estimation Using Machine Learning Algorithms	D Ramadevi	ECE	Journal of Interdisciplinary Cycle Research	March/2023	0022-1945	<a href="https://icrijournal.com">https://icrijournal.com</a>	<a href="https://drive.google.com/file/d/18KY8ysFBI-fSzorAqO1LQxdEQJhfyKCvn/view">https://drive.google.com/file/d/18KY8ysFBI-fSzorAqO1LQxdEQJhfyKCvn/view</a>	YES
Breast Cancer Diagnosis On Pathological Images Data Augmentation Method: Cycle Gan	V Amulya	ECE	Journal of Interdisciplinary Cycle Research	March/2023	0022-1945	<a href="https://www.hindawi.com/journals/iip/2021/5547274/">https://www.hindawi.com/journals/iip/2021/5547274/</a>	<a href="https://www.hindawi.com/search/all/Breast%20Cancer%20Diagnosis%20On%20Patholo">https://www.hindawi.com/search/all/Breast%20Cancer%20Diagnosis%20On%20Patholo</a>	YES
Intelligent Child Safety System Using Machine Learning in IOT Devices	B Jamuna	ECE	IJIRT	May 2022	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publicshedpaper/IJIRT160096_PAPER.pdf">https://ijirt.org/master/publicshedpaper/IJIRT160096_PAPER.pdf</a>	YES
Traffic Lights With Vehicle Density And Automatic Signal Clearance For Emergency Vehicles	V Deepa	ECE	Journal of Interdisciplinary Cycle Research	March/2023	0022-1945	<a href="https://icrijournal.com/index.php/volume-xv-issue-v-may-2023/">https://icrijournal.com/index.php/volume-xv-issue-v-may-2023/</a>	<a href="https://drive.google.com/file/d/1dW_mkfff7SY0EuhjnmPC13bCvR3K1P/view?usp=sharing">https://drive.google.com/file/d/1dW_mkfff7SY0EuhjnmPC13bCvR3K1P/view?usp=sharing</a>	YES



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**College Code: R9**

Real Time Vehicle Protection And Theft Detection With Image Capturing And IoT	Dr R Shankar	ECE	Journal of Interdisciplinary Cycle Research	March/2023	0022-1945	<a href="https://www.hindawi.com/journals/iip/2021/547274/">https://www.hindawi.com/journals/iip/2021/547274/</a>	<a href="https://www.hindawi.com/journals/iip/2021/547274/">https://www.hindawi.com/journals/iip/2021/547274/</a>	YES
Flood Monitoring and Air Quality Monitoring Using IOT	K Ramesh	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159388_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159388_PAPER.pdf</a>	YES
Deep Learning and Transfer Learning Techniques on Covid-19	Dr S Nagi Reddy	ECE	IRJMETS	March 2023	2582-5208	<a href="https://ijaem.net/">https://ijaem.net/</a>	<a href="https://www.irjmets.com/uploadedfiles/paper/issue_3_march_2023/34872/final/fin_i">https://www.irjmets.com/uploadedfiles/paper/issue_3_march_2023/34872/final/fin_i</a>	YES
Automated Attendance System	K Kumara Swamy	ECE	JETIR	April 2023	2349-5162	<a href="https://www.jetir.org/">https://www.jetir.org/</a>	<a href="https://www.jetir.org/papers/JETIR2307080.pdf">https://www.jetir.org/papers/JETIR2307080.pdf</a>	YES
IOT Based Smart Home Automation and Security System	K Ramesh	ECE	IJIRT	March 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159059_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159059_PAPER.pdf</a>	YES



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College Code: R9

Eathquake and Tsunami Warning System with Plotting System	Y Prathyusha	ECE	IRJMETS	March 2023,	2582-5208	<a href="https://ijaem.net/">https://ijaem.net/</a>	<a href="https://ijaem.net/counter.php?id=6063&amp;file=http://ijaem.net/issue_dcp/Multienergy%20Inorganic.org/Article?manuscript=159047">https://ijaem.net/counter.php?id=6063&amp;file=http://ijaem.net/issue_dcp/Multienergy%20Inorganic.org/Article?manuscript=159047</a>	YES
Google Assistant based Device Control Over Internet	B Nireesha	ECE	IJIRT	April 2023	2349-6002	<a href="https://www.ijirt.org">https://www.ijirt.org</a>	<a href="https://www.ijirt.org/Inorganic.org/Article?manuscript=159047">Inorganic.org/Article?manuscript=159047</a>	YES
FIRE FIGHTING ROBERT USING ARDUINO	K Kumara Swamy	ECE	IJIRT	May 2020	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159553_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159553_PAPER.pdf</a>	YES
Harmful Gases Wireless Network Monitoring System Design Using HC12 and GSM Technologies	G. CHENNA KESAVA REDDY	ECE	IRE Journals	JUN 2023	2456-8880	<a href="https://www.irejournals.com">https://www.irejournals.com</a>	<a href="https://www.irejournals.com/formatedpaper/1704628.pdf">https://www.irejournals.com/formatedpaper/1704628.pdf</a>	YES
Prepaid Petrol Bunk Management System Using RFID Cards and GSM Communication	K. Shiva Prasanna	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publichedpaper/IJIRT159116_PAPER.pdf">https://ijirt.org/master/publichedpaper/IJIRT159116_PAPER.pdf</a>	YES



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# TEEGALA KRISHNA REDDY ENGINEERING COLLEGE (UGC-Autonomous)

Government of T.S. Cyclostational Systems, Approved by AICTE, NEELAPATI  
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**College Code: R9**

Facial and Voice Command Based Security System in Vehicles Using Arduino	G.Sirisha	ECE	IJIRT	April 2023	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/master/publication/paper/IJIRT159628_PAPER.pdf">https://ijirt.org/master/publication/paper/IJIRT159628_PAPER.pdf</a>	YES
SOLAR BASED SMART IRRIGATION SYSTEM USING INTERNET OF THINGS (IOT)	B Padmini	ECE	IJIRT	2022	2349-6002	<a href="https://www.irejournals.com">https://www.irejournals.com</a>	<a href="https://www.irejournals.com/formatedpaper/1704629">https://www.irejournals.com/formatedpaper/1704629</a>	YES
A Model for Prediction of Agricultural Yield using Machine Learning Techniques	Dr Ch V PHANI KRISHNA	CSE	Optics Communication and Networking	2022	1943-0620	<a href="https://opg.optica.org/jocn/journal/jocn/about.cfm">https://opg.optica.org/jocn/journal/jocn/about.cfm</a>	<a href="https://opg.optica.org/jocn/journal/jocn/about.cfm">https://opg.optica.org/jocn/journal/jocn/about.cfm</a>	Yes
A STUDY IN TO THE WEB MINING APPLICATIONS TODAY- RISKS AND MODERN	Dr Ch V PHANI KRISHNA	CSE	DICKENSIAN JOURNAL	2022	0012-2440	<a href="https://www.scimagoir.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette">https://www.scimagoir.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette</a>	<a href="https://www.scimagoir.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette">https://www.scimagoir.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette</a>	YES
AI AND ML MODELS TO PREDICT CLIMATE EXTREMITIES AND CLIMATE	Dr Ch V PHANI KRISHNA	CSE	IJIEMR	2022	2456 – 5083	<a href="http://www.ijiemr.org">www.ijiemr.org</a>	<a href="http://www.ijiemr.org/downloads.php?vol=Volume118&amp;issue=Issue09">http://www.ijiemr.org/downloads.php?vol=Volume118&amp;issue=Issue09</a>	Yes



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College Code: R9

ALLOCATING DAY TO DAY WORK FOR WORKERS THROUGH CONTRACTORS	Dr Ch V PHANI KRISHNA	CSE	ZKG JOURNAL	2023	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
CRYPTER TOOL - A PYTHON GUI TOOL FOR STEGANOGRAPHY	Dr Ch V PHANI KRISHNA	CSE	ZKG JOURNAL	2022-2023	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
High Integrity Systems Using Extreme Programming(XP)	Dr Ch V PHANI KRISHNA	CSE	NEUROQUANTOLOGY	2022-2023	1303-5150	<a href="http://www.neuroquantology.com">www.neuroquantology.com</a>	<a href="http://www.neuroquantology.com">www.neuroquantology.com</a>	YES
Design and Metaphor Evaluation for Extreme Software Development	Dr Ch V PHANI KRISHNA	CSE	European Chemical Bulletin	2022-2023	2063-5346	<a href="https://www.eurchembull.com/">https://www.eurchembull.com/</a>	<a href="https://www.eurchembull.com/">https://www.eurchembull.com/</a>	Yes
DATA POISON DETECTION SCHEMES FOR DISTRIBUTED MACHINE LEARNING	Dr.Ch. V. PHANI KRISHNA	CSE	IJTE	2023	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/archive/2023/DATA-POISON-DETECTION-SCHEMES-FOR-DISTRIBUTED">http://ijte.uk/archive/2023/DATA-POISON-DETECTION-SCHEMES-FOR-DISTRIBUTED</a>	YES



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College Code: R9

Deep Learning Neural Networks for Object Recognition and Contour Tracking-Bases Knowledge	Dr K BHARGAVI	CSE	EUROPEAN CHEMICAL BULLEIN	2022-2023	2063-5346	<a href="https://www.eurchembull.com/">https://www.eurchembull.com/</a>	<a href="https://www.eurchembull.com/">https://www.eurchembull.com/</a>	Yes
DETECTING CYBERBULLYING IN INSTAGRAM	Dr K BHARGAVI	CSE	ZKG JOURNAL	2022-2023	2366-1313	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
DECENTRALIZED WEB HOSTING USING BLOCKCHAIN	Dr K BHARGAVI	CSE	Mukt Shabd Journal	2022-2023	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes
DETECTING CYBERBULLYING IN INSTAGRAM	Dr K BHARGAVI	CSE	IJE	2022-2023	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
A Survey on Applications and Performance of Deep Convolution Neural Network Architecture for	Dr K BHARGAVI	CSE	NEUROQUANTOLOGY	2022-2023	1303-5150	<a href="http://www.neuroquantology.com">www.neuroquantology.com</a>	<a href="http://www.neuroquantology.com">www.neuroquantology.com</a>	Yes



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College Code: R9

A STUDY IN TO THE WEB MINING APLICATIONS TODAY- RISKS AND MODERN TRENDS	Dr K BHARGAVI	CSE	DICKENSIAN JOURNAL	2022-2023	0012-2440	<a href="https://www.scimagojr.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette">https://www.scimagojr.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette</a>	<a href="https://www.scimagojr.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette">https://www.scimagojr.com/journalsearch.php?q=6700153208&amp;tip=sid#google_vignette</a>	YES
Speech to Sign Language Translation	Dr K BHARGAVI	CSE	ZKG JOURNAL	2022-2023	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
A COMPARATIVE APPROACH TO PREDICT CORONA VIRUS AND EFFECTS	Dr Pranayanath Reddy	CSE	Journal of Xidian University	Aug-23	1001-2400	<a href="http://xadzkjdx.cn/">http://xadzkjdx.cn/</a>	<a href="https://doi.org/10.37896/jxu.16.6/021">https://doi.org/10.37896/jxu.16.6/021</a>	YES
Ensemble-based cryptography for soldiers' health monitoring using mobile ad hoc networks, 658-671	Dr Pranayanath Reddy	CSE	AUTOMAT IKA Journal for Control, Measurement, Electronics,	May-23	0005-1144	<a href="https://www.tandfonline.com/loi/taut20">https://www.tandfonline.com/loi/taut20</a>	<a href="https://www.tandfonline.com/loi/taut20">https://www.tandfonline.com/loi/taut20</a>	Yes
Simulation based Predictive analysis of Indian Airport transportation system using Computational	Dr Pranayanath Reddy	CSE	Journal of Aerospace Technology Management	Apr-23	2175-9146	<a href="https://iatm.com.br/iatm/home">https://iatm.com.br/iatm/home</a>	<a href="https://doi.org/10.1590/iatm.v15.1300">https://doi.org/10.1590/iatm.v15.1300</a>	YES



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Department of I.T & Educational Services, Approved by AICTE, ADU, and UJNTU  
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College Code: R9

MPOX DETECTION USING MODIFIED VGG16. & CUSTOM CNN MODEL PGNO:1498	P V RAMA GOPALA RAO	CSE	Mukt Shabd journal	june-2023	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes
MUSIC RECOMMENDATION SYSTEM BASED ON FACIAL EMOTION GESTURES.PGNO:5	P V RAMA GOPALA RAO	CSE	Optical communication and networking,	October 2022	567578	<a href="https://opg.optica.org/jocn/journal/jocn/about.cfm">https://opg.optica.org/jocn/journal/jocn/about.cfm</a>	<a href="https://opg.optica.org/jocn/journal/jocn/about.cfm">https://opg.optica.org/jocn/journal/jocn/about.cfm</a>	YES
VEHICLE DETECTION AND COUNTING SYSTEM,PGNO:1716	P V RAMA GOPALA RAO	CSE	ZKG INTERNATIONAL	Jun-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
A BI-OBJECTIVE HYPER-HEURISTIC SUPPORT VECTOR MACHINE FOR BIG DATA CYBER SECURITY	P V RAMA GOPALA RAO	CSE	ZKG INTERNATIONAL,	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Biometric -Based Secure Access Mechanism Efficient for Cloud Services,495-503	MUDU CHINABABU	CSE	JOURNAL OF HARBIN ENGINEERING UNIVERSITY	Aug-23	1006-7043	<a href="https://miar.ub.edu">https://miar.ub.edu</a>	<a href="https://miar.ub.edu">https://miar.ub.edu</a>	Yes



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College Code: R9

IOT BASED SMART SECURITY AND SMART HOME AUTOMATION	MUDU CHINABABU	CSE	A JOURNAL FOR NEW ZEALAND HERPETOLOGY	2022-2023	2230-5807	<a href="https://www.biogecko.co.nz/index.php/journal">https://www.biogecko.co.nz/index.php/journal</a>	<a href="http://biogecko.co.nz/2023/v12.i03.pp610-2-6111">http://biogecko.co.nz/2023/v12.i03.pp610-2-6111</a>	YES
SENTIMENTAL ANALYSIS OF BOOK REVIEWS USING UNSUPERVISED SEMANTIC ORIENTATION AND RECOMMENDER SYSTEM WITH ARTIFICIAL INTELLIGENCE FOR FITNESS ASSISTANCE	MUDU CHINABABU	CSE	Journal of Interdisciplinary Cycle Research	Feb-23	0022-1945	<a href="https://icrjournal.com/">https://icrjournal.com/</a>	<a href="https://icrjournal.com/">https://icrjournal.com/</a>	Yes
Flight Ticket Price Prediction Using Machine Learning_682	MUDU CHINABABU	CSE	Journal of Engineering Sciences	Feb-23	ISSN:0377-9254	<a href="http://iespublication.com">iespublication.com</a>	<a href="https://iespublication.com/issue.php?cid=25&amp;scid=91">https://iespublication.com/issue.php?cid=25&amp;scid=91</a>	YES
"An Automatic Digital Audio Authentication/Forensic System"	MUDU CHINABABU	CSE	ZKG	Feb-23	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES



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College Code: R9

WATER PUMP CONTROL AND MONITORING THE MOISTURE USING IOT,6112-6116	MUDU CHINABABU	CSE	A JOURNAL FOR NEW ZEALAND HERPETOLOGY	May-23	2230-5807	<a href="https://www.biogecko.co.nz/index.php/journal">https://www.biogecko.co.nz/index.php/journal</a>	<a href="http://biogecko.co.nz/2023/v12.i03.pp6112-6116">http://biogecko.co.nz/2023/v12.i03.pp6112-6116</a>	Yes
"Squint Eye Disease Detection Using Machine Learning"	NVN.SOWJANYA	CSE	ZKG International	2022-2023	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Water Level Monitoring and DAM Gate Control Over IOT	NVN.Sowjanya	CSE	International Journal of Techno Engineering	2022-2023	ISSN NO: 2057:5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
PRICE NEGOTIATING CHATBOT ON E-COMMERCE WEBSITE	NVN.SOWJANYA	CSE	International Journal of Techno-Engineering (IJTE)	2022-2023	ISSN NO:2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Image captioning using CNN and RNN	NVN.Sowjanya	CSE	ZKG International	2022-2023	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes



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College Code: R9

SOCIAL MEDIA AND MISLEADING PG NO: 1149	P Swetha	CSE	Mukt Shabd	Jun-23	ISSN: 2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	YES
TEXT SUMMARIZER USING BART	P Swetha	CSE	Mukt Shabd journal	Jun-23	ISSN: 2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes
Detection of Malevolent statements using Machine learning algorithms	P Swetha	CSE	ZKG international	Feb-23	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
CHURN PREDICTION USING ENSEMBLE MODEL PG NO: 311	P Swetha	CSE	ZKG international	Feb-23	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
Identifying injunction attack in dbms	T Rakesh Kumar	CSE	International journal of technology engineering	2022-2023	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES



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College Code: R9

AN INTELLIGENT DATA DRIVEN MODEL TO SECURE INTRA VEHICLE COMMUNICATIONS BASED ON	T Rakesh Kumar	CSE	International journal of techno-engineering	2022-2023	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
A CHAT APPLICATION USING BLUETOOTH TECHNOLOGY 62	T Rakesh Kumar	CSE	International journal of techno-engineering	2022-2023	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
THYROID ANALYSIS USING NEURAL NETWORK	T Rakesh Kumar	CSE	ZKG international	2022-2023	2366-1313	<a href="https://zkginternational.com/">https://zkginternational.com/</a>	<a href="https://zkginternational.com/">https://zkginternational.com/</a>	Yes
SPAMMER DETECTION AND FAKE USER RECOGNITION IN OSN	Marella Srimathi	CSE	ZKG INTERNATIONAL JOURNAL, VOLUME VIII, ISSUE	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Generating and Protecting the QR Code of User Details and Allowing Access to Selected Users	Marella Srimathi	CSE	MUKI SHABD JOURNAL VOLUME XII, ISSUE VI, JUNE	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes



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College Code: R9

WEB BASED GRAPHICAL PASSWORD AUTHENTICATION SYSTEM	Marella Srimathi	CSE	IJTE JOURNAL	Jun-23	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Access and Manage the Android Files Via Local Server Wirelessly	Marella Srimathi	CSE	ZKG INTERNATIONAL JOURNAL	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
HUMAN ACTIVITY RECOGNITION USING MACHINE LEARNING CLASSIFICATION TECHNIQUES-1476	JELLA MAHESH	CSE	MUKT SHABD journal - JUNE 2023	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	YES
COLLABORATIVE DATA CACHING IN EDGE COMPUTING-911	JELLA MAHESH	CSE	MUKT SHABD JOURNAL- JUNE 2023	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes
A STRATEGY FOR NEAR-DEDUPLICATION WEB DOCUMENTS CONSIDERING BOTH DOMAIN	JELLA MAHESH	CSE	International Journal of Techno-Engineering (IJTE)- 22	Jun-23	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES



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College Code: R9

MEDI-E-CONSULT	JELLA MAHESH	CSE	ZKG INTERNATI ONAL	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
DENSITYBASEDSM ARTTRAFFICGREEN LIGHTTIMER ALLOCATIONSYSTE MUSINGCANNYED GEDETECTION	K KOTESWARA CHARI	CSE	IJTE	Jun-23	ISSN:2057- 5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Weed Identification in Vegetable Plantation Using DeepLearning& Image Processing	K KOTESWARA CHARI	CSE	ZKG	Feb-23	ISSN: 2366- 1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
"SMART ATM SYSTEM USING FINGERPRINT MODULE WITH 601	K KOTESWARA CHARI	CSE	ZKG	Feb-23	ISSN: 2366- 1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Detection of Possible illicit messages using Natural Language processing and computer vision on	K KOTESWARA CHARI	CSE	MuktShabd Journal	Jun-23	ISSN NO : 2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes



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**College Code: R9**

Vitamin deficiency and food recommendation system	K.PRATHYU SHA	CSE	ZKG	2022-2023	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Secure and dynamic multi keyword ranked search scheme over encrypted cloud data for improving	K.PRATHYU SHA	CSE	JICR	2022-2023	0022-1945	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	Yes
HUMAN-COMPUTER INTERACTION BASED EYE CONTROLLED MOUSE	K.Srilatha	CSE	ZKG INTERNATIONAL JOURNAL	Mar-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
IMAGE BASED CURRENCY RECOGNITION SYSTEM	K.srilatha	CSE	IJTE- International Journal Of Techno Engineering	2022-2023	2057-5688	<a href="https://zkginternational.com/archive/volume8/HUMAN-COMPUTER-INTERACTION-">https://zkginternational.com/archive/volume8/HUMAN-COMPUTER-INTERACTION-</a>	<a href="https://zkginternational.com/archive/volume8/HUMAN-COMPUTER-INTERACTION-">https://zkginternational.com/archive/volume8/HUMAN-COMPUTER-INTERACTION-</a>	Yes
Classification of melanoma skin cancer using deep learning	K.Srilatha	CSE	IJTE- JOURNAL	Jun-23	0975-4520	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES



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# TEEGALA KRISHNA REDDY ENGINEERING COLLEGE (UGC-Autonomous)

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College Code: R9

"A SHORT-RANGE RADAR SYSTEM-USING ARDUINO"	K.Srilatha	CSE	ZKG INTERNATIONAL JOURNAL	Feb-23	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
"IMAGE FORGERY DETECTION BASED ON FUSION OF LIGHT WEIGHT DEEP LEARNING MODELS	kethavath devadas	CSE	International Journal of Techno-Engineering (IJTE)	Jun-23	ISSN NO : 0975-4520	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Image classification of abnormal red blood cells using deep learning	KETHAVATH DEVADAS	CSE	JES-PUBLICATION	2022-2023	0377-9254	<a href="https://www.jespublication.com/">https://www.jespublication.com/</a>	<a href="https://www.jespublication.com/">https://www.jespublication.com/</a>	Yes
catching unauthorised fishing in oceans using machine learning	kethavath devadas	CSE	web of science group	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
An efficient and fine-grained Big data access scheme with privacy-preserving policy	kethavath devadas	CSE	mukti shabd	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes



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College Code: R9								
DEEP-LEARNING-BASED IN-FIELD CITRUS FRUIT DETECTION AND TRACKING, 96	Vecha Venkata ramanjaneyulu	CSE	IJTE	Feb-23	ISSN: 2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Detection of cyber hacking breaching using machine learning, 87	Vecha Venkata ramanjaneyulu	CSE	IJARST	Jan-23	ISSN 2457-0362	<a href="https://www.ijarst.in/">https://www.ijarst.in/</a>	<a href="https://www.ijarst.in/">https://www.ijarst.in/</a>	Yes
COST BASED EFFICIENTLY ALLOCATING RESOURCES FOR EDGE COMPUTING WEB APPLICATION.	Vecha Venkata ramanjaneyulu	CSE	Mukt Shabd	Jun-23	ISSN NO: 2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	YES
Detection and classification of PCB defects using Deep learning methods, 43	Vecha Venkata ramanjaneyulu	CSE	ZKG international	Feb-23	ISSN :2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
"EMPOWERING VISUALLY IMPAIRED THROUGH THE ASSISTANCE OF SAHAYAK – A	B.Rajani	CSE	International Journal on Recent and Innovation Trends in Computing	May 2023	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES



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**College Code: R9**

Clickbait's Detection Using Deep Learning	B.Rajani	CSE	ZKG INTERNATIONAL JOURNAL	2022-2023	ISSN: 2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
Student Live Behaviour Monitoring	B.Rajani	CSE	ZKG INTERNATIONAL JOURNAL	Feb-23	ISSN: 2347-3150	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
EARLY PEST DETECTION FROM CROP USING IMAGE PROCESSING AND COMPUTATIONAL	B.Rajani	CSE	MUKT SHABD JOURNAL	Jun-23	ISSN NO:2057-5688	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes
TWO LEVEL LSTM FOR SENTIMENT ANALYSIS WITH LEXICON EMBEDDING AND POLAR FLIPPING	B.Rajani	CSE	IJTE JOURNAL	2022-2023	2057-5688	<a href="http://ijte.uk/archive/2023/TWO-LEVEL-LSTM-FOR-SENTIMENT-ANALYSIS-WITH-">http://ijte.uk/archive/2023/TWO-LEVEL-LSTM-FOR-SENTIMENT-ANALYSIS-WITH-</a>	<a href="http://ijte.uk/archive/2023/TWO-LEVEL-LSTM-FOR-SENTIMENT-ANALYSIS-">http://ijte.uk/archive/2023/TWO-LEVEL-LSTM-FOR-SENTIMENT-ANALYSIS-</a>	YES
CHIRONOMY TRANSCRIPTION	A Divya sree	CSE	IJTE	Jun-23	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes



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College Code: R9

ENERGY EFFICIENT TEACHING LEARNING BASED OPTIMIZATION FOR DISCRETE ROUTING	A Divya sree	CSE	IJTE	Jun-23	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Steganography Techniques For Hiding Secret Information	SWETHA G	CSE	IJTE	Jun-23	ISSN NO:2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
IOT based spy control robot for military purpose	Swetha G	CSE	IJTE	Jun-23	Issn num:2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Dual Access control for cloud based data storage & sharing	Swetha G	CSE	ZKC	Feb-23	Issn num:2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
Online voting system using eye matching	SWETHA.G	CSE	ZKG INTERNATIONAL	Feb-23	Issn num:2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES



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College Code: R9

Resume parsing using NLP	N. Anjamma	CSE	ZKG	Feb-23	ISSN :2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
Iris recognition using daugman algorithm & ANN	N. Anjamma	CSE	MUKt SHABd journal	Jun-23	ISSN :2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	YES
Touch less screen for online class	N. Anjamma	CSE	International journal of TECHNO-ENGINEERING,	Feb-23	ISSN:2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
Chronic Heart Failure From heart sound using machine learning and end to end deep learning	N. Anjamma	CSE	International journal of Techno-Engineering	Jun-23	ISSN NO:0975-4520	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
Implementation of secured watermarking mechanism based on cryptography and bit pairs	G.swathi	CSE	Muktshabd journal	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes



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**College Code: R9**

Effective garbage data filtering algorithm for SNS big data processing by machine learning 350	G.swathi	CSE	IRE journal	2022-2023	2456-8880	<a href="https://www.irejournals.com/">https://www.irejournals.com/</a>	<a href="https://www.irejournals.com/">https://www.irejournals.com/</a>	YES
Evaluating machine learning techniques for detecting offensive and hate speech 527 in gularati	Gogu swathi	CSE	ZKG international journal	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
An Efficient and secure electronic payment system for E-commerce,428	Gogu swathi	CSE	ZKG international, February 2023	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Pre-Warning system for weak houses and bridges using IOT	E.Shirisha	CSE	International Journal for Advanced Research In Scientist &	Jan-23	2457-0362	<a href="https://www.ijarst.in/">https://www.ijarst.in/</a>	<a href="https://www.ijarst.in/">https://www.ijarst.in/</a>	Yes
"PREDICTION OF HYPOENDOCRINE GLAND USING MACHINE LEARNING ALGORITHMS"	E.Shirisha	CSE	ZKG INTERNATIONAL JOURNAL	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES



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College Code: R9

"E-FARMING AN E-COMMERCE WEBSITE FOR FRESH FARM PRODUCE VEGETABLES AND	E.Shirisha	CSE	ZKG INTERNATI ONAL JOURNAL	Feb-23	2366-1313	<a href="http://www.zkginterna tional.com">www.zkginterna tional.com</a>	<a href="http://www.zkgintern ational.com">www.zkgintern ational.com</a>	Yes
AIR DRUMS PLAYING DRUMS USING COMPUTER VISION	E.Shirisha	CSE	Internation al Journal of Techno-Engineering (IJTE)	Jun-23	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
SINGLE IMAGE DEHAZING USING SKY ADAPTIVE FUSION, 530	E.Shirisha	CSE	Internation al Journal of Techno-Engineering (IJTE)	Jun-23	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
Efficient secure data retrieval on cloud using multi tage authentication and optimised blowfish	S.yamumaredd y	CSE	IJTE journal	apr-jun 2023	0975-4520	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	YES
TKR COMMUNITY 486	BANDELA NARSINGAM	CSE	ZKG INTERNAT IONAL	Feb-23	2366-1313	<a href="http://www.zkginterna tional.com">www.zkginterna tional.com</a>	<a href="http://www.zkgintern ational.com">www.zkgintern ational.com</a>	Yes



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**College Code: R9**

AI BASED PERSONAL ASSISTANT SYSTEM 412	BANDELA NARSINGAM	CSE	ZKG INTERNATIONAL	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	YES
Optical Character Recognition System	BANDELA NARSINGAM	CSE	IJTE	Jun-23	0975-4520	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
INTRUSION DETECTION SYSTEM USING MACHINE LEARNING TECHNIQUES	K Vasudha	CSE	IJETRM	Jun-23	2456-9348	<a href="http://ijetrm.com">http://ijetrm.com</a>	<a href="http://ijetrm.com">http://ijetrm.com</a>	Yes
Artificial intelligence based smart education system	B. Vijitha	CSE	ICESC	Jul-23	979-8-3503-0009-3	<a href="https://icescs.com/">https://icescs.com/</a>	<a href="https://icescs.com/">https://icescs.com/</a>	YES
Web application for health workers	B.Mounika	CSE	Zkg international journal	Feb-23	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes



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College Code: R9

Automating E-government services using AI	Gattu Tejaswini	CSE	IJTE - international journal of techno-engineering	2022-2023	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
"Utilizing NLP in a Machine Learning Pipeline for Automated Classification of Clinical	K Raghavendar	CSE	International Journal of Research Publication and Reviews	2022-2023	2582-7421	<a href="https://ijrpr.com/">https://ijrpr.com/</a>	<a href="https://ijrpr.com/">https://ijrpr.com/</a>	YES
MALICIOUS URL DETECTION	T.Layaraja	CSE	International Journal of Techno-Engineering (UTE)	Apr-jun 2023	0975-4520	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
Flood and fire monitoring system using IOT(70-86)	T.Sai Lalith Prasad	CSE	IJARST	Jan-23	2457-0362	<a href="https://www.ijarst.in/">https://www.ijarst.in/</a>	<a href="https://www.ijarst.in/">https://www.ijarst.in/</a>	Yes
QR CODE BASED ATTENDANCE SYSTEM (837-847)	T.Sai Lalith Prasad	CSE	Mukt Shabd Journal	Jan-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	YES



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**College Code: R9**

INTELLIGENT ALERT SYSTEM FOR DRIVER FATIGUE MONITORING	K Swapna	CSE	Mukt shabd	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	Yes
Hotel Review analysis for the prediction of Business Deep learning Approach	Sukanya cherukuri	CSE	ZkG International	2022-2023	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
Suspicious activity recognition in video surveillance system	P.Ratna Tejaswi	CSE	MUKI SHABD Journal	Jun-23	2347-3150	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	<a href="https://shabdbooks.com/">https://shabdbooks.com/</a>	YES
Personalized Itinerary Planning For Travelers Using An Adaptive Genetic Algorithm	Dr.V Sidda Reddy	IT	International Journal for Advanced Research in science & Technology	Jun-23	Issn:2457-0362	<a href="https://www.ijarst.com/">https://www.ijarst.com/</a>	<a href="https://www.ijarst.in/public/uploads/paper/511081695442069.pdf">https://www.ijarst.in/public/uploads/paper/511081695442069.pdf</a>	Yes
Block Chain With Security Analysis Performance Improvements In Lightweight Access Control For	Dr.J.Praveen Kumar	IT	Ijfans International Journal Of Food And Nutritional Sciences	2023	Ugc Care Listed ( Group -I) Journal Volume 12, Iss 1, 2023 1794	<a href="https://www.ijfans.org/">https://www.ijfans.org/</a>	<a href="https://www.ijfans.org/uploads/paper/6ac25f997b80fe777c7cb652e33918923.pdf">https://www.ijfans.org/uploads/paper/6ac25f997b80fe777c7cb652e33918923.pdf</a>	Yes



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College Code: R9

A Machine Learning Model For Air Craft ticket prices	Dr.J.Praveen Kumar	IT	European chemical Bull	2023	Special Issue 12,1844-1854	<a href="https://www.eurchembull.com/">https://www.eurchembull.com/</a>	<a href="https://www.eurchembull.com/uploads/paper/d2c185ee79fba797cb4101ad6a876039">https://www.eurchembull.com/uploads/paper/d2c185ee79fba797cb4101ad6a876039</a>	YES
Prediction The Red Soil From Other Soils Using Convolutional Neural Networks	Dr. M.Ramu	IT	Journal of Engineering Sciences	2023	Vol 14 Issue 06,2023	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/17wlyztFu6AXpbz50lhiH4WUngTz0e1i/view?usp=sh">https://drive.google.com/file/d/17wlyztFu6AXpbz50lhiH4WUngTz0e1i/view?usp=sh</a>	YES
Ecosystem For Utilizing The Blockchain Technology In	E.Aruna	IT	Journal of Engineering Sciences	2023	Vol 14 Issue 06,2023	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/1R7KwclWmWPGb-emai2vI0pcZHxhBoYn0/view">https://drive.google.com/file/d/1R7KwclWmWPGb-emai2vI0pcZHxhBoYn0/view</a>	Yes
Diabetic Risk Level Of A Patient With A Better Accuracy By Using Pac And Ann	E.Aruna	IT	International Journal for Advanced Research in science & Ijfans	Jun-23	Volume:13, Issue06,June2023	<a href="https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjw8diwBhAbEiwA7i_sIQnriSKbeIOS8nBS">https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjw8diwBhAbEiwA7i_sIQnriSKbeIOS8nBS</a>	<a href="https://drive.google.com/file/d/1Z-xg-1jwn38-j60Mp418h4CfEHdAF_79/view">https://drive.google.com/file/d/1Z-xg-1jwn38-j60Mp418h4CfEHdAF_79/view</a>	Yes
Flower Identification And Classification Different Species Of Flowers From Images Using Cnn	S.Pavani	IT	International Journal Of Food And Nutritional	2023	ISSN PRINT 2319 1775 Online 2320 7876	<a href="https://www.ijfans.org/">https://www.ijfans.org/</a>	<a href="https://drive.google.com/file/d/1F6iXzwXXnecmUgWVHmi5IFc(MTW/view?usp=shar">https://drive.google.com/file/d/1F6iXzwXXnecmUgWVHmi5IFc(MTW/view?usp=shar</a>	YES



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College Code: R9

Medical Price Regression Using Machine Learning	S.Pavani	IT	Journal of Engineering Sciences	2023	Issn:2457-0362	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/1nQrjiaTQANy0KZ3CVH9IFsWJvd_YNE0/view?usp=sharing">https://drive.google.com/file/d/1nQrjiaTQANy0KZ3CVH9IFsWJvd_YNE0/view?usp=sharing</a>	Yes
Smart Traffic Control System Based On Density Using Edge Detection Algorithm	G. Archana	IT	Ijfans International Journal Of Food And Nutritional	2023	Issn Print 2319 1775 Online 2320 7876	<a href="https://www.ijfans.org/">https://www.ijfans.org/</a>	<a href="https://drive.google.com/file/d/1ksNTsEQnCi9c47-7ktmnFMjxJKPD8--">https://drive.google.com/file/d/1ksNTsEQnCi9c47-7ktmnFMjxJKPD8--</a>	Yes
To Predict The Flood During A Heavy Downpour With The Highest Accuracy Using Lr Flood Prediction	A.Jyoshna	IT	Ijfans International Journal Of Food And Nutritional	2023	ISSN PRINT 2319 1775 Online 2320 7876	<a href="https://www.ijfans.org/">https://www.ijfans.org/</a>	<a href="https://drive.google.com/file/d/1vPphXUPZ1f9oFe0ldPkj7rA3G87dP4H/view?usp=sharing">https://drive.google.com/file/d/1vPphXUPZ1f9oFe0ldPkj7rA3G87dP4H/view?usp=sharing</a>	YES
Hci With Hand Gesture Recognition Using Machine Learning Algorithms	N.Priyanka	IT	International Journal for Advanced Research in science &	2023	ISSN:2457-0362	<a href="https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjwBdiwBhAbEiwA7i_sjbDEUCTO9yxQxo">https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjwBdiwBhAbEiwA7i_sjbDEUCTO9yxQxo</a>	<a href="https://drive.google.com/file/d/14xVXKbyRds1K1fFGgodEi-rOClu-IHE/view?usp=sharing">https://drive.google.com/file/d/14xVXKbyRds1K1fFGgodEi-rOClu-IHE/view?usp=sharing</a>	Yes
Object Detection For Visually Impaired Using Android Text To Speech Api	J.Sudeer Kumar	IT	Journal of Engineering Sciences	2023	Vol 14 Issue 06,2023	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/1L_Odu9XBOWPSuBdAr1CjM8ASx6U72VTIO/view?usp=sharing">https://drive.google.com/file/d/1L_Odu9XBOWPSuBdAr1CjM8ASx6U72VTIO/view?usp=sharing</a>	Yes



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Prediction Of Crop Harvests Based On Weather Data Using MI	Mr. S. Sravan Kumar	IT	Ijfans International Journal Of Food And Nutritional Sciences	2023	ISSN PRINT 2319 1775 Online 2320 7876	<a href="https://www.ijfans.org/">https://www.ijfans.org/</a>	<a href="https://drive.google.com/file/d/1zhLGUEr9Ust7yk7QcWSOUrkezeBIZ1Qv/view?usp=sh">https://drive.google.com/file/d/1zhLGUEr9Ust7yk7QcWSOUrkezeBIZ1Qv/view?usp=sh</a>	YES
A Machine Learning Model For Air Craft ticket prices	Mr G.Raj Kumar	IT	Ijfans International Journal Of Food And Nutritional Sciences	2023	(Special issue 12),1844-1854	<a href="https://www.ijfans.org/">https://www.ijfans.org/</a>	<a href="https://drive.google.com/file/d/1bKG3IDGrtQZrSdCAftWYJw1uboNOloic/view?usp=share">https://drive.google.com/file/d/1bKG3IDGrtQZrSdCAftWYJw1uboNOloic/view?usp=share</a>	Yes
Evaluate The Height Weight And Bmi From Face	Mr G.Raj Kumar	IT	European chemical Bull	2023	Ugc Care Listed ( Group -I) Journal Volume 12, Iss 1, 2023	<a href="https://www.eurchembull.com/">https://www.eurchembull.com/</a>	<a href="https://drive.google.com/file/d/1K_sQ-PWp6Um1LRt3cTXdqvHELbZvVgV/view?usp=sh">https://drive.google.com/file/d/1K_sQ-PWp6Um1LRt3cTXdqvHELbZvVgV/view?usp=sh</a>	Yes
Live Tracking In Detection Of Weapons In Surveillance Videos Using Deep Learning	Mrs S.Sushmitha	IT	International Journal for Advanced Research in science & Technology	2023	Ugc Care Listed ( Group -I) Journal Volume 12, Iss 1, 2023	<a href="https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjw8diwBhAbEiwA7i_slbDEUCTO9vxQxo">https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjw8diwBhAbEiwA7i_slbDEUCTO9vxQxo</a>	<a href="https://drive.google.com/file/d/1uqLpfM_u-a2FHDWYzFTuYV9im5aDZG">https://drive.google.com/file/d/1uqLpfM_u-a2FHDWYzFTuYV9im5aDZG</a>	YES
FINDING THE RESTAURANT SCORING WITH RECOGNIZING FACIAL EXPRESSION	K.Hymavathi	IT	Journal of Engineering Sciences	2023	ISSN-0377-9254	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/1BSCChQIEHslEvgCFB45kSwyIR9WtWBr/view?usp=share">https://drive.google.com/file/d/1BSCChQIEHslEvgCFB45kSwyIR9WtWBr/view?usp=share</a>	Yes



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College Code: R9

Disease Prediction Using Machine Learning Algorithms	Mrs A.Vijetha	IT	International Journal for Advanced Research in science &	2023	Issn:2457-0362	<a href="https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjw8diwBhAbEiwA7i_slbDEUCTO9vaQxo">https://www.ijarst.com/?gad_source=1&amp;gclid=CjwKCAjw8diwBhAbEiwA7i_slbDEUCTO9vaQxo</a>	<a href="https://drive.google.com/file/d/1Ych_XmSCjAylW1CbONoS_u8Ara_Ahg04O/view?usp=s">https://drive.google.com/file/d/1Ych_XmSCjAylW1CbONoS_u8Ara_Ahg04O/view?usp=s</a>	Yes
A NOVEL CNN TLSTM APPROACH FOR DENGUE DISEASE IDENTIFICATION AND PREVENTION	Dr. K. M. V Madan Kumar Dr. Vadivelan Natarajan	AIML	NEURAL PROCESSING LETTERS	AUGUST,2022	1573-773X	<a href="http://doi.org/10.1007/s11063-022-10971-x">http://doi.org/10.1007/s11063-022-10971-x</a>	<a href="http://doi.org/10.1007/s11063-022-10971-x">http://doi.org/10.1007/s11063-022-10971-x</a>	YES
A NOVEL APPROACH FOR CLASSIFICATION OF MELANOMA SKIN LESION USING DEEP CNN	Dr. K. M. V Madan Kumar	AIML	EUROPEAN CHEMICAL BULLITEN	AUGUST,2023	2063-5346	<a href="https://www.eurchembull.com/issue-e-content/a-novel-approach-for-classification-ofmelanoma-skin-">https://www.eurchembull.com/issue-e-content/a-novel-approach-for-classification-ofmelanoma-skin-</a>	<a href="https://www.eurchembull.com/issue-content/a-novel-approach-for-">https://www.eurchembull.com/issue-content/a-novel-approach-for-</a>	YES
ENERGY EFFICIENT NODE COOPERATION IN UNDER WATER DATA COLLECTIONNETW	Dr. Vadivelan Natarajan	AIML	IJR	JULY,2022	2236-6124	<a href="https://doi.org/10.10089/IJR.2022.VXI07.285311.13685">DOI:16.10089.IJR.2022.VXI07.285311.13685</a>	<a href="https://doi.org/10.10089/IJR.2022.VXI07.285311.13685">DOI:16.10089.IJR.2022.VXI07.285311.13685</a>	Yes
CONTENT BASEDIMAGE RETRIVALUSING CNN &EXTREME LEARNING MACHINE IN	Dr. Vadivelan Natarajan	AIML	NEURAL QUANTOLOGY	JULY,2022	1303-5150	<a href="https://doi.org/10.14704/nq.2022.20.8.NQ44408">DOI: 10.14704/nq.2022.20.8.NQ44408</a>	<a href="https://doi.org/10.14704/nq.2022.20.8.NQ44408">DOI: 10.14704/nq.2022.20.8.NQ44408</a>	Yes



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AI AND ML MODELS TO PREDICT CLIMATE EXTREMITIES AND CLIMATE CHANGE MITIGATION	Dr. Vadivelan Natarajan	AIML	SSRN	SEP,2022	2456-5083	<a href="https://ijemr.org/downloads/paper/Volume-11/ai-and-ml-models-to-predict-climate-">https://ijemr.org/downloads/paper/Volume-11/ai-and-ml-models-to-predict-climate-</a>	<a href="https://ijemr.org/downloads/paper/Volume-11/ai-and-ml-models-to-predict-">https://ijemr.org/downloads/paper/Volume-11/ai-and-ml-models-to-predict-</a>	YES
COMPARITIVE STUDY OF CYBER ATTACKS	K.Renuka	AIML	NEURAL QUANTOL OGY	NOV,2022	1303-5150	<a href="https://doi.org/10.14704/nq.2022.20.11.NQ66799">DOI: 10.14704/nq.2022.20.11.NQ66799</a>	<a href="https://doi.org/10.14704/nq.2022.20.11.NQ66799">DOI: 10.14704/nq.2022.20.11.NQ66799</a>	Yes
Viscous holographic dark energy cosmological model in general relativity	D.S.L. Sudha Rani	Mathematics	Indian journal of physics	May-23	0974-9845	<a href="https://link.springer.com/journal/12648">https://link.springer.com/journal/12648</a>	<a href="https://link.springer.com/article/10.1007/s12648-022-02515-9">https://link.springer.com/article/10.1007/s12648-022-02515-9</a>	Yes
Spectroscopic and textural analysis of glucose dispersed fundamental nematic liquid crystals	Dr.A.Nagarjuna	Physics	Brazilian journal of physics	May-23	0103-9733	<a href="https://link.springer.com/journal/13538">https://link.springer.com/journal/13538</a>	<a href="https://link.springer.com/article/10.1007/s13538-023-01313-w">https://link.springer.com/article/10.1007/s13538-023-01313-w</a>	YES
Study the acoustic properties of benzyl benzoate liquid blends	Dr.A.Nagarjuna	Physics	NeuroQuantology	Sep-22	1303-5150	<a href="https://www.neuroquantology.com">https://www.neuroquantology.com</a>	<a href="https://media.proquest.com/media/hm/177/mxhaw?1=6ed340384f35v4w2934oyt">https://media.proquest.com/media/hm/177/mxhaw?1=6ed340384f35v4w2934oyt</a>	Yes



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College Code: R9

A GENERAL INTRODUCTION TO THE NEW SUBCLASS OF HARMONIC UNIVALENT	D.S.L Sudha Rani	Mathematics	International journal of multidisciplinary educational research	Oct-22	2277-7881	<a href="https://www.ijmer.in">https://www.ijmer.in</a>	<a href="https://ijmer.s3.amazonaws.com/pdf/volume11/volume11-issue9(11)/17.pdf">https://ijmer.s3.amazonaws.com/pdf/volume11/volume11-issue9(11)/17.pdf</a>	YES
Acoustic and viscosity studies of binary mixtures of parabens with alcohols	Dr.A.Nagarjuna	Physics	International Journal for Innovative Engineering and	Sep-22	12456-5083	<a href="https://www.ijer.org">https://www.ijer.org</a>	<a href="https://ijer.org/public/uploads/paper/363831664070085.pdf">https://ijer.org/public/uploads/paper/363831664070085.pdf</a>	Yes
Some Sub-Classes of Harmonic Univalent functions	D.S.L Sudha Rani	Mathematics	International Journal of Engineering Technology and Management	Jun-23	2581-4621	<a href="https://ijetms.in">https://ijetms.in</a>	<a href="https://ijetms.in/Vol-7-issue-4/Vol-7-Issue-4-13.pdf">https://ijetms.in/Vol-7-issue-4/Vol-7-Issue-4-13.pdf</a>	Yes
Studies on lanthanum-doped nickel ferrites for improved structural, magnetic and optical	K.S.Siva Mahalakshmi	Physics	Journal of Materials Science: Materials in Electronics	May-23	0957-4522	<a href="https://link.springer.com/journal/10854">https://link.springer.com/journal/10854</a>	<a href="https://doi.org/10.1007/s10854-023-10542-3">https://doi.org/10.1007/s10854-023-10542-3</a>	YES
Employee Satisfaction and Quality of Work Life among Employees of Manufacturing	Dr. V. Suryanarayana	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.UITECH.ORG">https://www.UITECH.ORG</a>	<a href="https://www.UITECH.ORG">https://www.UITECH.ORG</a>	Yes



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Employees Perception about Organizational HR Practices and Culture in IT Companies in India	Dr. V. Suryanarayana	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Performance and Retention through Employee Engagement in IT companies	Dr. V. Suryanarayana	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Employee Motivation in Cement Industries with special reference to Ambuja Cements	Dr. V. Suryanarayana	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Impact of HRM Practices on Employees Job Satisfaction in Dairy companies	Dr. V. Suryanarayana	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Green Technology Management in Commercial banks in India: Issues and Challenges	Dr Ch Ramesh	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes



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College Code: R9

Financial Reporting and Analysis	Dr Ch Ramesh	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Financial Inclusion and Rural development in India: issues and Challenges	Dr Ch Ramesh	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Green Banking Practices and Its Implementation in Public and Private Banks in India	Dr Ch Ramesh	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
E-Banking in Public and Private Sector Banks: Implementation of Green Banking in India	Dr Ch Ramesh	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Impact of Internet Banking System on the Banks Performance in India	Dr Ch Ramesh	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes



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**College Code: R9**

Financial Analysis and Technology Innovations in Non-Banking companies in India	G Srinivas	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Investment Options Analysis for the IT Companies in India	G Srinivas	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Financial Performance of Commercial Banks in India	G Srinivas	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Cost Analysis in Food Processing Companies: Financial and Managerial Aspects of Fruit &	G Srinivas	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes
Globalization's Effect on the Banking Sector in India: Recent Developments	G Srinivas	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	Yes



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Financing to Entrepreneurship and Startups in India: Issues and Challenges	D Srisailam	MBA	UGC	2022-2023	ISSN 2394-9333	<a href="https://www.ijtech.org">https://www.ijtech.org</a>	<a href="https://www.ijitech.org">https://www.ijitech.org</a>	Yes
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## New Model Of Enhanced Plasticity For Reinforced Concrete Structural Elements That Take Into Account The Effects Of Lateral Loading And Gravity

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**Abstract:** Reinforced concrete structures are exposed to a progression of activities all through their life expectancy which may be the purpose behind damage. Subsequently, rehabilitation of existing structures is typically performed either to restore structural limit because of decay or damage or to broaden existing structural limit due to expanded loads. To fortify existing structures, numerous new creative materials like progressed fiber-reinforced polymers (FRPs) are discovered to be acceptable substitute for reinforcing materials like steel. They are actualized to fortify the presentation of structural components in flexure, pivotal, shear, and twist. In a RC outline, migrating plastic pivots in the beam off from the column face is normally prescribed to broaden pliability of the edge. This could be accomplished through rib reinforced FRP retrofit of the joint. Furthermore, to it, thus we execute an expanded pliancy for the concrete structural components like column, beam, chunk, dividers then on. The primary motivation behind a wide range of structural frameworks utilized in the structure type of structures is to transfer gravity and horizontal loads effectively.

**Keywords -** Reinforced concrete structures, structural modifications, Fiber-Reinforced Polymers (FRPs)

### Introduction

RC elements play an unmistakable role in all development cycle and endeavoring disappointment sometimes in those individuals prompts weighty losses. So more strategies were executed to beat such snags because of loadings and a portion of the techniques were examined and measure was recorded. One of the strategies to upgrade the strength of concrete part is accomplished by spine fortified FRP retrofit of the joint.

Fiber-reinforced polymers are broadly utilized for seismic redesigning of existing RC structures and fortifying of damaged structures. Beam-column joints are crucial segments of an edge both as far as structural soundness and its seismic exhibition. Along these lines, expanding the beam-column joint limit assists with improving the by and large seismic presentation of the casing. To accomplish this, diverse FRP retrofitting plans might be embraced including web-reinforced and flange-fortified. The immense measure of exploration directed regarding this matter in the most recent decade has been focused on the web-reinforced plan. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. The vast amount of research conducted on this subject in the last decade has been concentrated on the web-bonded scheme. Fibre-reinforced polymers are widely used for seismic

upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the



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# New Model Of Enhanced Plasticity For Reinforced Concrete Structural Elements That Take Into Account The Effects Of Lateral Loading And Gravity

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## Abstract-

This paper continues to the analysis of the parallel loads and gravity loads by improving the plasticity and deciding the consequences for the conduct of reinforced concrete elements when exposed to cyclic loads. What's more, a numerical analysis of the gravity load impacts on the conduct of reinforced concrete bar basic zones when exposed to cyclic loads was additionally completed. This parametric examination is utilized to survey the impact of various degrees of horizontal and gravity loads on RC bar basic zones exposed to cyclic loading and furthermore considers harm boundaries for portraying compressive and pliable harm. For this reason, accepting the degree of gravity load as a variable boundary, a nonlinear numerical model of a pillar section association, recently adjusted with experimental information, was utilized. The plasticity models are defined from a straight second outline exposed to parallel loading separated from the impact of gravity loading, it has been accepted that the predefined state of their bend reaches out from the two finishes of the element. This suspicion can be proved off base results in nonlinear analysis. In this examination, an upgraded plasticity model is built up that thinks about the impacts of both gravity and sidelong loading. To infer the proposed model, the unit load hypothesis dependent on the rule of virtual work is utilized, and an overall definition is set up to accomplish the firmness network of the primary elements with the distinctive flexibility properties along it. The exactness of the proposed model is certified through examination with experimental outcomes and its decisions.

**KEYWORDS:** Plasticity, Lateral loads, Gravity loads, Reinforced Concrete, Cyclic loading, Critical cores, Unit load theory, Flexibility properties, Structural elements, Compression, Tension, RC beams, Beam Column Connections.

## INTRODUCTION

Plasticity, otherwise called plastic twisting, is the change from flexibility conduct to plastic conduct and the cycle is yielding. In late many years, the protected plan of reinforced concrete primary elements against different loading designs, especially gravity and sidelong loads, has been broadly considered. Consequently, various numerical and experimental investigations have been led to depict the concrete reaction under various loading conditions.



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## Analysis of Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks

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### Abstract:

The use of remote innovation is progressively impacting the arrangement of sensor networks for minimal price and maintenance in varying backgrounds. Unfortunate channel conditions, serious power imperatives, blurring, impedance and the low power correspondence prerequisites amplify the need for energy effective and ideally cross layer blunder control plans in Wireless Sensor Networks (WSNs). The primary objective of blunder control components in WSNs is to decrease the energy consumption while dealing with dependable and quick conveyance of the detected information. In this paper, we propose a 'Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks' (DCAECS) that gauges the channel mistakes and controls blunders progressively founded on channel qualities and commotion power saw at the collector. This rouses the mistake control procedure to differ as the channel conditions change as far as commotion level. In this paper, we have concocted the models for both the blunder and channel assessment. Examination and re-enactment results for different message sizes and mistake conditions show that there is an improvement as far as throughput, BER and the likelihood of retransmission when contrasted with 'ARQ Scheme with Adaptive Error Control' (ASAEC).

### Keywords:

Bit Error Rate, Error Control, Energy Efficiency, Wireless Sensor Networks.



## Dispersed Cooperative Cluster Based Communication Protocol for Energy Efficiency in Wireless Sensor Networks

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### Abstract

Hypothetical Energy basic in remote sensor frameworks has gotten an extending research excitement for late years. Radio variation from the norm, channel obscuring and block realizes greater imperativeness usage and latency for package transmission over remote channel. One late advancement that can radically assignment as far as possible and reduce transmission imperativeness use in obscuring channels is useful correspondence. The development in as far as possible realizes decreased screw up rate. In this paper, one pleasant correspondence technique is proposed by creating imperativeness compelling sending and getting packs for each hop. It includes two phases to be explicit directing stage, choosing and-transmitting stage. In the controlling stage, the basic route between the source and the sink centers is found. In the subsequent stage, the centers on the fundamental route progress toward turning out to be bunch heads, which select extra adjacent center points with most insignificant imperativeness cost from their local then the group is transmitted from the sending pack to the as of late settled tolerating bundle. The amusement comes about exhibit that the decline in botch rate and the imperativeness supports convert into extended lifetime of accommodating frameworks.

**Record Terms**—Sensor systems, grouping, helpful systems vitality productive conventions, agreeable transmission, blurring channel.

### 1. INTRODUCTION

In Wireless structures community focuses have constrained centrality assets, strategies masterminded ought to be criticalness suitable. Remote incredibly designated structures have made as a practical design to give inevitable untethered correspondence. The essential thought of the satisfying exchanges is that all clients or focus focuses in a remote structure can help each other to send signs to the goal obligingly. Every client's information data is passed on by the client, and what's more by different clients. Thusly, it is ordinarily progressively time tested for the target to perceive the transmitted data since from an evident perspective, the shot that all the channel interfaces with the goal go down is remarkable. Particular duplicates of the transmitted flags considering the help among clients bring about another sort of gathered grouping, i.e., cooperative not too bad assortment that can on a very basic level improve the system execution and quality. In this paper, we use an accommodating correspondence appear with various centers on the two terminations of a bob and with each datum package being transmitted just once per hop. A key good situation of pleasant transmission is the development of the gained power at the getting centers. This reduction the probability of bit botch and of pack adversity. Then again, the sender centers can use tinier transmission control for a comparative probability of bit botch, thusly diminishing the essentialness use.

Starting late, various undertakings have in like manner been revolved around plan of pleasing grouped assortment shows with a particular ultimate objective to fight the effects of genuine obscuring in remote channels. In [1] Cooperation Along Non-supportive way is characterized. In any case the "non-pleasing way" between the source and the sink is found, by then the last m predecessor centers along the non-supportive way is used for investment to transmit to the accompanying center in transit. The work in [2] uses the model with only a solitary accomplice center point at each bob despite the sender and the recipient.



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## Efficient Road Side Framework Placement using VANET for Reducing Network Delays

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### ABSTRACT

The Road Side Unit (RSU) is a transmitter, it is facilitate along with route to us for communication between network surface and vehicles. The RSU is one of the components of VANET (vehicular ad hoc network). In this research paper mainly focused on problem of placement of RSU on road side like highway and also avoids the network delay along with efficient network. For this problem the proposed ERSF (Efficient Road Side Framework) avoid the network delays with help of number linear conceptual model along with optimization network delay and under consideration of network. The ERSF framework has been tested that performance using metrics of Generating Traffic Mobility Patterns (GTMP) by VanetMobiSim. The experimental results comparisons has been shows standard distribution and cost effective reduction is 23% and the network delay is 9% respectively and these results are gives clear definition of efficiency of ERSF solutions.

**KEY WORDS:** GTMP, RSU, ERSF, VANETMOBISIM, NETWORK DELAYS, ROAD SIDE UNIT.

### INTRODUCTION

Now a day the emerging network technology for Ad-Hoc Network is Vehicular Ad Hoc Network (VANET), that is allows the methods of ITS (Intelligent Transportation System) techniques for making an efficient networking systems for between network surface and vehicles in road infrastructure through Vehicular Ad Hoc Network. The

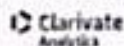
VANET facilitate vehicles interactive with every other network in road unit and get efficient internet on the moving state.

The VANET is a part of Mobile Ad-hoc Networks; these VANET and MANET is self organized, independent and focused for the sharing manner along with self organized authentication Ranjan Senapati B et al., (2020) With help of Dedicated Short Range Communication (DSRC) the VANET has gives wireless link for communication for roaming vehicles Babu Ram and Neelendra Badal (2019) along with the standard of IEEE 802.11a Malhi et al., (2019). In VANET changes sequence is very problem in traffic network, Because of high portability the topology. Besides, long range interaction, the serious issues is Inaccessibility of RSU within certain regions which brings about separation and undesirable network late.

### ARTICLE INFORMATION

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# Bank Endorsement Classification: A Novel Content Based Approach Using Pupil Tracking Technology

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RESEARCH ARTICLE

These days System security dangers are expanding quickly. Particularly client approval is focused for validation could be used. The eye scanner follows the positions of eye and eye development for perceptible upgrade introduced on PC framework. Different highlights like look point, student proportions and mouse location can be removed and it tends to spoken to utilizing representation strategies, for example, obsession, saccade, check way. The sweep way is perceived as an example and the information is utilized give validation from the server database. The understudy district is followed regard to make a outline for by and large break down and make a constant extraordinary example that is given to every person. The example framed is confirmed utilizing design that is put away in the database. Here we show a chance on how business eye tracker could be connected with equipment and programming to upgrade bank security.

**Keywords:** Security, Eye Movement, Pattern, Unique, Scan Path.

## 1. STUDY MOTIVATION

An eye GPS beacon quantifies the location and development of the eye. Optic following is the procedure utilized to estimate look focuses [1] along with development of eyes as for the head. Look approximation is significant to anticipate human consideration and could be utilized to make a center point and understanding mental strength of the person.

The camera traces the impression of light origia which is utilized to assess the eye student center position. This information is utilized to extricate the revolution of eyes as wells the heading of look. Extra highlights, for example, flicker recurrence [2] along with modifications in the understudy dimensions can likewise be identified utilizing eye tracker. The gathered information can be composed into document which could additionally utilized for client verification to his/her financial balances.

Eye Trackers is as an info gadget for connection among human and PC and in item gadget. There are numerous methods for estimating eye developments.

Some famous variations utilize video pictures [3] from which eye positions can be recovered. Eye positions has to be arranged casing at outline in video. Different strategies were utilized, for example, search loops or dependent on electro-oculogram. With assistance of genuine eye following framework is conceivable to watch and assess human consideration equitably and sophisticatedly which expands the effect of optical plans and correspondence.

### 1.1. Implementation

**Integrated security**—The innovation permits breaking down clients continuously and giving the live access to financial balances straightforwardly or carefully.

**Website security**—PCs are essential wellspring of data. The clients can without much of a stretch find the look setting on the screen. Eye following is utilized by web specialists to plan the site as indicated by security composition and Bank executives to recognize the client in site and give proper access.

**Automatic Teller Machines (ATM)**—ATMs interface is streamlined for eye following in a position of the recognizable proof, approval and to see whether the clients are looking intellectually steady.

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*Preserving mobile commerce IoT data  
using light weight SIMON block cipher  
cryptographic paradigm*


**Shrikant Taware, R. Ravi Chakravarthi,  
C. Anna Palagan, Kumaresan  
Chandrasekaran & N. Vadivelan**

Journal of Ambient Intelligence and  
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### Withdrawal Notice

## WITHDRAWN: Predicting the effect of Covid-19 by using artificial intelligence: A case study

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The veracity of the conference also remains subject to serious doubt and therefore the entire Proceedings has been withdrawn in order to correct the scholarly record.

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Journal of Green Engineering (JGE)

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## River Pollution Control System through Efficient Monitoring of Industrial Effluent Discharge

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### Abstract

The textile and dyeing industries are providing opportunities for sustained economic development in a country and also they play a major role in Indian economy. Water pollution is one of the major issues pertaining to the destruction. The river and its associated living organisms are directly affected by chemical effluent discharge in it. So as to ensure the nature of the water provided for various purposes like rural, drinking and other household reason, and the water ought to be checked by controlling the gushing releases. This paper presents a key result for the inner-pipe water quality observation by a centralized system using IoT infrastructure. The prototype developed is employed for continuous monitoring and analyzing water specimen that are going to discharge at the factory vent and the data that is obtained will be uploaded over the Internet for future analysis. It controls the industrial effluents by connecting a valve to water outlet of the industry. The valve will open only if the TDS and pH value are matched with the standard value. This system is also designed to send an alert messaging system to the

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## Industrial Safety Applications Using Wireless Access Panels

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**Abstract:** In large numbers of the industrial sectors, wireless networking technologies are acquiring rapid endorsement on account of their cost-adequacy, improved unwavering quality, and adaptability. A wireless network can be characterized as a network of devices, meant as hubs. Their essential usefulness is to corporately detect, accumulate, measure, and distribute data in the general climate. Wireless methods communication without the utilization of wires other than the receiving wire, the Ethernet, and the ground replacing wires. For a few industrial activities, wireless technology bears the cost of savvy and compelling availability arrangements. Utilizing wireless technology there are numerous advantages, for example, distant offices, cycles and field activity which brings about improving productivity, personal time, quicker and more accurate data assortment.

### Introduction

WSNs are steadily embraced in the industrial world because of their preferences over the wired networks. Notwithstanding saving cabling costs, WSNs enlarge the domain of conditions attainable for checking. Consequently, adding inciting and detecting abilities to objects in the actual world and taking into account communication among them.

To additionally represent the structure of IWNs, a plant or industrial facility inside viewpoint is utilized as appeared in Figure 1 beneath. Accordingly, the communications framework can be isolated into four parts: brilliant elements, between IWNs, past IWNs, displays, and workers. Inside IWNs, shrewd elements, for example, laborers, AGVs, machines, and standard sensors with wireless handsets could be viewed as wireless hubs that are associated with structure an IWN by wireless radios. Moreover past IWNs, the passage hubs and the door make a scaffold to different networks, for example, cell, and wired, and so forth. More significant level data applications including data workers, the executives, regulators, and displays might be founded on these particular networks. Having the option to choose a reasonable wireless technology doesn't just need the information on the names of existing wireless technologies and their necessities yet additionally an away from of every wireless technology, its set of experiences, advancement, suggested applications, and so forth is required. As per (Lee, Su, and Shen 2007), The short-range wireless scene is as of now held by five protocols, Bluetooth, Wireless HART, ZigBee, ISA100.11a, and Wi-Fi that relate to the IEEE 802.15.1, 802.15.3, 802.15.4, and 802.11a/b/g norms, individually. The IEEE principles characterize the physical (PHY) and medium access control (MAC) layers for wireless communications over an activity scope of around 10-100 meters. Moreover, the principles Wireless HART and ISA100.11a were created by the HART communication establishment and the global society of robotization (ISA), individually. Each of the previously mentioned have various ascribes/highlights that decides their appropriateness of satisfying the prerequisites of various industrial frameworks as far as, dormancy, data rate, jitter, dependability, communication traffic conditions, situations/applications, network topologies, Range, bandwidth, and so on.



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## Design and Implementation of AGU based FFT Pipeline Architecture

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## Brain Tumor Detection Using Machine Learning and Gaussian Mixture Model

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### Abstract

This paper provides a machine learning approach for the detection of brain tumors. The modified GMM approach is used for the detection of tumors. The ARFF dataset of tumor image is created. The training dataset is created and the efficiency of the approach is tested against the test dataset. The detection rate is 98.5.

Keywords: GMM, Machine learning, technology, brain tumor, ARFF dataset

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### INTRODUCTION

A brain tumor is an uncontrolled development of cells in the brain. Tumors increase pressure inside brain and damage cells. Tumors also can cause swelling inside the brain. A tumor can be identified as malignant or benign. Absence of cancer cells is benign and with cancer cells is malignant. Benign do not spread and is less dangerous compared to malignant that spread and multiply. There exist many image analysis methods to identify tumors in brain like positron emission tomography (PET), computer tomography (CT) and magnetic resonance imaging (MRI). Brain image is taken in MRI using radio waves around magnetic field. [4][5][7] There is absence of radiation in MRI method, hence safe for humans. Once imaging of brain is over, the tumor and the infected area is identified using standard algorithms. Researchers worldwide have proposed many algorithms and procedures to detect the tumor. There are methods that automatically detect tumors, machine-learning methods that detect tumors faster than manual methods. [8][9][11]

### LITERATURE REVIEW

Atkins and Mackiewicz [1] use thresholding and morphology techniques, combined with an anisotropic diffusion process to localize and segment the brain. Their method used an integrated approach employing image processing techniques based on anisotropic filters and "snakes" contouring techniques. It is a multistage process, involving first removal of the background noise leaving a head mask, then finding a rough outline of the brain, then refinement of the rough brain outline to a final mask. Hahn and Peitgen [2] proposed a solely intensity-based watershed algorithm, which makes use of a simple merging criterion to avoid the oversegmentation problem. In contrast to most region-based methods, their technique is particularly well adapted to brain segmentation, and is quite robust to intensity inhomogeneities. Shattuck et al. [3] and Gambino et al. [10], use adaptive anisotropic diffusion, edge detection and morphological erosions to identify the brain component. Brain tissue were isolated and classified within T1-weighted magnetic resonance images (MRI). Nonbrain tissue were removed using a combination of anisotropic diffusion filtering,

## A Review Of Energy Efficiency In Wireless Communication Network

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### 1.ABSTRACT

Smart and green climate addresses the following transformative advancement steps in a disaster management, mechanical computerization, home modernization, natural and wellbeing observing. Continuous prerequisites relying upon the application, it could be important for sensor hubs inside the sensor organization to react rapidly to identified occasions. Energy efficient (EE) correspondence has acquired huge premium lately because of truly expanding number of remote devices working in contracting cells, while requesting high information rates with superior grade of Services and Quality of Expectation. These sensor networks present various sorts of mistakes, which are because of the eccentric idea of the remote channel delays. The start to finish delay is perhaps the most basic and major issues for remote sensor organizations. Energy efficiency in cell networks is a developing worry for cell administrators to look after profitability, yet in addition to lessen the general climate impacts. Conventional plan of portable remote organizations essentially centers around universal access and huge limit. Nonetheless, as energy saving and natural assurance become a worldwide interest and unavoidable pattern, remote scientists and architects need to move their concentration to energy-efficiency arranged plan, that is, green radio.

**Keywords:**Energy efficiency, Quality of Services, Quality of Expectation, cellular operators

### 2. INTRODUCTION

Wireless Sensor Networks (WSNs) generally considered as perhaps the main innovations for the 21<sup>st</sup> century. Empowered by ongoing advances in microelectronic mechanical frameworks and wireless correspondence advances, little size, moderate expense and wireless sensors conveyed actual climate to checking the progressions of occasion and wireless networks through wireless connections without actual associations and the web give phenomenal freedoms to an assortment of utilizations. Wireless Sensor Networks essentially contains an enormous number of moderate force and multifunctional sensor hubs that are conveyed in an occasion of revenue utilizing actual climate like earthbound and submerged level. Sensor hubs little in size, microchips and radio handsets and in this way have not just detecting capacity and furthermore information preparing, conveying abilities. It has conveyed over a foreordained distance through the wireless channel. For instance, cellular systems and mobile adhoc network (MANET), Wireless Sensor Networks(WSNs) have extraordinary attributes, high thickness level of sensor hub sending, inconsistency of wireless sensor hubs, energy calculation, and quality of administration, low equipment profiles and erratic ecological conditions. In the previous decade, WSNs have gotten gigantic consideration from both scholarly community and industry everywhere on the world. A great deal of examination exercises did to investigate and furthermore tackled different execution attributes like force utilization, parcel conveyance time and critical advances made in the turn of events and organization of WSNs. It has imagined that in the WSNs broadly utilized in different regular citizen and military fields and changes the method of living, work, and interfaces with the actual world.

#### 2.1 Green Evolution

The next generation wireless networks are relied upon to give high speed web access anyplace and whenever. The prominence of iPhone and different kinds of cell phones certainly quickens the interaction and encourages new traffic interest, like versatile video and gaming. The dramatically developing information traffic and the prerequisite of pervasive access have set off sensational extension of organization frameworks and quick acceleration of energy interest. Consequently, it turns into a dire requirement for portable administrators to keep up maintainable limit development

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# Design of Hamming Encoder (23,16) For Emerging Applications

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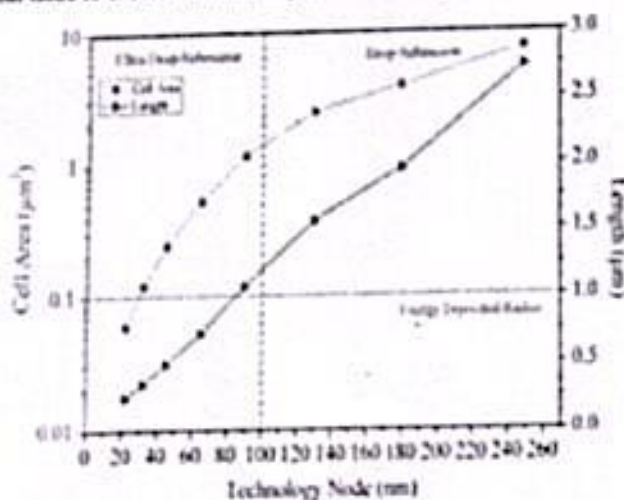
## ABSTRACT

The use of error-correction codes (ECCs) with advanced correction capability is a common system-level strategy to harden the memory against multiple bit upsets (MBUs). Therefore, the construction of ECCs with advanced error correction and low redundancy has become an important problem, especially for adjacent ECCs. Existing codes for mitigating MBUs mainly focus on the correction of up to 3-bit burst errors. As the technology scales and cell interval distance decrease, the number of affected bits can easily extend to more than 3 bit. The previous methods are therefore not enough to satisfy the reliability requirement of the applications in harsh environments. In this paper, a technique to extend 3-bit burst error-correction (BEC) codes with quadruple adjacent error correction (QAEC) is presented. First, the design rules are specified and then a searching algorithm is developed to find the codes that comply with those rules. The H matrices of the 3-bit BEC with QAEC obtained are presented. They do not require additional paritycheck bits compared with a 3-bit BEC code. By applying the new algorithm to previous 3-bit BEC codes, the performance of 3-bit BEC is also remarkably improved. The encoding and decoding procedure of the proposed codes is illustrated with an example. Then, the encoders and decoders are implemented using a 65-nm library and the results show that our codes have moderate total area and delay overhead to achieve the correction ability extension.

## INTRODUCTION

RELIABILITY is an important requirement for space applications [1]. Memories as the data storing components play a significant role in the electronic systems. They are widely used in the system on a chip and application-specific integrated circuits [2], [3]. In these applications, memories

This makes memories suffer more space radiation than other components. Therefore, the sensitivity to radiation of memories has become a critical issue to ensure the reliability of electronic systems



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# An Efficient Implementation of Fir Filter Using High Speed Adders for Signal Processing Applications

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## ABSTRACT

Numerous applications of Finite Impulse Response (FIR) Filter have been found in many signal processing applications, biomedical applications, de-noising, etc., It is essential to design the FIR filter with high speed and low power consumption. Vedic mathematics can be used to transform tedious calculations into simpler and orally manageable operation. Vedic multiplication uses Urdhva Triyambakam multiplication algorithm. The Vedic multiplication algorithm generates partial products in parallel.

In this work, we propose using Han-Carlson adder to improve the performance of Vedic multiplier. A 8-bit Vedic multiplier is implemented, which can be used for mantissa multiplication in single-precision floating-point multiplier. The proposed multiplier is coded in Verilog HDL.

In this project, design of FIR filter has been made with parallel prefix adders which are high speed adders and vedic multipliers. Simulation and synthesis is carried out using Xilinx ISE tool.

**Keywords:** FIR; Vedic mathematics; Parallel prefix adder; Vedic multiplier; Han-Carlson adder; Kogge-Stone adder; Xilinx.

## INTRODUCTION

Impulse response in finite period of time is defined as Finite Impulse Response Filter. The majority of its applications are found in the field of signal processing, image processing, speech processing, and bio medical signal processing and so on. The major purpose of FIR filter is to clip off the unwanted noise and distortion to retain the useful signals. The key factors such as pre-processing, anti-aliasing, band selection, interpolation and low pass filtering makes the FIR filter useful for major signal processing applications.

Impulse response in finite period of time is defined as Finite Impulse Response Filter. The majority of its applications are found in the field of signal processing, image processing, speech processing, bio medical signal processing and so on.

The outperform characteristics of FIR filter makes it useful for constructing efficient stable filters and those characteristics are linear phase and unconditional stability, ease of implementation, non-existence of overflow oscillations, greater computational efficiency and the capability to implement filters with co efficient less than one . FIR filters can be either continuous in time or discrete in time. The FIR filter can be implemented in software and its design method is based on the approximation of Ideal filter.

Windowing techniques are the basic methods to design these filters. The major purpose of FIR filter is to clip off the unwanted noise and distortion to retains the useful signals.

The key factors such as pre-processing, anti-aliasing, band selection, interpolation and low pass filtering makes the FIR filter useful for major signal processing applications. In order to make a filter with no noise as there is no need of truncation or rounding of the bits, FIR filter will become the best option for choosing. A good solution for the practical applications of image processing would be FIR filter.



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# Primary User Emulation Attack and countermeasures in Cognitive Radio Network: A Survey

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**Abstract**— In the scenario of dynamic spectrum access in a Cognitive Radio Network (CRN), the authorized frequency is always used by Primary Users (PU) or Licensed Users (LU) and Cognitive Radio (CR) users can use this spectrum when licensed users are not utilizing it. In some cases, a complete similar kind of signal is generated by the attacker, and it looks like an error created by the Licensed User. So, the CR user is confused, and it erroneously detects the attacker as licensed user and immediately vacates the spectrum. This type of attacker is named as Primary user Emulation Attack (PUEA). Detection and defense of PUE attack, recognizing the interferences produced by the multiple PUEA to the PU and also to analyze the various problems arising in the data transmission are an important aspects in successful functioning of a CRN. This paper mainly focuses on PUEA and its defensive strategies in a CRN.

**Keywords**— CRN, Licensed User, CR User, PUEA

## I. INTRODUCTION

The need for frequency bands is increasing rapidly due to the development of the wireless communication systems. However, most portion of the frequency spectrum is occupied by the present systems, and it is a limited resource. Therefore, the dynamic spectrum access in a CRN is essential [1]. Accessing spectrum dynamically is made possible by CRN. Spectrum sensing (SS) is the crucial activity at the CRN. If the SS is not performed accurately, then the Cognitive Radio (CR) and licensed user's performance will be degraded [2].

Usage of the spectrum can be increased by addressing lack of the spectrum. CRN is a feasible spectrum shortage problem solving option [4]. The CRN enables the sensing of CR user, the sensing of adaptive communication factors as well as the monitoring of inactive frequency channels, lacking interfering the Licensed User (LU) [4]. Because of the unpredictable nature of wireless communication, CRN can be exposing to multiple cyber-attacks and this gives a depressing crash on their execution. The attacks are PUEA [5], Spectrum Sensing Data Falsification (SSDF), jamming attacks as well as asynchronous sensing attacks [4].

The physical as well as Medium Access Control (MAC) layers of CR is threatened through PUEA attacks, and it is one of the CRN's biggest attacks. In a PUEA attack, the

malevolent user copies the transmitting features of the LU, and the legitimate CR Users are confused by the actions of this mimic. This form of attack can cause disruptive interference to the LUs, and prevents the other CR Users from using idle frequency channels [5].

The successful realization of a PUEA in a CRN relies on many important factors, such as no interference among the major as well as secondary networks. Otherwise, a LU verification protocol may be configured to detect a PUE attack if CR user is allowed to share information with the LU. Signals of LU and CR user must have different properties i.e., different modes of modulation, and statistical signaling features. The PUE attacker exploits this to mimic the primary signal. Attacker can estimate the primary signal power level and also the channel conditions to generate trickier signals. Attacker prevents main-network interference.

The most proficient approach to identify spectrum gaps is to recognize the essential clients that are receiving information inside the SUs communication range. However, in reality, it is troublesome for a CR user to have specific channel data between a primary recipient and a transmitter because of the intrinsic property of CR. Subsequently, the latest work takes part in initial transmitter recognition based on the nearby perceptions of CR user.



## LIVE VIDEO STREAMING FOR SECURITY OF WOMEN IN CABS USING RASPBERRY PI

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### ABSTRACT :

Embedded Real-time video monitoring system is designed, in which embedded chip and the programming techniques are used. The central monitor which adopts the Raspberry-pi is the core of the whole system. Real time video transmission is widely used in surveillance, conferencing, media broadcasting and applications that include remote assistance. First, USB camera video data are collected by the embedded Linux system. All the data are processed, compressed and transferred by the processing chip. Then, video data are send to the mobile client by wireless network. This embedded monitoring system overcome the weak points of the traditional video surveillance systems, such as complex structure, poor stability, expensive cost. It can be widely used in many fields, and also used for long distance transmission. There has been an increase in

video surveillance systems in public and private environments due to a heightened sense of security. The next generation of surveillance systems will be able to annotate video and locally coordinate the tracking of objects while multiplexing hundreds of video streams in real time . Video surveillance has been evolving significantly over the years and is becoming a vital tool for many organizations for safety and security applications. We are using GPS as well for locating the people very easily through wireless communication.

**Keywords :** Raspberry Pi,Camera.

### I INTRODUCTION

Having an effective video surveillance system is not only beneficial but also adds a sense of surety and comfort to the userl .



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## DESIGN OF HIGH SPEED TRANSISTOR EFFICIENT MULTI-OUTPUTS AND MULTIFUNCTIONAL SUPER GATE CELLS

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**ABSTRACT:** The number of transistors required for the implementation of a logic function is a fundamental consideration in digital VLSI design. In this paper, design of high speed transistor efficient multi-outputs and multifunctional Super Gate (SG) cell is developed. It minimizes the number of transistors that starts from a sum-of-products expression and utilizes non-series-parallel structures. In addition to the transistor count, the symmetry structure of the circuit, the number of transistors on the critical path, and multi-outputs and multifunctional cells are considered in this paper, as the three crucial parameters for the efficient SG cell design. The proposed SG cells with spiral structure are multioutput and multi-functional cells, which can significantly improve the circuit characteristics by improving the number of output functions over the cell area. A novel method is used to automatically generate networks with minimal transistor count, starting from an irredundant sum-of-products expression as the input. The method is able to deliver series-parallel (SP) and non-SP switch arrangements, improving speed, power dissipation and area. Experimental results demonstrate the efficiency of the approach.

**KEY WORDS:** Super Gate (SG) cell, series-parallel (SP) switch arrangement, non-SP switch arrangements.

### 1. INTRODUCTION

Optimizing the performance of a circuit with respect to implementation cost, operational speed, and power requirements is the fundamental problem in digital electronic design. In the custom design approach, a transistor-level implementation for the required functions is selected and an appropriate physical layout is made. For most commercial applications, the required effort for transistor-level implementations

may be prohibitive, in which case standard cell libraries are used. Transistor arrangement optimization plays an important role in VLSI design by providing better characteristics such as reduced power, delay, energy, and small physical area from the circuit [1]. The transistor-level circuit design and optimization are essential for both full-custom and semicustom design flow. The most popular method is semi-custom design with standard cell libraries, which is fast and cost-efficient with good circuit characteristics [2]. Therefore, when designing digital integrated circuits, it is useful to develop efficient algorithms for automatic generation of optimized transistor networks. Several methods have been presented in the literature to reduce the number of transistors needed to implement a Boolean function, in which the conventional approach is based on factoring Boolean expressions [3].

In this way, only series-parallel (SP) associations of transistors can be obtained by manipulating the Boolean expression to reduce the number of literals that compose the expression. In the standard-cell-library approach, the main effort is the technology mapping between alternative implementations of the design and pre-existing elements of the library [4]. Such an approach may be beneficial for reducing the design effort, but may not be able to achieve a desired level of performance. If high performance is required, the custom design approach has to be followed at least for the critical parts of the circuit. In such



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# A High Gain and Wideband Narrow-Beam Antenna For 5G Millimeter Wave Applications

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## ABSTRACT

A wideband antenna with a high gain and narrow beam-width for future 5G communication systems is presented in this research. The antenna operates in 28 GHz 5G band with a large 35.53% bandwidth ranging from 23.41-33.92 GHz. The array has 4-elements arranged in a linear fashion to attain a high gain of 10.7 dBi. It radiates along its end-fire direction and provides a very narrow beam-width of 14.6o in its Hplane. A corporate feed network specifically designed for thin substrates was used in order to excite the array elements. It is built upon thin 0.254 mm Rogers substrate to minimize transmission losses and attain high radiation efficiencies of more than 90% throughout its operating frequency range. It has a compact structure bearing low cost and is easy to fabricate. This antenna fulfills necessary requirements of 5G communication and is therefore a good candidate to be used in the millimeter-wave range.

**Keywords:** 5G, millimeter-wave, 28 GHz, wideband, future mobiles, antenna arrays.

## INTRODUCTION

The future of mobile communication is now entering into its fifth generation (5G) with a clear aim of communication at an extremely high bit-rate in excess of Gbps. In order to be practical in achieving such an outstanding data communication rates, large bandwidth is needed. This bandwidth is nowhere found in the currently used spectrum below 6 GHz by International Mobile Telecommunications (IMT). Therefore, upgraded spectrum utilization will be required, which is only available at high frequencies in the millimeter-wave range. The world radio-communication conference (WRC) has proposed the use of 24 GHz and beyond spectrum and requested ITU-R to come up with recommendations of proposed frequency bands. Until now, the widely reported numbers of frequency bands are in the range of 24 to 86 GHz out of which 28 and 38 GHz bands are the most favorable bands for future 5G network technologies.

The aperture coupled microstrip patch antenna feed technique was introduced in 1985 that includes electrically isolated microstrip transmission lines and patch conductors. These structures are electromagnetically coupled through a small aperture in the isolating ground plane (Fig. 1). Two common feed techniques for patch antennas are directly connected microstrip transmission lines and coaxial probes

A microstrip transmission line feed directly connects a microstrip line to the radiating patch. Source electromagnetic fields are concentrated between the microstrip line and ground plane to excite primarily guided waves as opposed to radiated or surface waves. Guided waves are dominant if the dielectric is electrically thin ( $\epsilon < 5$ ). At the radiating patch, it is desirable to decrease guided waves under the patch and increase radiated waves at the patch edges. This requires an electrically thick dielectric ( $> \lambda/10$ ) substrate with a relatively low permittivity ( $\epsilon_r < 3$ ). Compromising between the two conflicting criteria results in surface waves, reduced radiation efficiency due to guided waves below the patch, and increased sidelobes levels and cross-polarization levels from spurious feed line radiation.

A probe fed microstrip patch antenna is excited by a coaxial line center conductor; the outer coaxial conductor is electrically connected to the ground plane. For this geometry, substrate thickness and permittivity are optimized for radiation efficiency. However, the probe center conductor underneath the patch causes field distortion due to the introduction of an undesired reactance at the antenna input and a relatively large probe self reactance.



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# A STUDY OF IMPROVED ENERGY DETECTION BASED SPECTRUM SENSING FOR COGNITIVE RADIO NETWORK\*

BY

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## ABSTRACT

Future wireless communications systems are expected to be extremely dynamic, smart and capable to interact with the surrounding radio environment. To implement such advanced devices, cognitive radio (CR) is a promising paradigm, focusing on strategies for acquiring information and learning. The first task of cognitive systems is spectrum sensing, that consists the analysis of the radio frequency spectrum. In particular, CR has been mainly studied in the context of opportunistic spectrum access, in which secondary devices are allowed to transmit avoiding harmful interference to higher priority systems, called primary users. Thus cognitive nodes must implement signal detection techniques to identify unused bands for transmission. In the present work, we study different spectrum sensing algorithms, focusing on their statistical description and evaluation of the detection performance. Moving from traditional sensing approaches we consider the presence of practical impairments, such as parameter uncertainties, and analyse algorithm design. Cognitive radio is a capable technology, which has provided a different way to increase the efficiency of the electromagnetic spectrum utilization. CR allows unlicensed users or secondary users (SUs) to use the licensed spectrum through dynamic channel assignment strategies or spectrum access when the primary users (PUs) are in a dormant state to improve the spectrum utilization and hence avoid spectrum scarcity. For this we need intelligent spectrum sensing

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# TOSAM: Truncation- And Rounding-Based Scalable Approximate Multiplier for High-Speed Yet Energy-Efficient digital Signal Processing

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## Abstract

A TOSAM, which reduces the quantity of product products by cutting each input process, is added based on the lead unit position. It implies the elastic approximate multiplier (TOSAM). That is clear. Through shifting, adding and limiting multiplier operations of a given length, the proposed model would result in substantial shifts in energy and regional jobs compared to the effective multiplier. The input process of the multiplication function is rounded to the nearest number of deficiencies to increase overall precision. Depending on the input operators' truncated positions, Since the input operand width precision is low and the multiplier can be scaled. Further enhancements will be made if the design parameters (e.g. field and power consumption) decrease in input-operand space. The design parameters of the proposed approximate multiplier are compared with the accurate multiplier and some other estimated multipliers recently suggested for evaluating the results. The findings indicate that the proposed average multiplier with a minor absolute error of 11% to 0.3% raises time delays, area and energy usage respectively to 90% and 98% to 41%. The same element in relation to this. In rpm, area and energy usage. Several approximate multipliers are often performed. The estimated conditional multiplier includes a Gaussian error distribution of approximately a mean value of 0. This is used to write, sharpen and arrange JPEG encoders. The tests indicate a small improvement in output quality. We also give a configurable TOSAM accuracy in which energy usage can be adjusted to the required precision for the propagation process.

**Index Terms**—Accuracy configurable, approximate multiplier, area efficient, low energy, scalable, truncating.

## 1. INTRODUCTION

Power utilization is one of the major digital network design architectural requirements. Calculation approximation (AR) is one means of increasing and/or increasing the usage of electricity. For error-resilient programs, AC can always be included, since the outcome of the application can not function. Types of these innovations include audio and picture processing[1], machine-learning[2] and data mining[3]. Arithmetic operations in a variety of applications for signal processing are responsible for a significant part of the energy usage (e.g. up to 75% of overall energy consumption of the Fourier rapid transformation system[4]). Using that is often used[5]. This renders approximate multipliers suitable for use in error tolerant signal processing systems. In a multiplication cycle, there are normally three stages. The first step is to produce partial goods dependent on input operations. Just two rows of partial products are deposited in the second floor. A (fast) adder adds the remainder of two sides. Increasing of the steps may be calculated. The approach[1],[6],[7] or an improvement in their generation complexity[8] may be given the first step to the the sum of partial items. Added estimate to rising delays or power consumption Decreased multiplication process speeds in the second level. One of such approaches is rugged compressors[9]–[12]. Throughout the final step of the propagation period the design of the adder has a major effect on latency and energy consumption of the propagation mechanism. An indirect adder may also also be used to increase the power consumption[13] of the multiplier in the final step. In this paper, we introduce an method strategy that decreases the amount of missing products. In the proposed approximate Algorithm the inputs are cut to h and t bits according to their lead bits placed. In addition, by



# Securing AES Accelerator from Key Leaking Trojans on FPGA

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**Abstract-** Securing AES Accelerator from Key-Leaking Trojans on FPGA. Reconfigurable hardware presents a useful platform for building systems with high performance and secured nature. A new method for protecting 128-bit Advanced Encryption Standard (AES 128-bit) accelerator on Field Programmable Gate Array (FPGA) for embedded systems and cloud server is proposed. One of the major issues faced by the AES accelerator is the security of the key stored inside the FPGA memory. Security for the key inside the accelerator is provided through a masking scheme. To work with the masked key, a modified key expansion that maintains the throughput through a properly designed multistage pipelining is proposed. The proposed method takes the advantage of reconfigurable computing for flexible and efficient hardware implementation and provides security against key-leaking Trojans. The efficiency of the masked AES implementation is found to be 28.5 Mbps, which is 17.87% higher than the existing best work. The security of the proposed masked scheme is validated through correlation and hamming distance calculation techniques.

**Keywords –** AES, Trojans, FPGA, Pipelining, Accelerator, Masking, Security, Encryption Key

## I. INTRODUCTION

Advanced Encryption Standard (AES) is the widely using secure algorithm for encryption to provide privacy of data. Acceptance of cloud computing in every field causes increase in encryption load in cloud servers. To accelerate applications running on server and to reduce processor load, Field Programmable gate Arrays (FPGAs) are integrated with the server hardware. Computation-intensive applications can be shifted to FPGAs for increasing speed and reducing power consumption. FPGAs are reconfigurable hardware units that can be customized for required applications. Hence, high parallelism can be achieved with lower frequency. Cloud benefits from FPGA in several aspects. First, it could customize the FPGAs for computation-intensive application. Second, FPGAs could run with lower frequency and hence the heat production in server can be reduced to a large amount (Hauck & Andre, 2010; Kilts, 2007; Phan 2004; Teubner & Woods 2013).

Encryption is used in cloud for the privacy of data at rest and data in motion. That means disk encryption of user's VM, transfer of user data in encrypted form, encrypted communication between different users, encryption as a service, and so on (Amazon Web Services, 2016; Bokefode, Bhise, Satarkar, & Modani 2016; Krutz & Vines, 2010; CLOUDLINK, 2014; Cloudsigma; Encryption at Rest in Google Cloud, 2016; HP Atalla Cloud Encryption, 2013; Protecting Data in Microsoft Azure, 2014; Rahmani, Sundararajan, Ali, & Zin, 2013). FPGA accelerator can be used to speed up the encryption process for large amount of data. Use of FPGA will increase encryption speed and reduce power consumption. To get finest performance, the design should have high speed and low area consumption. Figure 1 shows the scenario in which FPGAs are used in cloud server as accelerators. The intellectual properties (IPs) can be collected from a hardware maker or from trusted third parties. When the processor assigns a job to an FPGA, the bitstream for hardware design can be loaded from bitstream storage if available or from outside cloud through external network.

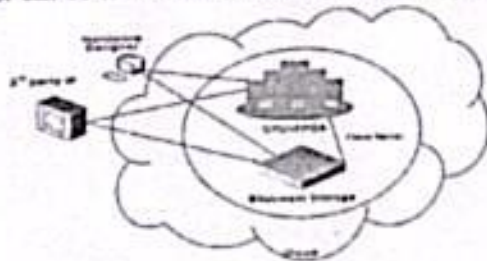


Figure 1. Usage of FPGA on cloud server



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# Securing AES Accelerator from Key Leaking Trojans on FPGA

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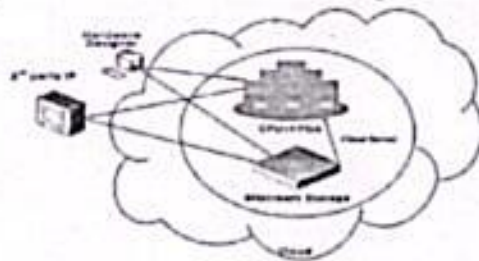


Figure 1. Usage of FPGA on cloud server

# A NOVEL TECHNIQUE FOR ENLIGHTENING BIT ERROR RATE IN SENSOR NETWORKS BY MEANS OF ORTHOGONAL SPACE TIME BLOCK CODE (OSTBC) CODING

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## Abstract:

For the planning of any organization, lifetime and size of the organization are the main boundaries notwithstanding that high information rate and low piece mistake rate likewise assume a significant part in the planning of any sensor organization. In this paper, new transmission methods for the transmission of sensors information have been proposed for sensor networks by consolidating different balance and coding methods into the network transmission. The proposed strategy is utilized to further develop the Bit Error Rate execution of the remote sensor organization, in the vast majority of the remote sensor organizations, pieces are changed over into parcels and these bundles are sent from source to objective during that transmission the nature of physical not set in stone by the Bit Error Rate (BER) and the Packet Delivery Rate (PDR). The actual layer manages transmission of pieces over remote connection the planning limitations of this layer is balance, variety and coding. In this paper different regulation, it is consolidated to code and variety methods into sensor network for decreasing Bit Error Rate (BER). The proposed framework separates the organization into two kinds of hubs, initial one is the sensor hubs, outfitted with brief distance transmission capacity and another is exceptional hubs that are outfitted with modulators and coders for sending information over significant distance. This proposed framework likewise reached out for giving the got information transmission by the utilization of different mistake recognition and adjustment codes.

## Keywords:

Bit Error Rate (BER), Orthogonal Space Time Block Code (OSTBC), Internet Of Things (IOT), Symmetrical Transform Division Multiplexing (OTDM), Space Time Coding (STC), Singular Vector Disintegration (SVD).

## Introduction:

Remote Sensor Networks (WSNs) are the blend of numerous little detecting components for moving information from source to objective utilizing multi-jump transmission. There are various applications in which constant observing is required so a gigantic measure of information is gathered after the assortment of this information different numerical changes are expected to change over this crude information into helpful data. A few applications require security of the information while for certain applications like [1-3] remote interactive media sensor network central issue is exactness of the information and high information move rate. In agribusiness, these organizations can give the report about the development pace of plants. This can diminish

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## Analysis of Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks

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### Abstract:

The use of remote innovation is progressively impacting the arrangement of sensor networks for minimal price and maintenance in varying backgrounds. Unfortunate channel conditions, serious power imperatives, blurring, impedance and the low power correspondence prerequisites amplify the need for energy effective and ideally cross layer blunder control plans in Wireless Sensor Networks (WSNs). The primary objective of blunder control components in WSNs is to decrease the energy consumption while dealing with dependable and quick conveyance of the detected information. In this paper, we propose a 'Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks' (DCAECS) that gauges the channel mistakes and controls blunders progressively founded on channel qualities and commotion power saw at the collector. This rouses the mistake control procedure to differ as the channel conditions change as far as commotion level. In this paper, we have concocted the models for both the blunder and channel assessment. Examination and re-enactment results for different message sizes and mistake conditions show that there is an improvement as far as throughput, BER and the likelihood of retransmission when contrasted with 'ARQ Scheme with Adaptive Error Control' (ASAEC).

### Keywords:

Bit Error Rate, Error Control, Energy Efficiency, Wireless Sensor Networks.





# A Novel Block Merging Algorithm for Image Denoising using Dual Tree Complex Wavelet Transform

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## To Cite this Article

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## ABSTRACT

There has been a lot of research work dedicated towards image denoising. However, with the wide spread of image usage in many fields of our lives, it becomes very important to develop new techniques for image denoising. In the proposed method, the DTCWT is applied on the noisy image to produce the wavelet coefficients in different sub bands. A block including the denoising point in the particular sub band is used to split in order to get distinct sub blocks. The signal-variance in a sub-block is estimated by using median estimator. The coefficients of original decomposed image in wavelet domain are estimated using the minimum mean squared error (MMSE) estimator by means of the estimated signal variance.

## 1. INTRODUCTION

Image processing has got broad applications in multimedia communication, computer vision, television broadcasting, etc. that requires very good quality of images. The quality of an image degrades due to introduction of additive white Gaussian noise (AWGN) during acquisition, transmission/reception and storage/retrieval processes. It is very much necessary to suppress the noise in an image and to preserve the edges and fine details as far as possible. This procedure is traditionally performed in the spatial-domain or transform-domain by filtering. When image is contaminated with Gaussian noise, one method that has received considerable attention in recent years is wavelet thresholding or shrinkage: an idea of killing coefficients of low magnitude relative to some threshold. The different thresholding or

shrinkage methods proposed in the literature are Visu Shrink [1][2], Sure Shrink [3][4], Bayes Shrink [5] etc. The windowing method such as locally adaptive window maximum likelihood (LAWML) estimation [6] is also available in the literature where the statistical relationship of coefficients in a neighbourhood is considered. The wavelet domain methods are suitable in retaining the detailed structures. However The Conventional Discrete Wavelet Transform (DWT) has several limitations, such as aliasing, shift sensitivity and poor directional selectivity [8]. Due to large changes in wavelet coefficients and down sampling, aliasing may happen in DWT. The inverse DWT eliminates this aliasing only if the wavelet and scaling coefficients are unchanged. Due to shift sensitivity, the small shifts in input signals can cause an irregular change in the distribution of energy between DWT coefficients at different scales. Because of poor directionality, DWT cannot

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# Medical Image Compression Using Generative Adversarial Networks

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## ABSTRACT

Medical images need to be efficiently compressed before transmission and storage due to the storage capacity and constrained bandwidth issues. An ideal image compression system must yield a high compression ratio with good quality compressed images. Machine learning models are proposed to perform tasks, whereas humans have difficulties in completing. In this paper, machine learning algorithms such as Generative Adversarial Networks (GANs), Conditional Generative Adversarial Networks (CGANs) and Deep Convolutional Generative Adversarial Networks (DCGANs) are trained to relate the medical image contents to their compression ratio. The comparison of different methods is evaluated using various evaluation metrics such as PSNR, MSE, MAE, Compression Ratio, Compression Time and Decompression Time.

**KEYWORDS :** PSNR, MSE, MAE GANs

## 1. Introduction

Due to the rapid advancement of medical technology, as well as the massive amount of data generated by the many medical imaging modalities, data compression is required for the storage, transmission and processing of digital data in today's world of evolution. Transferring medical images from one location to another is a frequent occurrence in telemedicine practices. In order to transmit and store these high-quality images it has become necessary to reduce the image size while still retaining diagnostic information. In this respect, medical image compression is a method that reduces the cost of transmission and storage by recommending lossy and lossless compression algorithms that are both efficient and effective. A machine learning framework is required for medical image compression. Different image compression methods based on various dimensionality reduction techniques such as Multistage Principal Component Analysis, Discrete Anamorphic Stretch Transform and PCA based on Johnson- Lindenstrauss Lemma algorithm, various frequency domain techniques such as Tetrolet Transform, Lifting wavelet transform and Fast Discrete Curvelet Transform and various Machine Learning models such as Generative Adversarial Networks, Conditional Generative Adversarial Networks and Deep Convolutional Generative Adversarial Networks are invested for medical image compression. MATLAB software is used to implement the proposed technique on the test images based on the performance evaluation metrics such as PSNR, MSE, MAE, Compression Ratio, Compression Time and Decompression Time. As a result, based on the values it is concluded that the proposed



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# Iot Based Agriculture Crop Monitoring and Controlling System

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## ABSTRACT

The Internet of things (IOT) is remodeling the agriculture enabling the farmers with the wide range of techniques such as precision and sustainable agriculture to face challenges in the field. IOT technology helps in collecting information about conditions like weather, moisture, temperature and humidity; Crop online monitoring enables detection of level of water, animal intrusion in to the field, crop growth, agriculture. IOT leverages farmers to get connected to his farm from anywhere and anytime. Wireless sensor networks are used for monitoring the farm conditions and micro controllers are used to control and automate the farm processes. A smart phone empowers farmer to keep updated with the ongoing conditions of his agricultural and using IOT at any time and any part of the world. IOT technology can reduce the cost and enhance the productivity of traditional farming.

**Keywords:** precision ,sensitivity ,temperature ,moisture ,Temperature.

## INTRODUCTION

In 1995, "thing to thing" was coined by BILL GATES. In 1999, IoT (Internet of Things) was come up by EPC global. IoT interconnects human to thing, thing to thing and human to human. The goal of IOT is bring out a huge network by combining different types connected devices. IOT targets three aspects Communication, automation, cost saving in a system. IOT empowers people to carry out routine activities using internet and thus saves time and cost making them more productive. IOT enables the objects to be sensed and/or controlled remotely across existing network model. IOT in environmental monitoring helps to know about the air and water quality, temperature and conditions of the soil, and also monitor the intrusion of animals in to the field. IOT can also play a significant role in precision farming to enhance the productivity of the farm.

An Embedded System is a combination of computer hardware and software, and perhaps additional mechanical or other parts, designed to perform a specific function. A good example is the microwave oven. Almost every household has one, and tens of millions of them are used every day, but very few people realize that a processor and software are involved in the preparation of their lunch or dinner.

This is in direct contrast to the personal computer in the family room. It too is comprised of computer hardware and software and mechanical components (disk drives, for example). However, a personal computer is not designed to perform a specific function rather, it is able to do many different things.

Many people use the term general-purpose computer to make this distinction clear. As shipped, a general-purpose computer is a blank slate; the manufacturer does not know what the customer will do with it. One customer may use it for a network file server another may use it exclusively for playing games, and a third may use it to write the next great American novel. Frequently, an embedded system is a component within some larger system. For example, modern cars and trucks contain many embedded systems. One embedded system controls the anti-lock brakes, other monitors and controls the vehicle's emissions, and a third displays information on the dashboard. In some cases, these embedded systems are connected by some sort of a communication network, but that is certainly not a requirement.

### Real Time Systems:

One subclass of embedded is worthy of an introduction at this point. As commonly defined, a real-time system is a



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## Artificial Vision for Blind Using Sensor Technique

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### ABSTRACT

"Artificial Vision for Blind for blind using sensor technique" presents a smart artificial vision system by using sensor technique which can provide guidelines to the blind/deaf and dumb peoples and also provides security from different situations like obstacle, manhole and water.

This technique has the capability to detect any kind of obstacles using ultrasonic sensors, and also can detect manholes using IR sensor, Water in front of the blind. This technique can also monitor and alert the blind through vibration and buzzer alarm from multiple situations.

### INTRODUCTION

The World Health Organization (WHO) states that more than 40 million folks are completely blind and 314 million have some quite visual disorder. These people have to be dependent on others for navigation. To solve this problem, there must be a system that helps blind person to accomplish the movement. It is necessary to have innovative ways to leverage the capability of a system to seek individuals and objects.

To make them comfortable in environment, they should have information of objects and obstacles ahead of them and that jointly makes the navigation simple.

There are some systems available like RFID based intelligent waist belt [1], IR stick [8], ultrasonic sensor-based systems [4] and ultrasonic spectacles [5]. These systems based on device which produces ultrasonic sound and receives reflected pulses, according to which it produces vibration in response to that. These solutions are less effective as they do not provide better navigation to blind individuals.

The main aim of this project is to design a smart artificial vision system by using sensor technique which can provide guidelines to the blind/deaf and dumb peoples and also provides security from different situations like obstacle, manhole and water. This device automatically senses the presence of obstacles in its path and helps blind people in deviate their direction of movement through vibrator and buzzer alarm.

The obstacle detection mechanism is done by an Obstacle sensor to find the presence of an obstacle in its path. Voice circuit is a system which is capable of storing voices and playing back the stored voices when requested. This system eliminates the usage of old alarm systems and makes to configure the alerts through voice. This consists of a microcontroller-based control system, Voice Module, Buzzer, water sensor, manhole detection sensor and Obstacle detection Sensor.

This device senses the obstacles in its path by continuously transmitting the IR rays from IR transmitter. If any obstacle comes in its vicinity, then the rays are destructed and give this input to the microcontroller. The IR receiver fitted on the device senses these Obstacles and this information is passed onto the Microcontroller. If any manhole or water detect in



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# Iot Based Coal Mine Monitoring System

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## ABSTRACT

Coal is the biggest contributor in generation of electricity for the world. Coal-fired plants produce 72% of India's electricity. Apart from usage in thermal power plants, coal has great demand in other industrial sectors like Cement, Steel etc., It provides a very cheap alternative for steam generation. Therefore this fuel will continue to play a major role in Indian economy in its foreseeable future, regardless of the government's ambitious plans to produce electricity through renewable resources. Fire, flood, mine collapse, mine explosion, hazardous atmosphere and particulate matter are some of the dangers associated with underground mining. Their consequences are further exacerbated by the cramped workplace atmosphere. The mine environment present underground is hazardous due to the emissions methane, nitrous oxide carbon monoxide etc which naturally occur in the rock strata. The high concentrations pose a risk to the miner's health and life. Thus an alerting system is the need of the hour. This paper proposes a system to monitor the safety of the miner, alert them, based on Arduino and ZigBee technology and to collect CO, humidity and N2O concentration using sensor nodes.

## INTRODUCTION

In summary, an intelligent production monitor system in coal mine is the significant measure that safeguards the Coal enterprise is the high-risk profession and technique now is relative backwardness. Security is the most important in the coal mine production. Establishing mine safety production safeguard system is the only way to guarantee the safety in coal mine production. Currently in mine production, there are mainly following two aspects to impact the safety in

### Mine production:

(1)Environment Parameter: Gas, Carbon Monoxide, Temperature (Humidity) Degree, Coal Position of the Bunker, etc.

(2)Electromechanical Device Running Parameters: transport fix, belt conveyer, Voltage, Electric current and so on.

safe production in coal mine. It acts vital role in disaster prevention and reduction in mine, as well as improve the productivity. It also is the significant milestone of implementing the modern management for mine production.

India produces 89 minerals by operating 569 coal mines, 67 oil and gas mines, 1770 non-coal mines, and several more small mines, running into over a lakh, all of them translates into the direct employment of about millions of people on a daily average basis and overall sector contribution is about 5 percent of the India's gross domestic product [13]. Even after such a huge profit from this sector, there are very less preventive steps taken against mining accidents. The open cast mines can be considered safe as compared to the underground coal mine. As the workers in open cast mines do not face any problem of humidity, heat, suffocation etc. Whereas, in the underground coal mine, there is a major risk to the health of the worker due to factors like suffocation, high temperature, harmful gases, humidity & chances of fire which creates a great threat to their life compared to the open cast mine workers. The inappropriate conditions in underground coal mines include improper lighting, insufficient ventilation & underground slippery areas.

The uncontrolled temperature in presence of highly inflammable gases like methane can cause fire anytime. With the increase in depth of coal mine a number of harmful gases like sulphurdioxide, methane increases. Excess exposure to them is harmful & fatal for human health. So to reduce these risks, we developed an embedded system that helps to monitor the physical conditions in underground coal mine. This System uses wireless communication technology to transmit the data



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# Solar Based Floor Cleaner Robot Using Arduino Uno

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**Abstract:** Households of today are becoming smarter and more automated. Home automation delivers convenience and creates more time for people. Domestic robots are entering the homes and people's daily lives, but it is yet a relatively new and immature market. However, a growth is predicted and the adoption of domestic robots is evolving. The purpose of this project is to design and implement a Cleaning Robot Autonomous. Floor Cleaner Robot is designed to make cleaning process easier rather than by using manual vacuum. The main objective of this project is to design and implement a Dry and Wet robot prototype. Robot will have several criteria that are user friendly.

With the advancement of technology, automated floor cleaning machines are getting more attention of researchers to make life of mankind comfortable. The concept is developing in economic countries but the reasons for non-popularity is the design complexity, cost of machines, and operational charges in terms of power tariff. In this paper, a semi-automated floor cleaning machine is proposed. This is capable of cleaning floor effectively in dry as well as wet cleaning tasks. This floor cleaning machine is designed by keeping the basic considerations for reduction in cost and efforts while being environmentally friendly and easy to handle.

**Keywords:** Arduino Uno, Ultrasonic Sensor, L293D Motor Driver IC, LCD Display, Lead Acid Battery.

## I. INTRODUCTION

Cleaning is important work approximate every place. Sometimes this is easy and sometimes difficult. Sometimes we assigned people for purpose of cleaning and pay money and sometimes cleaning is required in areas where presence of living being dangerous so we cannot assign living being in every place. Some places are so that have a large floor area in that place for

cleaning purpose we need more than one person so we required some technique to compensate these problems. Automation is a great solution of this problem. So, we make an autonomous floor cleaning robot. Ultrasonic sensor is the most important component for autonomous floor cleaning robot because ultrasonic sensor works as eyes of robot. Ultrasonic sensor useful for turning of robot by sensing the obstacle or wall. Sensing distance range set by programming. In this range robot sense the obstacle and turn back, cleaning reason we need more than one individual so we required some method to repay these issues. In headway of science a robot come in light however it works by a faculty. To keep away from this limit of faculty we require more innovations. Computerization is an extraordinary arrangement of this issue. So, we make a self-governing floor cleaning robot that worked by web of things and Arduino programming. Families of today are getting more astute and furthermore more mechanized. Home robotization conveys accommodation and makes more opportunity for individuals. Homegrown robots are entering the homes and individuals' everyday lives, yet it is yet a moderately new and juvenile market. Be that as it may, a development is anticipated and reception of homegrown robots is advancing. Reason for this undertaking is plan and actualize a floor cleaner Robot Autonomous. Cleaner Robot is intended to cause cleaning cycle to become simpler as opposed to by utilizing manual vacuum. The primary target of this undertaking is to plan and execute a robot model by utilizing Arduino Uno, engine driver and to accomplish the objective of this venture. Robot will have a few measures that are easy to use. Fully automatic and Semi-Automatic machines available in the market are of high ranges and high weights. So, keeping the focus on weight as well as cost, they are not affordable to all such as organization committee of hotels, hospitals, hostels. Hence, there is need to design and develop a



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# Sign Language Detection for Dumb People Using Image Processing

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## ABSTRACT

One of the major Drawbacks of our society is the barrier that is created between disabled or handicapped persons and the normal person. Communication is the only medium by which we can share our thoughts or convey the message but for a person with disability (deaf and dumb) faces difficulty in communication with normal person. For many deaf and dumb people, sign language is the basic means of communication. Sign language recognition (SLR) aims to interpret sign languages automatically by a computer in order to help the deaf communicate with hearing society conveniently. Our aim is to design a system to help the person who trained the hearing impaired to communicate with the rest of the world using sign language or hand gesture recognition techniques. In this system, feature detection and feature extraction of hand gesture is done with the help of SURF algorithm using image processing. All this work is done using MATLAB software. With the help of this algorithm, a person can easily train a deaf and dumb.

**Keywords:** Efficient and Fast Algorithm, Boundarytracing, Finger-tip detection.

## INTRODUCTION

Gestures are expressive, meaningful body motions involving physical movements of the fingers, hands, arms, head, face, or body. They can broadly be of the following types: Hand and Arm gestures: Recognition of hand poses, sign languages, and entertainment applications (allowing children to play and interact in virtual environments). Head and Face gestures: Some examples are nodding or shaking of head, direction of eye gaze, raising the eyebrows, opening the mouth to speak, winking, flaring the nostrils and looks of surprise, happiness, disgust, fear, anger, sadness, contempt, etc.; Body gestures: Involvement of full body motion, as in tracking movements of two people interacting outdoors, analyzing movements of a dancer for generating matching music and graphics and recognizing human gaits for medical rehabilitation and athletic training.

Sign Language is the means of communication among the deaf and mute community. Sign Language emerges and evolves naturally within hearing impaired community. Sign Language communication involves manual and non-manual signals where manual signs involve fingers, hands, arms and non-manual signs involve face, head, eyes and body. Sign Language is a well-structured language with a phonology, morphology, syntax and grammar. Sign language is a complete natural language that uses different ways of expression for communication in everyday life. Sign Language recognition system transfers the communication from human-human to human-computer interaction. The aim of the sign language recognition system is to present an efficient and accurate mechanism to transcribe text or speech, thus the "dialog communication" between the deaf and hearing person will be smooth.

There is no standardized sign language for all deaf people across the world. However, sign languages are not universal, as with spoken languages, these differ from region to region. A person who can talk and hear properly (normal person) cannot communicate with deaf & dumb person unless he/she is familiar with sign language. Same case is applicable when a deaf & dumb person wants to communicate with a normal person or blind person. So, there are two main approaches used in the sign language recognition that is Sensor based and Vision based Approach. Vision Based Approach: In this approach camera takes the image of gesture, extract the main feature and recognizes it. Initially colour bands were used. The main disadvantage of this method was the standard colour should be used on the finger tips. Then use of bare hands preferred rather than the colour bands.





## Deep Learning Based Prediction Framework of User specific Mobility Patterns

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**Abstract:** Expanding unavoidable use of advanced cells and area based administrations around the globe has added to tremendous and quick development in versatility information. For the most part, the forecast objective fluctuates from various application situations. For the applications including asset designation and portability the executives, it is fundamental to anticipate the places of versatile clients sooner rather than later from many seconds to a couple of moments in order to make readiness ahead of time, which is really a direction forecast issue. In this paper, with the specific spotlight on multi-client multi-step direction forecast, we first plan a fundamental profound learning-based expectation system where the Long Short-Term Memory (LSTM) arrange is legitimately applied as the most basic part to take in client explicit versatility design from the client's recorded directions and foresee his/her development patterns later on. Spurred by the related discoveries in the wake of affirming and breaking down this essential structure on a model-based dataset, we extend it to a locale situated forecast conspire.

**Index Terms-**Trajectory Prediction, Multi-Step Prediction, Long Short-Term Memory, Sequence-to-Sequence, Machine Learning.

### I. INTRODUCTION

Expanding unavoidable utilization of PDAs and territory based organizations around the world has added to tremendous and quick advancement in compactness data. The colossal size of convey ability data gives new opportunities to finding the properties of human flexibility models and making adaptability estimates. In every practical sense, human convenience desire is basic in a wide extent of present day applications, going from modified proposition systems to transportation, urban orchestrating, and adaptability the board in the flexible correspondence structure. All around, the desire objective vacillates from different application circumstances. For the case of trades, it is fundamental to predict the spots of versatile customers soon from numerous seconds to a few minutes so as to prepare for convey ability the board and resource task. It is actually a course gauge issue where the bearing implies a period plan of positions with a fixed analyzing time stretch between each other. The specialists has proposed various versatility figure methodology, for example, visit plans mining, Markov-based models and other AI techniques, the vast majority of these methodologies are given to a discrete area desire which is really a multi-gathering issue, and not reasonable for foreseeing headings with fixed investigating time ranges. The reasons are as indicated by the going with. On one hand, for direction made out of discrete zone records, zones may save same for a couple back to back time-steps when the evaluating time stretch is essentially nothing, while zones may have a change between two near to time-steps when the seeing time go is gigantic. In this manner, they can barely reflect client improvement slants successfully. Obviously, for headings made out of a constant area brains, it is difficult to show the discretization granularity of course. By and large, high discretization granularity focal points to reflect client progression plans. Regardless, the gauge exactness may decrease with growing number of contender regions under high discretization granularity. In order to avoid the above issues, this paper embraces broad assessment for the procedures to envision headings made out of consistent bearings. Since it is actually a period course of action backslide desire issue, customary backslide counts, for instance, direct backslide and support vector backslide (SVR) are up-and-comer plans. What's more, autoregressive fused moving typical (ARIMA) is another backslide figuring. It is dedicated to taking care of gauge issues for long time game plan made out of numerical data with sum relationship, for instance, stock desire and traffic figure. In any case, the adaptability direction are consistently short groupings made out of two dimensional headings reflecting geographic zones, making ARIMA conceivably not adroit to the course want issue. Luckily, inside the structure of noteworthy learning, the Recurrent Neural Network (RNN) has demonstrated its inescapability in different time course of action issuer not just in typical language arranging field (for example machine understanding, talk attestation ) yet similarly some different fields (for example traffic want precipitation figure ). As such, as the improved changes of regular RNN, Long Term Short Term Memory (LSTM) and Gate Recurrent Unit (GRU) are promising means the heading figure issue. Profiting by the most recent progression in noteworthy learning, this paper makes a wicked good assessment of the course want issue from both the single-client point of view and multiuser viewpoint. The significant obligations of this paper can be summed up as follows: We propose a LSTM-based single-client want structure and assess its introduction on a model-based dataset. Exploratory outcomes show the limit of LSTM to anticipate client's mobility dependent on pre-learning of the client's versatility structures. We additionally feature two to three difficulties (e.g., helpless hypothesis limit, disturbing screw up arrangement influence) of this client express want structure. To cope to these difficulties, we further relax up the customer unequivocal want plan to a locale arranged check plan and set with a multi-client multi-step bearing want structure subject to the





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## A New SLM-PTS Based Peak to Average Power Reduction in OFDM Systems

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### ABSTRACT

Orthogonal Frequency Division Multiplexing (OFDM) is considered to be a promising technique for high data rate wireless communications. However, OFDM faces the Peak-to-Average Power Ratio (PAPR) problem that is a major drawback of multicarrier transmission system which leads to power inefficiency of high power amplifier (HPA) and it also demands the large dynamic range digital to analog converter (DAC) at the transmitter. This paper present different PAPR reduction techniques with conventional hybrid SLMPTS technique and concludes with an overall comparison of these techniques. Simulation shows that the PAPR problem reduced as the route number increases. The PAPR reduction capability of those techniques is demonstrated by presenting simulation results of PAPR.

Keywords: PAPR Reduction technique, SLM, PTS OFDM System.

### 1 INTRODUCTION

High data-rate is desirable in many recent wireless multimedia applications. Traditional single carrier modulation techniques can achieve only limited data rates due to the restrictions imposed by the multipath effect of wireless channel and the receiver complexity. In single carriers systems, as the data-rate in communication system increases, the symbol duration gets reduced. Therefore, the communication systems using single carrier modulation suffer from severe inter-symbol interference (ISI) caused by dispersive-channel impulse response, and thereby need a complex equalization scheme. Orthogonal Frequency Division Multiplexing (OFDM) is a potential candidate to fulfil the requirements of current and next generation wireless communication systems.

OFDM is a multi carrier modulation technique which has been recently widely used in different communication systems especially the ones with high data rates. OFDM has become so popular nowadays due to its flexible and efficient management of inter-symbol interference (ISI). In addition, OFDM offers high spectral efficiency as a result of multicarrier orthogonality aspect. Such system aspects would improve overall system performance and communication link quality. However, OFDM has a major drawback which is the high PAPR. Having a system with high PAPR will force the power amplifier to work in the non-linear region where the power conversion is inefficient which affects, consequently, the battery life in the mobile communications devices. This inefficient power conversion causes power growth as well resulting in even higher amplitude peaks. Since the impact of high PAPR is severe on the system performance, many literatures have been published to focus on developing modified algorithms





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## Lora Based wireless weather station with web-server

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**ABSTRACT:** This study develops a prototype of a weather station with LoRa wireless infrastructure. LoRa is a wireless connectivity technology supporting the internet of things (IoT) system. This technology is an alternative to other wireless connectivity modules that have already been popular such as GSM modules, Wifi Modules and Bluetooth (BLE). The use of the LoRa network serves to increase the range of wireless cells that can reach distances of up to 5 kilometers while still having low power consumption. Weather parameters measured include temperature, humidity, air pressure, rain detection and soil moisture. The prototype consists of Arduino nano & ESP32 Wifi module. We use the sensors like BME280 Barometric pressure BHI750 light sensor, Rainsensor, Soil moisture sensor with motor pump. By using the LoRa Module SX1278/RFM95 can monitor the data from a few kilometer distance. The gateway placed indoors, inside the house or can be placed at a certain height to achieve a long distance. The gateway is made using LoRa SX1278/RFM95 and ESP32 wifimodule. The receiver collects the data from the sensor or sensor Node and uploads it to the server.

**KEYWORDS:** haar Cascade Classifier, LBPH algorithm

### I. INTRODUCTION

Weather is related to the conditions of temperature, humidity and wind in a place for a certain period. The weather is generally always changing. Sometimes there is a dry season, rain, until snowfalls. The weather is generally influenced by three elements namely the sun, water, and wind. Sunlight produces energy that can control the water cycle. The

wind carries clouds that contain water vapor moving towards places with lower air pressure. The air and clouds shrink to become heavier and fall to the ground so that it rains. Weather conditions are very influential in human activity so it is very necessary to measure weather conditions in real-time. The weather data will be used for weather prediction and agricultural planning, health, tourism, and so on. In the process of weather observation, a set of instruments is needed to be placed in a certain location to represent the environmental conditions of the surrounding area. A weather station is a set of tools used to observe conditions or changes in weather, climate, and atmosphere in an area and record it in the form of data. After being recorded, the data is stored in a data logger and subsequently to be studied by users or researchers. An automatic weather station is an instrument that measures and records meteorological parameters using sensors. This sensor serves as a measuring tool to measure any changes in the weather. After the measurement data from the weather station is collected, the process can be carried out locally at the location of the weather station or the data can also be collected at the acquisition data center unit, which later the data collected is automatically forwarded to the data processing center and then processed as needed.

### II. Working Principle:

Weather Monitoring Systems are used to monitor the continuously changing climatic conditions. The data gathered by such devices is used to forecast weather as well as keep a log of the environmental changes at a place. Such data is extremely useful in the study of



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# Non-Functional Characteristics and Non-Functional Testing of Container Applications

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**Abstract** - Container applications are complex in nature as they are a collection of micro-services running in sync to achieve the application's desired functionality. This application build structure makes the Non-Functional characteristics of the container applications more relevant and a focus area of testing for the application. In this paper, the authors have tried to investigate all the possible non-functional areas of container-based application. The paper further delves into the nuances of non-functional testing in general which would become an integral part of the Non-Functional Testing (NFT) of container-based applications.

**Key Words:** Containers, Non-Functional Characteristics, Testing, Non-Functional Testing (NFT)

## I. INTRODUCTION

Application development has now been transitioning to container-based architecture from Virtual Machines. This is because of several advantages that a container brings in comparison to a virtual machine [1]. This transition is taking at a fast pace and the architectural change is phenomenal, which brings to the fore the overall applications behavior apart from just the functional part. The functional part of any applications remains constant on any architecture be it traditional hardware, cloud, virtualization or containers. What changes with change in architecture is the surrounding environment, infrastructure etc. and the characteristic these changes makes an impact on, is termed and categorized as Non-functional aspect of application. This change makes it imperative on part of the software or application developers to have extra focus on Non-Functional testing of the container-based applications.

Functional testing of any application refers to the feature set of the application that it intends to provide to the end user of the application. Irrespective of the platform, environment or other external variables, these feature sets or the functional part of the application remains constant. To illustrate it with an example, a railway reservation application's primary functionality of booking tickets remains constant irrespective of whether the application is mobile, cloud or traditional. This stands true for all applications and thus the intended functionality is always rigorously tested and it is a continuous process where even after the application is in production we see number of new releases which could include patches to fix existing bugs application supporting new functionality.

Non-Functional testing of any application encapsulates several external and behavioural parameters and traits of an application. Contrary to Functional behaviour, non-functional behaviour of an application fluctuates and changes depending upon the platform, environment and other external variables around which the application is built upon. Taking similar example of the railway reservation application, the non-functional behaviour is bound to change based on the surrounding eco-system it is built upon.

## II. RELATED WORK

### 1.1 Containers

Containers are referred to as packaging units of applications that are built using the concepts of micro-services. Container can also be related to virtualization which extends the concept of virtualization to OS level whereas normal virtualization aims at virtualizing hardware resources. Several characteristic and definition of container along with difference between containers and VM are elaborately define in [1].

### 1.2 Application Testing

Application testing is an integral part of any software or application. Without proper and complete application testing it cannot be made live or deployed for production. Broadly application testing can be categorized in two different branches of Functional testing, where the functionality of the application is tested thoroughly and the other being non-functional testing, where the application is put under test because of the surrounding environment and its behavior with respect to changes in these characteristics.

### 1.3 Non-Functional Testing

Non-Functional Testing (NFT) is a collective term given to test various non-function traits and parameters of any application. In [3], the author of the article has very effectively and in detail, defined various non-functional testing methodology to test these attributes. Functional testing and Non-functional testing are equally important.



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# Prediction of Parkinson's Disease and It's Stages

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**Abstract:** Parkinson's disease is a progressive disorder of the central nervous system affecting movement and inducing tremors and stiffness. It has 5 stages to it and affects more than 1 million individuals every year in India. It is a neurodegenerative disorder affecting dopamine-producing neurons in the brain. Parkinson's disease (PD) belongs to the group of neurological disorder, which directly affect the brain cells and the effect is shown in terms of movement, voice and other cognitive disabilities. With advancements in technology and the prevalence of audio collecting devices in daily lives, reliable models that can translate this audio data into a diagnostic tool for healthcare professionals would potentially provide diagnoses that are cheaper and more accurate. We provide evidence to validate this concept here using a voice dataset collected from people with and without PD. We can build a model to more accurately detect the presence of Parkinson's disease in an individual using a Machine Learning algorithm known as XGBoost. This analysis will help the clinicians to differentiate the PD group from healthy group based on the voice data and other clinical data more accurately and easily.

**Keywords:** Parkinson disease, machine learning, PD Dataset, Extreme Gradient Boosting, Prediction of stage of the disease, k-fold cross validation.

## I. INTRODUCTION

Parkinson's Disease (PD) is a progressive neurodegenerative movement disease which is mainly caused due to the Loss of dopamine-producing neurons results in a range of both motor and non-motor symptoms. This is chronic and has no cure yet. However there is currently no definitive test for PD by non-specialist clinicians, especially in the early disease stages where the symptoms may be subtle and poorly characterised. This results in a high misdiagnosis rate (up to 25% by non-specialists) and people can have the disease for many years before diagnosis. A methodology is used to classify the subject's disease status, by utilising a combination of many voice features which were analysed by an ensemble of machine learning classification models. The algorithm that is useful for this purpose is XGboost which stands for Extreme Gradient Boosting, it is based on decision trees. The main objective of this project is to help Doctors in predicting the presence of Parkinson's disease in a patient, in a easier and accurate way. With the help of this system, we can reduce the number of misdiagnoses of Parkinson's disease. Through early prediction of this diseases, we can help the patients get a better treatment right from the earlier stages. Prediction of the stage in which the Parkinson's patient is in, will help the Doctor treat the patients with accurate dosage of medicines. This disease needs to be predicted in a earlier stage itself, the earlier it is found out, the longer the patient will live with the help of proper medications.

## II. EXISTING SYSTEM

The existing system uses Machine learning and deep learning algorithms like Random Forest, SVM(Support Vector Machine) and Artificial Neural Network to perform classification on the model which tend to be slow when compared to the proposed system. The Classification Algorithms from Machine Learning and Deep Learning are used to Predict and Investigate The Parkinson's Disease. The Ideal Features from the Dataset are passed as input to the Models and the Prediction Results are Obtained. The Prediction Performance can be Validated from the Accuracy Obtained through the Classification Algorithm. The Determination of Parkinson's Disease Has Progressively Enhanced the Accuracy Parameter through the Various Algorithms. The Existing system is said to provide lesser accuracy than the Proposed system. The existing system only predicts if the subject is said to be affected by Parkinson's disease or not.



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## Effective Use of Cyber Space and Cyber Technology to Prevent Violence and Trafficking Against Women and Children

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**Abstract:** As a side effect of increasingly popular social media, cyber bullying has emerged as a serious problem afflicting children, adolescents and young adults. Machine learning techniques make automatic detection of bullying messages in social media possible, and this could help to construct a healthy and safe social media environment. In this project, we propose a new representation learning method to tackle this problem. Our method named Semantic-Enhanced Marginalized Stacked Denoising Auto-Encoder (SMSDA) is developed via semantic extension of the popular deep learning model stacked denoising auto encoder. The semantic extension consists of semantic dropout noise and sparsity constraints, where the semantic dropout noise is designed based on domain knowledge and the word embedding technique. Our proposed method is able to exploit the hidden feature structure of bullying information and learn a robust and discriminative representation of text.

### INTRODUCTION

Social media, as defined as "a group of Internet based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." Via social media, people can enjoy enormous information, convenient communication experience and so on. However, social media may have some side effects such as cyber bullying, which may have negative impacts on the life of people, especially children and teenagers. Cyber bullying can be defined as aggressive, intentional actions performed by an individual or a group of people via digital communication methods such as sending messages and posting comments against a victim. Different from traditional bullying that usually occurs at school during face-face communication, cyber bullying on social media can take place anywhere at any time. For bullies, they are free to hurt their peers' feelings because they do not need to face someone and can hide behind the Internet. For victims, they are easily exposed to harassment since all of us, especially youth, are constantly connected to Internet or social media. As reported, cyber bullying victimization rate ranges from 10% to 40%. In the United States, approximately 43% of teenagers were ever bullied on social media. The same as traditional bullying, cyber bullying has negative, vicious and sweeping impacts on children. The outcomes for victims under cyber bullying may even be tragic such as the occurrence of self-injurious or suicides.

Cyber bullying detection can be formulated as a supervised learning problem. A classifier is first trained on a cyber bullying corpus labeled by humans, and the learned classifier is then used to recognize a bullying message. Three kinds of information including text, user demography, and social network features are often used in cyber bullying detection. Since the text content is the most reliable, our work here focuses on text-based cyber bullying detection. In the text-based cyber bullying detection, the first and also critical step is the numerical representation learning for text messages. In fact, representation learning of text is extensively studied in text mining, information retrieval and natural language processing (NLP). Bag-of-words (BOW) model is one commonly used model that each dimension corresponds to a term. Latent Semantic Analysis (LSA) and topic models are another popular text representation models, which are both based on BOW models. By mapping text units into fixed-length vectors, the learned representation can be further processed for numerous text units. In cyber bullying detection, the numerical representation for Internet messages should be robust and discriminative.





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# Heart disease prediction using hybrid fuzzy K-medoids attribute weighting method with DBN-KELM based regression model

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Heart disease  
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## ABSTRACT

Automated prediction can be offered for further treatment to make effective and relieve the difficulties in the diagnosis of heart condition of patient. In this paper, a hybrid method is proposed combining FKMAW and DBNKELM based ensemble method to enhance medical diagnosis process. Firstly, the input attributes are weighed using a fuzzy k-medoids clustering based attribute weighting (FKMAW) method. Subsequently, the medical data classification performance is improved by applying the weighing method and the linearly separable dataset is obtained with the transformation of non-linearly separable dataset. With the weighted attributes, a regression model based heart disease prediction scheme is proposed combining Deep belief Network and Extreme learning machine (DBNKELM), in which Extreme learning machine is the top layer of the deep belief network to work as a regression model. The results demonstrate that FKMAW + DBNKELM achieved good performance in rectifying the problems in medical data classification for all the six datasets.

## Introduction

In medical applications, the research on computerized intelligent system has played a significant and exciting role. Usually, the confirmed diagnostic report and symptoms of patients are considered by a physician. Based on a physician's experience, the diagnostic accuracy of a patient can be determined [1]. However, maintaining up-to-date information about the progression of clinical practices by a physician is a hard and challenging task due to the advanced research growth in treatment therapy and medical knowledge (i.e. current accessibility of new drugs in market and evolution of new diseases). Furthermore, large number of information can be stored and acquired easily with the arrival of advanced computing technologies [2,3,21].

Prior to the development and deployment of medical decision support system, it is more significant to overcome various difficult hurdles. Thereby, this system can acquire the ability to withstand imprecision and uncertainty during decision making process [4]. By the fact, the experience and knowledge of medical experts is highly required for the diagnosis and assessment of patient's conditions. Medical practitioners in their working environment has exploited the computerized intelligent systems using advanced machine learning methods [5-8] for the improvement of decision making process in different fields

(example, X-ray photography and surgical imagery [9]). A physician has used his earlier experience or knowledge to identify the root cause of a disease before starting the treatment for a patient. Followed by this, various tests were performed by the physician to confirm the diagnosis. Furthermore, the informed decision can be arrived quickly through assisting the physician using computerized intelligent systems. Example for this is, the currently admitted patient is diagnosed by ensuring correct justifications and using electronic patients records included large database to learn all the same past cases. The main benefit found with the application of this intelligent systems are, the patient can be treated with reduced time and cost at the same time achieving increased diagnosis accuracy [10].

According to CDC's report, the present world has shown consistent statistical death rate with heart disease. The patients suffering from various kinds of heart disease can be saved by providing correct diagnosis decision; hence, this decision can be followed to offer an immediate and accurate treatment for the patients. As a whole, the accurate heart disease diagnosis turns to be a tedious and cumbersome task due to certain delay in treatment process caused with many factors [11]. For example, various syndromes will be exhibited very often by the heart disease, but, the other human organs different from heart has also shown same pathological heart diseases manifestations, the

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*Preserving mobile commerce IoT data  
using light weight SIMON block cipher  
cryptographic paradigm*

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# Efficient Road Side Framework Placement using VANET for Reducing Network Delays

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## ABSTRACT

The Road Side Unit (RSU) is a transmitter, it is facilitate along with route to us for communication between network surface and vehicles. The RSU is one of the components of VANET (vehicular ad hoc network). In this research paper mainly focused on problem of placement of RSU on road side like highway and also avoids the network delay along with efficient network. For this problem the proposed ERSF (Efficient Road Side Framework) avoid the network delays with help of number linear conceptual model along with optimization network delay and under consideration of network. The ERSF framework has been tested that performance using metrics of Generating Traffic Mobility Patterns (GTMP) by VanetMobiSim. The experimental results comparisons has been shows standard distribution and cost effective reduction is 23% and the network delay is 9% respectively and these results are gives clear definition of efficiency of ERSF solutions.

**KEY WORDS:** GTMP, RSU, ERSF, VANETMOBISIM, NETWORK DELAYS, ROAD SIDE UNIT.

## INTRODUCTION

Now a day the emerging network technology for Ad-Hoc Network is Vehicular Ad Hoc Network (VANET), that is allows the methods of ITS (Intelligent Transportation System) techniques for making an efficient networking systems for between network surface and vehicles in road infrastructure through Vehicular Ad Hoc Network. The

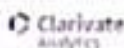
VANET facilitate vehicles interactive with every other network in road unit and get efficient internet on the moving state.

**The VANET is a part of Mobile Ad-hoc Networks;** these VANET and MANET is self organized, independent and focused for the sharing manner along with self organized authentication Ranjan Senapati B et al., (2020) With help of Dedicated Short Range Communication (DSRC) the VANET has gives wireless link for communication for roaming vehicles Babu Ram and Neelendra Badal (2019) along with the standard of IEEE 802.11a Malhi et al., (2019). In VANET changes sequence is very problem in traffic network, Because of high portability the topology. Besides, long range Interaction, the serious issues is inaccessibility of RSU within certain regions which brings about separation and undesirable network late.

## ARTICLE INFORMATION

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# WEBIFY: A Cost-Effective System for Controlling of Devices

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## Abstract

Now a day, the Internet becomes a public, independent facility accessible to hundreds of millions of people all over the world. Internet not only helps us communicate with the peoples but also help us to communicate with the devices around us by means of controlling them, which is the core idea behind IoT (Internet of Things). The idea used is port forwarding and local tunneling which provides the capability to the IoT device to connect online without any Internet drivers connected directly with the device. This simple alternative will save several thousands of amounts for large enterprises that are investing in IoT because the core of IoT (connection through internet) becomes simplified.

**Keywords:** Port forwarding, Local tunneling, Internet of Things, Tunneling Protocol

## 1. Introduction

Internet of Things represents a thought wherein any device that might be related to the web can be in association with appreciating the contraptions inside the environmental factors circular us. At that point, the data is recovered from the cloud and it is shared inside the Internet, in which it can be utilized for different abilities. At present, the useful information can be traded a couple of the individuals at some phase in wherever in the worldwide. To a degree of this idea, presently a-days as innovation is developing each day it's far conceivable to make greater the idea of supplanting the data with the assistance of gadgets the utilization of sensors in the area of human inclusion. To be more clear say for an occurrence Assume you have were given long protracted long past to abroad for a top-notch journey and you have to hold melody of your property. The technique of this issue can be done through the thought of IoT. The arrangement is if you reestablish sensor on any gadget in your private home, which might be reached from anywhere now you have were given the suppleness to keep up looking your own home notwithstanding control the one's contraptions as masses as the greatest sum. Accordingly, you can make your private home extra

comfortable now than embracing each other present way to deal with comfortable your home. The state of IoT is spoken to in figure1.

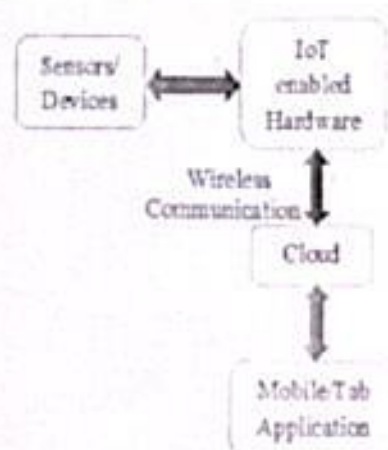


Figure 1: Basic IoT Architecture



items that can be detected or gotten

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# Data Dimensionality Reduction Techniques : Review

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**Abstract**— Data science is the study of data. It involves developing methods of recording, storing, and analyzing data to effectively extract useful information. The goal of data science is to gain insights and knowledge from any type of data — both structured and unstructured.

Data science is related to computer science, but is a separate field. Computer science involves creating programs and algorithms to record and process data, while data science covers any type of data analysis, which may or may not use computers. Data science is more closely related to the mathematics field of Statistics, which includes the collection, organization, analysis, and presentation of data.

Because of the large amounts of data modern companies and organizations maintain, data science has become an integral part of IT. For example, a company that has petabytes of user data may use data science to develop effective ways to store, manage, and analyze the data. The company may use the scientific method to run tests and extract results that can provide meaningful insights about their users.

**Keywords**—data science, data, machine learning algorithms, reduction techniques, storage.

## 1. INTRODUCTION

Data Science is a more forward-looking approach, an exploratory way with the focus on analyzing the past or current data and predicting the future outcomes with the aim of making informed decisions. It answers the open-ended questions as to "what" and "how" events occur.

**Data Sources**  
Both Structured and Unstructured

**Approach**  
Clustering, cloud data, SQL, NoSQL, text, Statistics, Machine Learning, Graph Analysis, Neural networks, Programming (NLP)

Focus	Present and Future
Tools	RapidMiner, BigML, Weka, P

Table 1: Features of Data Science

A common mistake made in Data Science projects is rushing into data collection and analysis, without understanding the requirements or even framing the business problem properly. Therefore, it is very important for you to follow all the phases throughout the lifecycle of Data Science to ensure the smooth functioning of the project.

Here is a brief overview of the main phases of the Data Science Lifecycle:



Fig 1: Life Cycle of Data Science

Figure 2 shows a comprehensive reference architecture consisting of an importer, an exporter, a data storage and access layer, a text mining engine, and a user interface. Based on the reference architecture we developed a collaborative web application with a Java back-end. As web application framework Play3 was used and



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# Significance of Cyber Security in Data Mining

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**Abstract**— Now a days Data mining is turning into a extensive technology in activities as various as mistreatment of historical information to predict the success of a promoting campaign searching for patterns in money transactions to find illegal activities or analyzing ordination sequences From this point of view it is simply a matter of your time for the discipline to succeed in the necessary space of Computer security This book presents a set of analysis efforts on the employment of information mining in laptop security.

## I. INTRODUCTION

Data mining could be a well-liked technological innovation that converts bundles of knowledge of information into helpful knowledge which will facilitate the information owners/users build wise decisions and take sensible actions for his or her own profit. In specific terms, data processing appearance for hidden patterns among st huge sets of information which will facilitate to grasp, predict, and guide future behavior. A lot of technical explanation: data processing is that the set of methodologies utilized in analyzing information from numerous dimensions and views, finding antecedent unknown hidden patterns, classifying and grouping the information and summarizing the known relationships. data processing is, at its core, pattern finding. information miners or consultants at victimization specialized code to seek out regularities (and irregularities) in giant information sets. Here are a number of specific things that data processing would possibly contribute to associate intrusion detection project:

Remove traditional activity from alarm knowledge to permit analysts to specialize in real attacks Locate alarm that are false and sensor signatures that are bad Search For anomalous activity that uncovers the real attack Check For long, ongoing patterns of different IP address and same activity Data Miners will use one or more techniques to accomplish the task the following tasks are:

**task1:** The act of Showing data in a graphical summary

**task2:** Clustering the data into natural categories [Man-ganaris et al., 2000]

**task3:** process traditional activity and sanctionative the in-vention of anomalies [Clifton and Gengo, 2000; Barbara et al., 2001]

**task4:** predicting the class to that a selected record be-longs [Lee and Stolfo, 1998] Data mining has several applications in security as well as in

national secu-rity (e.g., surveillance) furthermore as in cyber security (e.g., virus detection). The threats to national security embrace assaultive buildings and destroying essential infrastructures like power grids and telecommunication systems. data processing techniques are getting used to spot suspicious people and teams, and to find that people and teams ar capable of effecting terrorist activities. Cyber security is concerned with protective laptop and network systems from corruption thanks to malicious computer code as well as Trojan horses and viruses. data processing is additionally being applied to produce solutions like intrusion detection and auditing. during this paper we are going to focus chiefly on data processing for cyber security applications. data processing for cyber security techniques can be accustomed detect uncommon patterns and behaviors. Link analysis could also be accustomed trace the viruses to the perpetrators. Classification could also be accustomed cluster numerous cyber-attacks then use the profiles to observe associate degree attack once it happens. Prediction could also be accustomed confirm potential future attacks relying in a very manner on info learnt regarding terrorists through email and phone conversations. data processing is additionally being ap-plied for intrusion detection and auditing the traditional approach to securing laptop systems against cyber threats is to style mechanisms like firewalls, authentication tools, and virtual personal networks that make a protecting defend. However, these mochanisms nearly always have vulnerabilities. they can not ward attacks that area unit frequently being tailored to use system weaknesses, that area unit usually caused by careless style and implementation flaws. This has created the requirement for intrusion detection, security technology that enhances typical security approaches by observance systems and character-istic laptop attacks. ancient intrusion detection strategies area unit supported human consultants intensive informa-tion of attack signatures that area unit character strings in a very messages payload that indicate malicious content. Signatures have many limitations. they can not observe novel attacks, as a result of somebody should manually revise the signature info beforehand for every new kind of intrusion discovered. Once somebody discovers a brand new attack and develops its signature, deploying that signature is commonly delayed. The have crystal rectifier to associate interest in intrusion detection data processing



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## Social Distance Detection For Covid - 19 Using Deep Learning

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### Abstract:

The rampant coronavirus disease 2019 (COVID-19) has brought global crisis with its deadly spread to more than 180 countries, and about 3,519,901 confirmed cases along with 247,630 deaths globally as on May 4, 2020. The absence of any active therapeutic agents and the lack of immunity against COVID19 increases the vulnerability of the population. Since there are no vaccines available, social distancing is the only feasible approach to fight against this pandemic. Motivated by this notion, this article proposes a deep learning based framework for automating the task of monitoring social distancing using surveillance video. The proposed framework utilizes the YOLO v3 object detection model to segregate humans from the background and Deepsort approach to track the identified people with the help of bounding boxes and assigned IDs. The results of the YOLO v3 model are further compared with other popular state-of-the-art models, e.g. faster region-based CNN (convolution neural network) and single shot detector (SSD) in terms of mean average precision (mAP), frames per second (FPS) and loss values defined by object classification and localization. Later, the pairwise vectorized L2 norm is computed based on the three-dimensional feature space obtained by using the centroid coordinates and dimensions of the bounding box. The violation index term is proposed to quantize the non adoption of social distancing protocol. From the experimental analysis, it is observed that the YOLO v3 with Deepsort tracking scheme displayed best results with balanced mAP and FPS score to monitor the social distancing in real-time.



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## Brain Tumor Identification And Classification Using Conventional Neural Networks

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### Abstract:

Among brain tumors, gliomas are the most common and aggressive, leading to a very short life expectancy in their highest grade. Thus, treatment planning is a key stage to improve the quality of life of oncological patients. Magnetic resonance imaging (MRI) is a widely used imaging technique to assess these tumors, but the large amount of data produced by MRI prevents manual segmentation in a reasonable time, limiting the use of precise quantitative measurements in the clinical practice. So, automatic and reliable segmentation methods are required; however, the large spatial and structural variability among brain tumors make automatic segmentation a challenging problem. In this paper, we propose an automatic segmentation method based on Convolutional Neural Networks (CNN), exploring small  $3 \times 3$  kernels. The use of small kernels allows designing a deeper architecture, besides having a positive effect against over fitting, given the fewer number of weights in the network. We also investigated the use of intensity normalization as a pre-processing step, which though not common in CNN-based segmentation methods, proved together with data augmentation to be very effective for brain tumor segmentation in MRI images.

### I. Introduction

GLIOMAS are the brain tumors with the highest mortality rate and prevalence. These neoplasms can be graded into Low Grade Gliomas (LGG) and High Grade Gliomas (HGG), with the former being less aggressive and infiltrative than the latter.

Even under treatment, patients do not survive on average more than 14 months after diagnosis. Current treatments include surgery, chemotherapy, radiotherapy, or a combination of them. MRI is especially useful to assess gliomas in clinical practice, so it is possible to acquire MRI sequences providing complementary information. The



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## A Machine Learning Algorithm for vehicle Number Plate Recognition

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### ABSTRACT:

Identification of cars is a demanding function for surveillance and control systems. People can recognize automobiles through license plates which consist of alphabets and numbers. We can use the uniqueness of a combination of characters in license plates for many purposes. For example, an arrest of a suspect's vehicle, imposing parking violation fines, and entrance authentication are possible. However, it is a labor intensive job to identify all passing or parked vehicles' license plates. This paper presents a training based approach for the recognition of vehicle number plate. The whole process has been divided into three stages i.e. capturing the image, plate localization and recognition of digits over the plate. HOG features have been used for the training purpose and Support Vector Machine is employed for the classification purpose yielding in more than 99% accuracy while recognition. The algorithm has been tested over more than 100 images.

### I. INTRODUCTION

In recent years, license plate recognition (LPR) has become a core technology of security and traffic applications that range from traffic surveillance to parking lot access control to information management for monitoring purposes<sup>1</sup>. Simply stated, LPR helps identify vehicles and provides a reference for further vehicle tracking and activity analysis<sup>1</sup>.

Automatic license plate recognition (LPR) plays an important role in numerous applications such as unattended parking lots, security control of restricted area, traffic law enforcement, congestion pricing, and automatic toll collection<sup>2</sup>. Due to different working environments, LPR techniques vary from application to application. Most previous works have in some way restricted their working conditions, such as limiting them to indoor scenes, stationary backgrounds, fixed illumination, prescribed



## Crop Guidance and Farmers Friend.

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### Abstract:

Farm management system is to help farmers by providing all kinds of agricultural information. Farm management system helps farmers to give best practices of farming processes. It enables the farmers to sell their products through online. Hence, providing a wider market and helping them to not restrict themselves to local market. This enables wholesalers and retailers to expand their business. To develop a website for farming management system in which farmer can sell their products online. Hence, providing a wider market and helping them to not restrict themselves to local market. This enables wholesalers and retailers to expand their business. It provides all kinds of agricultural information.

### I. INTRODUCTION

Modifications to the Agriculture Produce Market Committee Acts have removed barriers to private participation and allowed trade outside regulated markets in the hope that it will help farmers and improve market infrastructure. But a key feature of regulated markets – the use of auctions to sell produce – has attracted relatively little attention. This paper argues that the auction mechanism is central to protecting farmers' interests in a given market, even in the presence of collusion

among some large buyers. More generally, it is a transparent mechanism of price discovery and sets a benchmark with which any new market set up by a private player has to compete, thus mitigating any adverse impact on prices received by farmers.

### II. PROBLEM STATEMENT

Before introducing this system farmers used to face lot of problems due to improper knowledge of price in the market. And also not able to sell there products with good price and



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# Cloud Storage Distributed Deduplication Mechanism For Privacy Protection

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## Abstract :

Data deduplication is a technique for eliminating duplicate copies of data, and has been widely used in cloud storage to reduce storage space and upload bandwidth. However, there is only one copy for each file stored in cloud even if such a file is owned by a huge number of users. As a result, deduplication system improves storage utilization while reducing reliability. Furthermore, the challenge of privacy for sensitive data also arises when they are outsourced by users to cloud. Aiming to address the above security challenges, this paper makes the first attempt to formalize the notion of distributed reliable deduplication system. We propose new distributed deduplication systems with higher reliability in which the data chunks are distributed across multiple cloud servers. The security requirements of data confidentiality and tag consistency are also achieved by introducing a deterministic secret sharing scheme in distributed storage systems, instead of using convergent encryption as in previous deduplication systems. Security analysis demonstrates that our deduplication systems are secure in terms of the definitions specified in the proposed security model. As a proof of concept, we implement the proposed systems and demonstrate that the incurred overhead is very limited in realistic environments

## 1. Introduction

With the explosive growth of digital data, deduplication techniques are widely employed to backup data and minimize network and storage overhead by detecting and eliminating redundancy among data. Instead of keeping multiple data copies with the same content, deduplication eliminates redundant data by keeping only one physical copy and referring other redundant data to

that copy. Deduplication has received much attention from both academia and industry because it can greatly improve storage utilization and save storage space, especially for the applications with high deduplication ratio such as archival storage systems. A number of deduplication systems have been proposed based on various deduplication strategies such as client-side or server-side deduplication, file-level or block-level



# An Efficient Mechanism With ABT for keyword search in clouds

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## ABSTRACT

Attribute-based keyword search (ABKS), as an important type of searchable encryption, has been widely utilized for secure cloud storage. In a key-policy attribute-based temporary keyword search (KP-ABTKS) scheme, a private key is associated with an access policy that controls the search ability of the user, while a search token is associated with a time interval that controls the search time of the cloud server. However, after a careful study, we uncover that the only existing KP-ABTKS construction is not secure. Through two carefully designed attacks, we first show that the cloud server can search the ciphertext in any time. As a result, their scheme cannot support temporary keyword search. To address this problem, we present an enhanced KP-ABTKS scheme and prove that it is selectively secure against chosen-keyword attack in the random oracle model. The proposed scheme achieves both fine-grained search control and temporary keyword search simultaneously. In addition, the performance evaluation indicates that our scheme is practical.

## I. Introduction

cloud computing is an emerging Internet technique that provides massive computing and storage service for individuals and companies. As a significant application of cloud computing, cloud storage can efficiently reduce local storage costs and realize data sharing. Due to its cheapness and convenience, more and more data owners store

their sensitive data in the cloud. However, this cause huge concerns for the reveal of the sensitive data, because the data owners lose control over the local data when they outsource these data to the cloud. For example, personal health records (PHR), email data and financial documents stored in iCloud may be compromised by the attacks from the hacker and the legal pressure faced by the data owners. One method for protecting sensitive



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## VIDEO OBJECT FORGERY DETECTION USING SSIM

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### Abstract:

In recent years, with the development of computer multimedia technology, video forgery has become more and more common. For the video object forgery can cover up some key evidence and it is hard to identify by the experts, the forgery detection technology for this class had always been a research hotspot. However, researchers mostly pay attention to traditional methods such as image processing and classifiers and rarely combine deep learning theory to the research. This paper proposes a video intra-frame forgery forensics algorithm based on the SSIM (Structural Similarity Index), which can automatically detect video forgery frames. The algorithm first decompresses the video into a series of frames, calculates the motion residual map of each frame, and extracts the steganographic features. Then four different steganographic feature sample sets are used to construct as the training set and the test set to train and test model. The best-performing feature was selected by the comparison experiment. Finally, the forged frame was marked from the forgery video successfully. A series of experiments show that the proposed algorithm can automatically identify original or forgery frames in forgery video.

### I. Introduction:

With the development of computer multimedia technology, digital video has become the main form of network with its intuitive, convenient and informative information content. It has also become critical evidence of news, politics, insurance claims, defense, legal trial, and many other

important matters. However, due to the widespread use of powerful multimedia editing tools, some non-professionals can easily modify video content, while experts are difficult to distinguish some fake videos between true and fake. These have led to doubts about the credibility of digital video content. Therefore, there is an urgent need



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# Weather Prediction Using Deep Learning Techniques

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## Abstract:

Extracting information related to weather and visual conditions at a given time and space is indispensable for scene awareness, which strongly impacts our behaviours, from simply walking in a city to riding a bike, driving a car, or autonomous driveassistance. Despite the significance of this subject, it is still not been fully addressed by the machine intelligence relying on deep learning and computer vision to detect the multi-labels of weather and visual conditions with a unified method that can be easily used for practice. What has been achieved to-date is rather sectorial models that address limited number of labels that do not cover the wide spectrum of weather and visual conditions. Nonetheless, weather and visual conditions are often addressed individually. In this paper, we introduce a novel framework to automatically extract this information from street-level images relying on deep learning and computer vision using a unified method without any pre-defined constraints in the processed images. A pipeline of four deep Convolutional Neural Network (CNN) models, so-called the WeatherNet, is trained, relying on residual learning using ResNet50 architecture, to extract various weather and visual conditions such as Dawn/dusk, day and night for time detection, and glare for lighting conditions, and clear, rainy, snowy, and foggy for weather conditions. The WeatherNet shows strong performance in extracting this information from user-defined images or video streams that can be used not limited to: autonomous vehicles and drive-assistance systems, tracking behaviours, safety-related research, or even for better understanding cities through images for policy-makers.

## I. Introduction

Cities are complex entities by nature due to the multiple, interconnected components of their systems. Features of the physical

environment extracted from images, or so-called urban scenes, have great potential for analysing and modelling cities because they can contain information on a range of



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# An Efficient Deep Learning Plagiarism Detection

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## Abstract:

Natural Language Sentence Matching (NLSM) is one of the important and challenging tasks in Natural Language Processing where the task is to identify if a sentence is a paraphrase of another sentence in a given pair of sentences. Paraphrase of a sentence conveys the same meaning but its structure and the sequence of words varies. It is a challenging task as it is difficult to infer the proper context about a sentence given its short length. Also, coming up with similarity metrics for the inferred context of a pair of sentences is not straightforward as well. Whereas, its applications are numerous. This work explores various machine learning algorithms to model the task and also applies different input encoding scheme. Specifically, we created the models using Logistic Regression, Support Vector Machines, and different architectures of Neural Networks. Among the compared models, as expected, Recurrent Neural Network (RNN) is best suited for our paraphrase identification task. Also, we propose that Plagiarism detection is one of the areas where Paraphrase Identification can be effectively implemented.

## I. Introduction:

Paraphrase identification is the task of identifying if a sentence is a paraphrase of another one. It is

one of the challenging tasks in Natural Language Processing. It requires representing a text in some form taking its context into consideration and formulating a

**Novel Approach on Data Access Control With Fine-Grained Data Protection In Cloud-Assisted IIOT**<sup>1</sup>J.SUDHEER KUMAR,<sup>2</sup> Kolla Vamsi Kumar Reddy, <sup>3</sup>Konatham Sai Yashwanth Reddy, <sup>4</sup>Yalaka Srikanth Reddy

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**Abstract—**

Industrial Internet of Things (IIoT) has provided a promising opportunity to build digitalized industrial systems. A fundamental technology of IIoT is Radio-Frequency Identification (RFID) technique, which allows industrial participants to identify items and anchor time series IoT data for them. They can further share the IoT data through the cloud service to enable information exchange and support critical decisions in production operations. Storing IoT data in the cloud, however, requires a data access control mechanism to protect sensitive business issues. Unfortunately, using traditional cryptographic access control schemes for time series IoT data face severe efficiency and key leakage problems. In this paper, we design a secure industrial data access control scheme for cloud-assisted IIoT. Our scheme enables participants to enforce fine-grained access control policies for their IoT data via ciphertext policy-attribute based encryption (CP-ABE) scheme. Our scheme adopts a hybrid cloud infrastructure for participants to outsource expensive CPABE tasks to the cloud service with strong privacy guarantees. Importantly, our scheme guarantees a new privacy notion named item-level data protection for IoT data to prevent key leakage problem. We achieve these goals via several encryption and optimization techniques. Our performance assessments combine system implementation with large scale emulations and confirm the security and efficiency of our design.

**I. INTRODUCTION**

Industrial Internet of Things (IIoT) allow industrial system to collect a vast amount of IoT data about all aspects of the production process. A foundational technology for IIoT is the RFID technology, which allow

industrial participants to attach RFID tags to items, automatically identify items and anchor time series IoT data for them derived from a spectrum of IoT devices throughout their life cycle. The IoT data can be then shared among the industrial participants to



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## PRE-WARNING SYSTEM FOR WEAK HOUSES AND BRIDGES USING IOT

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### ABSTRACT:

In this project, the alert is made about weak bridges and houses that may destroy and having a risk of collapsing. The main aim of the project is to avoid hazards. Early warning systems are the systems by which people receive relevant and timely information in systematic way. Early action can often prevent a hazard turning into a human disaster by preventing loss of life and reducing the economic and material impacts. In this bridge or House monitoring system is significant to be health monitoring of both old/new bridges and flyovers an infrastructure daily used by citizens of their respective countries. In this system, we use MEMS-Micro Electro Mechanical sensor for dislocation or uneven movement of the bridge or house, flex sensor is used to crack detection, and a Atmega328 micro controller is used for processing the data and to react according to the instructions and alert the system whenever there is an uneven conduction occurred.

**Key Words:** Arduino Uno, MEMS sensor, Flex sensor, Buzzer, red LED, Green LED.

### INTRODUCTION:

Human beings need shelter to live, so they have started building houses and buildings. A Bridge is a structure which connects two places. A bridge is a structure built to span a physical obstacle, such as a body of water, valley, or road, without closing the way underneath. It is constructed for the purpose of providing passage over the obstacle, usually something that is

otherwise difficult or impossible to cross. Two things should be considered when you are building the foundations - the solidarity of the soil and the heaviness of the building and its contents. The causes of weak building or houses may be weak foundations, poor soil condition, poor materials - Materials that just aren't strong enough to withhold the load used in



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**AN ANALYSIS OF THE FINANCIAL LIFE INSURANCE STRATEGIES EMPLOYED BY  
SELECT TELANGANA COMMERCIAL BANKS**

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**Abstract:**

Insurance marketing is the practise of promoting insurance products and services with the overarching goal of increasing both customer satisfaction and financial gain. Marketers in the insurance industry strive to find the sweet spot between cost-effectiveness and growth for their clients. Creating a balanced distribution of core and auxiliary services helps improve service quality. The insurance industry's take on marketing focuses on growing the sector for the greater good rather than just the benefit of individual companies. However, the notion of marketing in the current corporate world relies on establishing responsibility for marketing's total success. Although the idea of marketing as value co-creation has been widely hailed, it may take some time for this perspective to become commonplace in the life insurance industry. Therefore, it is sense to think about some of the more traditional methods of promoting services. However, there are still certain things to think about when marketing services, much as the four "Ps" have supported traditional marketing, the eight "Ps" support financial services marketing (Lovelock 2001). This study aims to provide light on how SBI Life Insurance will respond to different promotional approaches in a certain geographic region. The All India Rural Credit Survey Committee proposed forming a state-partnered and state-sponsored bank via the acquisition of the Imperial Bank of India and the merger of the formerly state-owned or state-associate banks in order to better serve the economy and the rural sector. The Reserve Bank of India (RBI) gave the State Bank of India and its Associate Banks special status by designating them as RBI agents for handling Central and State Government business and for establishing currency chests to facilitate the efficient management of cash in India.

**Keywords:** Insurance, Financial, Profitable, and Liquidity.

**Introduction:**

Since India's independence, the banking sector has witnessed dramatic transformation. Banking reforms based on the Narasimhan Committee's recommendations came to fruition in the wake of liberalisation. 1 Today, financial institutions are primarily motivated by financial gain, and the government has sent strong signals that they must perform or face severe consequences. 2 Banks have begun to understand that their success is directly tied to the quality of service they provide to their clients, and this has prompted many of them to invest more resources on customer relations. The changing functional orientation of banks has led to a rethinking of banking's original purpose. The shifting demands of the market are the primary factor in this transformation. Customers in modern Indian cities no longer have patience for lengthy bank transactions that take up to several hours of their time. The convenience of ATMs, telephone banking, and the Internet, as well as on-demand service delivery, has contributed to a shift in consumer expectations. With the advent of universal banking, financial institutions strive to be client oriented by delivering a full range of banking products and services at one convenient location. Private banks have emerged in a similar manner, with a focus on technological and customer-focused challenges, as a result of global challenges throughout the globe and in India specifically. 3 It is the researcher's responsibility to shed light on SBI's promotional efforts in this chapter. Banking and Financial



**Impact of International Crude Oil Price on Select Global Economic Factors****DR. CH. RAMESH**

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**Abstract:** In the world economy, the international price of crude oil plays the decisive role compared to other economic factors. In the world 70% of the countries are highly dependent on imported crude oil, which plays a decisive role in world exports and imports for the study from the period 2013-2020 taken into account. In the recent past, the international price of crude oil has fallen dramatically, which in turn has reduced the burden of import costs for the large countries despite the decline in the price of crude oil, and global imports have increased enormously. The beta coefficient of the linear regression indicates that global exports were negatively affected by the international crude oil price. The results of the multi-regression model show that the fluctuation of the dollar index had no influence on the volatility of the international crude oil price. The regression weight estimate trend line indicated that the dollar index and the Baltic Dry index are expected to decline in the near future.

**Keywords:** Oil Price Shocks, Stock Markets, Economic Growth.

**I. INTRODUCTION**

Crude oil is a naturally occurring, unrefined petroleum product made up of hydrocarbon deposits and other organic materials. Crude oil can be refined into recyclable products such as gasoline, diesel, and various types of petrochemicals. The modern history of petroleum began in the 19th century with the refining of paraffin from petroleum. In 1846 in Baku (Diz-Heybat settlement) the first borehole was drilled with hammer tools to a depth of 21 meters for oil exploration. In 1848 Young started a small company to refine the crude oil.

**II. TYPES CRUDE OIL****A. West Texas Intermediate**

This type of oil contains small amounts of sulfur and density. Its sulfur content is only 0.24% and its weight is 39.6 degrees. The West Texas Intermediate is considered to be both sweet and light crude. Refining of this oil is usually done in the Gulf regions as well as the United States as it is convenient to oil reserves.

**B. Brent Blend**

The term Brent Blend is derived from the geographic location from which this type of oil is extracted. Brent Blend is called a sweet oil with 0.37% sulfur and 38.06 degrees of gravity. Brent blend oil is typically used to make petroleum and gasoline for vehicles.

**C. Dubai Crude**

As the name suggests, Dubai Crude Oil comes from Dubai - a huge oil producing country in the world. The crude oil from Dubai has a low density with 31 degrees of gravity and a sulfur content of only 2%.

**D. Russian Export Blend**

This type of oil is the standard for Russian crude oil. This is also a perfect example of acidic oil due to its high sulfur content. Russian export oil is heavily exported to Italy and the Netherlands.

**E. Byproducts of crude oil**

Petroleum products are usually divided into four categories: light distillates (LPG, gasoline, naphtha), middle distillates (kerosene, kerosene, diesel), heavy distillates and residue (heavy oil, lubricating oils, wax, asphalt). This classification is based on the way crude oil is distilled and separated into fractions (called distillates and residue).

- Liquefied petroleum gas (LPG)
- Gasoline (also known as petrol)
- Naphtha
- Kerosene and related jet aircraft fuels
- Diesel fuel
- Fuel oils
- Lubricating oils
- Paraffin wax
- Asphalt and tar
- Petroleum coke

**D. Further products (see also below) include**

- Sulfur
- Olefins
- Heat and electricity energy.

**E. CRUDE OIL IN U.S**

For nearly a century, the US was both an exporter and an importer of crude oil. The export of domestically produced crude oil made the US a major player in the global crude oil market that sets crude oil prices. That ended in the 1970s when, in response to the 1973 oil embargo, Congress imposed a ban on domestic oil exports, which was lifted in late 2015. The fact is that the US is both an importer and an exporter of a number of raw materials. Economically, the US would be in a stronger position if domestically produced crude oil could reach the world market as other goods do on a daily basis - to the benefit

# A STUDY IN TO THE WEB MINING APPLICATIONS TODAY- RISKS AND MODERN TRENDS

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**Abstract**—The World Wide internet is an interactive and widespread manner to modify the knowledge, a huge quantity of records is available over cyber web. Now-a-days web mining is one amongst the sizable material in statistics mining, that is accustomed extract facts from internet documents, it's for the most part classified into three kinds, significantly, web content mining, internet form mining and web usage mining, it's accustomed produce several web packages, which could be enjoying a necessary operate in our daily lifestyles. This paper is particularly aimed to analysis internet mining categories and its web applications.

**Keywords**—*Web mining, Web content mining, Web structure mining, Web usage mining.*

## **I. Introduction**

Data mining techniques area unit applied to internet data that refers internet data mining or net mining. net mining is one among the very important technique in facts mining. It's accustomed extract helpful records from the web that incorporates a hefty amount of documents. It's been explored with huge degree and distinctive ways, that has been projected for a range of applications like net search, question sort and personalization [1]. The matter components of internet facts consist unstructured data alongside loose texts, semi-structured statistics kind of like markup language documents, and more responsible records - records within the tables or information generated via markup language pages.

Web mining copes with semi established data and unstructured data. It is the toughest obligations for statistics mining and information management students as a result of their unit heterogeneous, less based totally statistics offered

on Infobahn and easily crush with data. primarily internet mining are often divided into the following four step methodology - Resource finding and Retrieving, data different and pre-processing, Patterns and recognition, and Validation and interpretation [2].

Resource locating is used to urge stunning files and offerings at the net. The strategy of aid finding is, to extract the data from the web every from on-line or offline with the assistance of the person. Data different and pre-processing unit a way, that may choose and pre-manner the facts robotically, that's retrieved from the net resources. It are typically classified into five varieties they'll be, facts cleansing, shopper identity, user consultation identity, get right of entry to route supplement and human action identification. Data cleansing is that the methodology to urge obviate the unwanted statistics that's up the scope of the facts inside the net report. User identification identifies the purchasers in my opinion from Infobahn log server. User consultation identity methodology is used to understand the person access statistics from the net server. Access path estimation may well be a because of estimate the client get admission to log documents from the web server. Human action identification may well be a method that depends all at the person session identification technique. Pattern discovery has automatically placed the designs from a computing device to boot to across quite one websites [3].

Its split into 5 kinds in particular, course analysis, association rule, serial sample, category and agglomeration. Path Analysis may well be a graphical reasonably any websites. Association Rule is in the main targeted to hunt out the association among the web pages and visited



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Title AI AND ML MODELS TO PREDICT CLIMATE EXTREMITIES AND CLIMATE CHANGE MITIGATION THROUGH HIGH-PRECISION ANALYTICS

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Paper Authors

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## ALLOCATING DAY TO DAY WORK FOR WORKERS THROUGH CONTRACTORS USING AN APP

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**Abstract:** Now a days daily wage workers are stuck in a deep crisis. In our daily life workers are facing a situation that they are standing for works at early mornings in market to get work and the contractors are having difficulties in finding workers for day today work. To avoid this crisis faced by workers and contractors, here is a project to develop an app. This app lets the people know the daily wage works which are around them without waiting for some manager or contractors to pick them from the crowd. This app lets the contractors to post their daily wage slots to hire the workers. The requirements needed for the suitable job is mentioned by the contractors. All the required data is given in the app. we use XML and JAVA to build this app.

**Keywords:** Contractors, daily wage workers, Android application, XML and JAVA

### I. INTRODUCTION

Labour in India refers to employment in the economy of India. Over 94 percent of India's working population is part of the unorganised sector. Like migrant workers, contract and casual labourers. The unorganised sector has low productivity and offers lower wages. In India below poverty families where all working age

members have only worked the unorganised sector throughout their lives. In India, the unemployment rate measures the number of people aged 15 and over actively looking for a job as a percentage of the labour force. At 7.30 am every morning, thousands of daily wage workers gather in labour street corners to solicit work from labour contractors. Nearly 150 other workers carpenters, masons,



## CRYPTER TOOL - A PYTHON GUI TOOL FOR STEGANOGRAPHY

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*Abstract: Organizations have desired to keep certain sensitive communications and information secret for years. In our new age of digital media and internet communications, this need often seems even more pressing. Today's information age where technology has made information sharing and transfer increase exponentially and also makes the information vulnerable to unauthorized access, use, modification, and interception both while in storage or in transmission. It is no surprise that countless encryption methods of protecting such information like cryptography, watermarking and many more have evolved. One lesser-known but rapidly growing encryption method is Steganography. Though steganography is an ancient craft, the onset of computer technology has given it new life. Computer-based steganographic techniques introduce changes to digital covers such as Image, Audio, and Video. Our Project is a Python GUI application designed for implementing Steganography with AES Encryption. Steganography refers to hiding information inside an image file. In our project, we take the user's secret information as plain text and we convert it into Cipher text using AES Encryption. After that, we embed the Cipher text into the user's chosen cover-image file using the Steganography LSB (Least Significant Bit) Algorithm. After this process, a new image file (Stego Image) will be generated which has cipher text hidden inside image byte values.*

**Keywords:** Cryptography, Steganography, Least Significant Bit Algorithm, Python GUI.





# High Integrity Systems Using Extreme Programming(XP)

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## Abstract:

*This article explores the feasibility of applying Extreme Programming methodologies to the engineering of high-integrity systems, with a particular focus on the characteristics of this problem space that set it apart and allow for nuanced progress. In order to be useful for developing high-stability systems and reviewing potential additions, Extreme Programmes has to be both expanded and modified. In this paper, we discuss in depth how to apply a skillful procedure to the building of a high-integrity software system.*

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## 1. INTRODUCTION

Extreme Programming (XP) is an agile software development methodology that prioritises the rapid creation of working code. Extreme Programming (XP) is widely recognised as one of the most effective methods for creating software. However, there are few methods for managing projects and, in particular, for keeping the client role compatible with the XP definition of the methodology. As it turned out, the developed software absolutely required this proactive strategy's preference for swift response to a modification before the plan's end. There were a lot of revisions and additional requirements throughout development, and deciding how to handle them was more crucial to the quality of the final product than staying on time.

Around these ideas, other agile approaches have emerged, each addressing a unique set of concerns, such as programming methodologies, project

management, organisational factors, and rapid adaptation. Extreme shows (XP), Scrum, the Dynamic Systems Development Method (DSDM), Adaptive Software Development (ASD), Lean Development (LD), and Agile Modelling (AM) are just a few examples. Particular attention is paid in this section to XP and Scrum.

These are the most often used agile methods, and they form the basis of my own XSBD methodology. Another ideal feature of a high-integrity system would be its ability to maintain a consistent workflow. It is possible to implement a fail-safe user interface between the computer and the control system rapidly and at a low cost. Fault tolerance is a useful tool for meeting the requirements of both high-honesty procedures and protection against CPU failure. When it comes to error tolerance, hardware redundancy through majority voting is the way to go.



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## Design and Metaphor Evaluation for Extreme Software Development

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### ABSTRACT:

This paper presents the Extreme Software Development (XP) Metaphor Evaluation and Architecture. It provides a straightforward, semiotics-based structural model of system metaphors that provides a fundamental account of how metaphors may bring value to a software system. It identifies activities that teams can use to construct metaphors for their systems as well as evaluation techniques for system metaphors. This results will reassure Extreme Programming teams to carry on using system metaphors to reinforce their growth practices, rather than abandoning them.

**KEYWORDS:** Extreme Software Development; Metaphor; Semiotics; Evaluation; Architecture

### INTRODUCTION

By characterizing a system's logical architecture in terms of something familiar to developers and customers, the Metaphor practice system identifies its logical architecture. By providing a shared vocabulary for discussing system problems and solutions, the customer and developer facilitate the discussion of the project in language made available by a system metaphor. The system metaphor provides developers with additional support for maintaining consistency in the nomenclature of their programs' subsystems, packages, classes, and methods. The system metaphor is a low-cost system design that indicates the main system components and their relationships. It is widely acknowledged that metaphor is a fundamental aspect of communication. Extensive use of metaphor in both art and language.

Metaphor is regarded as a form of language by linguists, cognitive linguists, and relevance theorists. Both theories make significant contributions to our comprehension of the function of metaphor in cognition and communication by presenting precise concepts regarding the mechanisms underlying the comprehension of metaphors. Various theories of metaphor exhibit distinct points of origin, such as linguistics, psychology, and philosophy, and culminate in diverse objectives, including cognitive or pragmatic pursuits. The theories of systemic functional linguistics utilise a social semiotic perspective to examine the mechanisms of meaning construction through language and symbols in scientific literature. This approach offers instances of the proliferation of meaning through the application of metaphor. The present study investigates the distinctions between the semantic attributes and pragmatic implementations of three interconnected cross-modal mechanisms, namely inter-semiotic correspondence, trans-semiotic categorization, and inter-semiotic metaphor.



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## DATA POISON DETECTION SCHEMES FOR DISTRIBUTED MACHINE LEARNING

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**Abstract:** Distributed Machine Learning (DML), which is used when a single node cannot accurately process massive datasets within an acceptable time. However, this will inevitably expose more potential targets to attackers compared with the non-distributed environment. In this project, we classify DML into basic-DML and semi-DML. In basic-DML, the center server dispatches learning tasks to distributed machines and aggregates their learning results. While in semi-DML, the center server further devotes resources into dataset learning in addition to its duty in basic-DML. We firstly put forward a novel data poison detection scheme for basic-DML, which utilizes a cross-learning mechanism to find out the poisoned data. We prove that the proposed cross-learning mechanism would generate training loops, based on which a mathematical model is established to find the optimal number of training loops. Then, for semi-DML, we present an improved data poison detection scheme to provide better learning protection with the aid of the central resource. To efficiently utilize the system resources, an optimal resource allocation approach is developed.

**Keywords:** Distributed Machine Learning, distributed environment, Data poison detection.

### I. INTRODUCTION

Distributed machine learning (DML) has been widely used in distributed systems where no single node can get

the intelligent decision from a massive dataset within an acceptable time. In a typical DML system, a central server has a tremendous amount of data at its disposal. It divides the dataset into





## Deep Learning Neural Networks for Object Recognition and Contour Tracking-Bases Knowledge Extraction

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**Abstract**—Using spectral or syntactic domain pattern recognition algorithms, objects are recognised in digital photographs. In order to recognise items that would otherwise go undetected and latent, quicker, more accurate, and smarter pattern recognition techniques must be developed due to the constantly growing volume of data gathered by digital picture collecting systems. Using cryptic learning neural networks for object recognition is one such endeavour. Knowledge that was gathered from the outlines of different objects that were present in a digital picture served as the input to this system. In order to recognise things using a neural network and extract information about the delineations of different items and constituents of a digital picture, this study proposes a unique technique.

**Keywords**—cryptic Learning,

ObjectExtraction,(MI)MachineIntelligence,Pattern Recognition

### 1. PREFACE

Entity in a digital photograph is essentially pixels array that have been geometrically arranged to get its shape. To investigate the shape of an object, a 3x3 neighbourhood can serve as a fundamental construction element. This means that any item can be depicted via this 3x3 structural block and its categories, which can then be geographically dispersed as necessary. In order for a digital image to be interpretable, its components must be spatially dispersed and their relationships must be visually apparent. For example, a depiction of an airport is only comprehensible if it depicts an administrative tower, asphalt, runway, and a couple of buildings with regular shapes. It is conceivable to visualise these objects and conclude that the seriesting is an airport. Computers equipped with heuristics-based algorithms are also capable of producing identical outcomes. In a strictly technical context, this is known as machine learning. As computerised depictions of the human being neural network, neural networks are shows a crucial role in machine(ML) learning.

A neural network's fundamental inputs consist of 0s and 1s or lexicographic sequences of these symbols. Any word or visual pattern can be expressed via 0s and 1s, which can then be utilised to instruct a neural network to reach a conclusion. This piece aims to assist readers in gaining a better understanding of the contours of different items and in encoding the directional traits as an information vector. Thus, a thing can be represented as a vector of information, which is transmitted through a neural system for item identification..

### II. KNOWLEDGE VECTORS AND CONTOUR SOFT ITEMS

The subsequent stages are used to gather the information vector of a contour. A contouring algorithm of your choosing is applied to an object to begin. Figure 1 illustrates a model picture and also contours which depicts 16 convex designs built in 3x3. In a similar fashion, 240 additional Designs can be derived from the Design A shown in Fig. 1(b). Thus, the 3X3 matrix of the vertices could generate the complete series of 256 Designs. These Designs are shown in Figure 2. One can create a vector of information for each of these 256 Designs. These information vectors fundamentally depict the monitoring orientations for contours. Tracking contours are performed in a circular direction. A contour track is a collection of trajectory instruction and dimension pairings.



Fig.1 Designs, contours, and convex Designs in the 3x3 neighbourhood are provided as examples.

Fig.2 displays each of the 240 Designs in a 3x4 neighbourhood.



Fig.2(a).Designseries#1



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## DETECTING CYBERBULLYING IN INSTAGRAM

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**ABSTRACT:** *Cyberbullying is a serious problem in today's digital world that affects a growing number of Internet users, particularly innocent teenagers and young people on social media sites like INSTAGRAM. The majority of bullying includes intimidation or hurtful remarks that target a gender, religion, sexual orientation, race, or physical differences, which is prohibited by law. Psychological abuse, which includes cyberbullying, can result in mental abuse. We have thus selected our project to identify cyberbullying comments in Instagram in an effort to mitigate this.*

### I. INTRODUCTION

People of all ages now prefer using platforms such as Facebook, Twitter, Flickr, and Instagram as a means of communication and social contact. Although though these platforms allow individuals the opportunity to engage and communicate in previously unthinkable ways, they have also given rise to negative behaviors like cyberbullying. The act of harassing, threatening, or trying to bully someone online using digital or electronic channels including social media, email, text messaging, blog postings, or

other similar methods is known as cyberbullying. Internet harassment, often referred to as cyberbullying, typically uses disrespectful, aggressive, or threatening words. Bullies online usually conceal their real identity behind fictitious online profiles. Cyberbullying is a major and widespread problem in today's digital culture that affects a growing number of Internet users, particularly impressionable teenagers and young people. In a way, unlike its digital equivalent, which can happen anytime, anywhere with only a few keystrokes on a



## DECENTRALIZED WEB HOSTING USING BLOCKCHAIN

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**Abstract:** This paper proposes a decentralized solution for web hosting based on an interplanetary file system (IPFS) and Ethereum blockchain. Particularly, we use Ethereum smart contracts to manage the IPFS network and the web hosting service. IPFS platform is used to store data and to host websites. All storage miner nodes on the IPFS network offer the pinning service to ensure that source codes of the websites and users' data are retained long-term. Moreover, these nodes also enable the interplanetary name space (IPNS) service for creating and updating mutable links to IPFS contents. TXT record is also used in the domain name system (DNS) to map domain names to IPNS addresses for hosted websites. For privacy-preserving data storage, websites need to be deployed an encryption algorithm. The proposed model combines between the IPFS and blockchain networks to form a platform providing the decentralized web hosting service. Experiment illustrates building and hosting a web application on the IPFS network. Experimental results show that, compared to the traditional web hosting model, the hosted web application on the proposed platform ensures confidentiality, integrity, and availability.

### I. INTRODUCTION

Today's web apps provide several advantages to businesses and their customers, that allows users to do things like shop, connect with friends, do banking, do research, check email, engage with content, etc. The client-server model is the basis for almost all current web app implementations. As part of this design, web servers host websites' data and source code, and browsers relay requests from

users to these servers. However, the following are some of the architecture's drawbacks: (i) Data security: anybody with access to the systems may read, change, or delete any information stored on those systems. Data is accessible through IP-based geolocation in terms of availability (ii). Centralised systems prevent users from accessing their data in the event of a failure (such as an attack, a denial of service, a distributed denial of service, or a



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# A Survey on Applications and Performance of Deep Convolution Neural Network Architecture for Image Segmentation

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## I. OVERVIEW

To "depart" an image is to divide it into smaller, more manageable pieces using analytical methods. Partitioning an image into separate regions is a necessary pre-processing step for image analysis leading to object representation, exploration, recognition, dimension, and visualisation; however, care must be taken to eliminate the things or functions of interest that are strongly linked to each region. [1-3] Therefore, segmentation is also known as a technique for grouping pixels that have comparable characteristics. The research demonstrates that a number of different methods may be used for picture division. This picture division facilitates the management of both intermediate and creative photographs. In most cases, the quality of the image segmentation will determine the accuracy of the resulting assessment. Numerous applications need reliable and precise image segmentation tools, including market analysis, optical character identification, objects monitoring, satellite image classification, and the detection, characterization, and size of bone, cells in medical images. [3-5] Once the application's photo department has determined that no more action is necessary, the procedure will end. Several common methods exist for partitioning an image into meaningful parts. Clustering, model fitting, and probabilistic methods, as well as morphological landmarks, are now under investigation. [6-7] Further,

image division can be broadly classified as (a) thresholding-based division, where pie chart thresholding and reducing techniques are applied directly to the image and can also be combined with pre- and post-processing techniques, and (b) shape-based division, where the picture is separated based on the shape of items in the image.

(b) classification based on picture orientation, where edges are used for feature detection;

(e) matching is used to detect a picture that is very similar to another in order to locate the object of interest in a photo [1-5]. (C) area-based division starts with a central point on the item and expands outward to the boundary. Both absence and similarity criteria are used in most image processing methods. The quantum leaps in the strength of the images are used by both the resemblance-based technique and the interruption-based method to divide the image into pieces, which are then combined. [8] In this article, we take a look at convolutional semantic networks (CNNs), also known as deep semantic networks, and how they may be used to segment medical images. In this study, we focused on articles that were published between 2015 and 2017 and discussed the use of deep convolution semantic networks to the problem of picture classification.

The rest of the paper is organised as follows: Section 2



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# A STUDY IN TO THE WEB MINING APPLICATIONS TODAY- RISKS AND MODERN TRENDS

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**Abstract**—The World Wide internet is an interactive and widespread manner to modify the knowledge. a huge quantity of records is available over cyber web. Now-a-days web mining is one amongst the sizable material in statistics mining, that is accustomed extract facts from internet documents. it's for the most part classified into three kinds, significantly, web content mining, internet form mining and web usage mining. it's accustomed produce several web packages, which could be enjoying a necessary operate in our daily lifestyles. This paper is particularly aimed to analysis internet mining categories and its web applications.

**Keywords**—Web mining, Web content mining, Web structure mining, Web usage mining.

## 1. Introduction

Data mining techniques area unit applied to internet data that refers internet data mining or net mining. net mining is one among the very important technique in facts mining. It's accustomed extract helpful records from the web that incorporates a hefty amount of documents. It's been explored with huge degree and distinctive ways, that has been projected for a range of applications like net search, question sort and personalization [1]. The matter components of internet facts consist unstructured data alongside loose texts, semi-structured statistics kind of like markup language documents, and more responsible records - records within the tables or information generated via markup language pages.

Web mining copes with semi established data and unstructured data. It is the toughest obligations for statistics mining and information management students as a result of their unit heterogeneous, less based totally statistics offered

on Infobahn and easily crush with data. primarily internet mining are often divided into the following four step methodology - Resource finding and Retrieving, data different and pre-processing, Patterns and recognition, and Validation and interpretation [2].

Resource locating is used to urge stunning files and offerings at the net. The strategy of aid finding is, to extract the data from the web every from on-line or offline with the assistance of the person. Data different and pre-processing unit a way, that may choose and pre-manner the facts robotically, that's retrieved from the net resources. It are typically classified into five varieties they'll be, facts cleansing, shopper identity, user consultation identity, get right of entry to route supplement and human action identification. Data cleansing is that the methodology to urge obviate the unwanted statistics that's up the scope of the facts inside the net report. User identification identifies the purchasers in my opinion from Infobahn log server. User consultation identity methodology is used to understand the person access statistics from the net server. Access path estimation may well be a because of estimate the client get admission to log documents from the web server. Human action identification may well be a method that depends all at the person session identification technique. Pattern discovery has automatically placed the designs from a computing device to boot to across quite one websites [3].

Its split into 5 kinds in particular, course analysis, association rule, serial sample, category and agglomeration. Path Analysis may well be a graphical reasonably any websites. Association Rule is in the main targeted to hunt out the association among the web pages and visited



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## Speech to Sign Language Translation

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**Abstract:** Communication plays a critical role for people and is regarded as a skill in life. Having this important aspect of life and surroundings in mind, we present our project article, which focuses primarily on supporting patients with pain or silent speech. Our research work leads to improved contact with the deaf and the mute. Each sign language uses sign patterns visually conveyed to express the true meaning. The combination of hand gestures and/or motions of arm and body is called Sign Language and the Dictionary. It is the combination of hands and facial expressions. Our program project is able to understand signals in sign language. These symbols may be used to interact with hearing aids. Our article suggests a program that allows common people to interact effectively with others that are hard to understand. In this case, we are implementing the Indian Sign Language (ISL) method by using a microphone and a camera. Translation of the voice into Indian sign language system by the ISL translation system is possible. The ISL translation framework uses a microphone to get pictures (from ordinary people) or continuous video clips, which the application interprets.

**Keywords:** Indian Sign Language, facial expressions, video clips

### I. INTRODUCTION

It is said that Sign language is the mother language of deaf people. This includes the combination of hand movements, arms or body and facial expressions. There are 135 types of

sign languages all over the world. Some of them are American Sign Language (ASL), Indian

Sign Language (ISL), British Sign Language (BSL) and many more. We are using Sign Language in this project. This

system allows the deaf community to

# ELECTRONIC COMPONENT IDENTIFICATION FROM VOICE

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**Abstract:** This paper describes the architecture of a door phone embedded system with interactive voice response. Because speech technology is not 100% reliable, the emphasis was on parts that have greater impact on overall performance (audio capture, speech recognition and verification, and power consumption). Using an embedded microphone array increases speech recognition effectiveness in very noisy environments. To increase the speech recognition performance, a null grammar with confidence measure support was used. The speaker verification module was also optimized for noisy environments (using the cepstral mean normalization technique and a universal background mode).

**Keywords:** Automatic speech recognition, voice recognition, phone embedded system.

## I. INTRODUCTION

Household electrical appliance control systems allow someone to control the devices in the room of the house. Most of the control systems for household electrical appliances still use conventional switches that require the awareness of the user to turn off or turn on electrical appliances used in households. In this paper, a device is developed to control household appliances through voice commands. Voice signal processing has

been developed for this, where the human voice is processed to be converted to be understood by a respondent so that spoken commands can be responded to by controlled equipment [1]. Voice recognition is a method of processing voice signals. With this method, a system that can control household electrical appliances by voice commands can be developed. Household electrical appliances such as lights, fans, and water pumps are the essential appliances and are most often used by everyday households. With the

## Cartooning Of Image Using Image Processing

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**Abstract:** *Creating a cartoon is time and space consuming process. To cartoonize images and different objects and blend them accordingly as we require. Our aim is to create a cartoon which doesn't look like a filter applied on an image but, is actually a cartoonic view of an input image. In order to get the basic cartoon effect, we just need the bilateral filter and some edge detection mechanism. We can access this cartoon images through an application where you can also save them. This project represents a technique of converting image to cartoon. it is possible to convert all types of captured images to cartoon such as images of person, mountains, trees, flora and fauna etc.*

**Keywords:** *Cartoonizing, image processing, image converting, machine learning, CNN*

### I. INTRODUCTION

Cartoon is a popular art form that has been widely applied in diverse scenes. Cartooning of image is a motion picture that relies on a sequence of illustration for its animation. Modern cartoon animation workflows allow artists to use a variety of sources to create content. Some famous products have been created by turning real-world photography into usable cartoon scene materials, where the process is

called image cartoonization . GAN Network is a novel based approach to photo cartoonization. This method takes a set of photos and a set of cartoon images for training for producing high quality images OpenCV provides a common infrastructure for computer vision applications The work done till date is explained by literature survey. A couple of years back, there had been tremendous growth in the research of GAN (Generative Adversarial Network) . GAN





## Developing a Driver Fatigue Monitoring System Utilizing Visual Behaviour Using Machine Learning

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**Abstract:** Drowsy driving is one of the major causes of road accidents and death. Hence, detection of driver's fatigue and its indication is an active research area. Most of the conventional methods are either vehicle based, or behavioural based or physiological based. Few methods are intrusive and distract the driver, some require expensive sensors and data handling. Therefore, in this study, a low-cost, real-time driver's drowsiness detection system is developed with acceptable accuracy. In this system, a webcam records the video and the driver's face is detected in each frame employing image processing techniques. Facial landmarks on the detected face are pointed and subsequently the eye aspect ratio and nose length ratio are computed and depending on their values, drowsiness is detected based on developed adaptive threshold. Machine learning algorithms have been implemented as well in an offline manner.

**Keywords:** drowsiness detection, visual behaviour, eye aspect ratio, mouth opening ratio, nose length ratio.

### I. INTRODUCTION

Drowsy driving is one of the major causes of deaths occurring in road accidents. The truck drivers who drive for continuous long hours (especially at night), bus drivers of long-distance route or overnight buses are more susceptible to this problem. Driver drowsiness is an overcast nightmare

to passengers in every country. Every year, a large number of injuries and deaths occur due to fatigue related road accidents. Hence, detection of driver's fatigue and its indication is an active area of research due to its immense practical applicability.

The basic drowsiness detection system has three blocks/modules; acquisition



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# SECURE CRYPTO BIOMETRIC SYSTEM FOR CLOUD COMPUTING

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**Abstract:** *Cloud computing has achieved maturity, and there is a heterogeneous group of providers and cloud-based services. However, significant attention remains focused on security concerns. In many cases, security and privacy issues are a significant barrier to user acceptance of cloud computing systems and the advantages these offer with respect to previous systems. Biometric technologies are becoming the key aspect of a wide range of secure identification and personal verification solutions, but in a cloud computing environment they present some problems related to the management of biometric data, due to privacy regulations and the need to trust cloud providers. To overcome those problems in this paper, we propose a crypto-biometric system applied to cloud computing in which no private biometric data are exposed.*

**Keywords:** *crypto-biometric system, cloud computing, Biometric technologies, secure.*

## I. INTRODUCTION

Cloud computing is a trend in application architecture and development, as well as a new business model. The success of many service providers, with Amazon as a remarkable example, has demonstrated that the model can be applied to a wide variety of solutions, covering the different levels defined in the cloud paradigm (SaaS, PaaS and IaaS). We can consider that cloud computing is at a mature stage, although there remain some limitations and challenges. Cloud computing brings important benefits for organizations that

outsource data, applications, and infrastructure, at the cost of delegating data control. The information is processed in computers that the users do not own, operate, or manage. In this scenario, the user does not know how the provider handles the information, and therefore a high level of trust is needed. The lack of control over physical and logical aspects of the system imposes profound changes in security and privacy procedures. Currently there is even a lack of service level agreements between providers and users regarding security. Our research focuses on



## A COMPARATIVE APPROACH TO PREDICT CORONA VIRUS AND EFFECTS CAUSED BY USING MACHINE LEARNING

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### ABSTRACT

The Corona virus is one of the most dreadful diseases affecting the world in the 21st century. The diagnosis of corona virus (2019) is one of the major challenges and predicting that the affected person will experience any form of the disease in the future is very important. In this study, we predict and analyze COVID - 19 with learning algorithms for different machines. Different methods are used in this Epidemic study, whereas the ML-based model was developed to predict COVID-19 risk worldwide, and the algorithms used in these models classify COVID patients according to different categories of features and predictions. disease for the next 10 days. In this model we use a variety of metrics such as confirmed cases, recovered and death ones to predict the limit of cases with a possible outcome. Symptoms of Covid -19 such as Feverish, sore throat, Difficulty in breathing can sometimes last for months and the virus can damage the heart, lungs, brain which may increase the risk of long-term health problems. Overall, this project calls for a simpler and feasible way to quickly identify high-risk patients and provide them with immediate treatment to reduce mortality and to take the necessary medical care to prevent any other diseases caused by this COVID - 19 future. In this project I have used Python programming

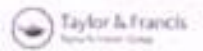


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## Ensemble-based cryptography for soldiers' health monitoring using mobile ad hoc networks

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




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# Ensemble-based cryptography for soldiers' health monitoring using mobile ad hoc networks

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## ABSTRACT

Information technology acts an important role in gathering, transmitting with executing data from areas of disaster-prone such as the battlefield and international borders. In addition to the country's security, the soldier needs protection by defending himself with advanced weapons such as a bomb detector. This paper provides the capability to track the whereabouts and health of soldiers who have been lost or injured on the battlefield. It assists in reducing the time, searching and rescuing operation efforts of the military control room. This paper implements a system for health-condition monitoring that sends soldiers' health parameters, such as the electrocardiogram (ECG), blood oxygen level, pulse rate, and temperature, to the control room via a Mobile Ad hoc Network (MANET). Body parameters are sensed utilizing various body sensors fixed to the bodies of soldiers. The body parameters are broadcasted to the control room via MANET devices at the path. To preserve the health parameters data of soldiers from enemies while data transmission, this paper also proposes a cryptographic ensemble approach. This approach combines Symmetric Key Encryption, and Identity Based Encryption (IBE) with Identity Based Signature (IBS). The experimental result shows proposed cryptographic ensemble provides high security compared with existing MANET security algorithms.

## ARTICLE HISTORY

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## KEYWORDS

Cryptography; data transmission; health monitoring; MANET; routing



## 1. Introduction

Soldiers should be monitored by sophisticated health-care, actual-time Global Positioning System with information exchanges to transmit and obtain data from/to the control room [1]. For that soldiers may require MANET not merely to the contact control room alongside army staff. Despite the country's protection, soldiers should require security by defending them with sophisticated weapons. In addition, the military control room needs to supervise the health condition of the soldier. Bio-medical sensors with monitoring devices are incorporated by the soldiers. The included elements should be lightweight with the presently preferred outcome with no need for more energy. One of the primary challenges at armed functions lies that the soldiers cannot contact the control room.

Additionally, the correct routing among soldiers acts as a significant task for cautious preparation with synchronization. Thus, this paper focuses on tracking the place of the soldier which is helpful for the control room to identify his precise position and direct him. The

control room tracks the position of the soldier using GPS. The control room needs to lead the soldier on the right pathway if he is missing in the war field. This paper would be helpful for soldiers who engage in special missions or assignments. Intelligent Bio-medical sensors incorporating bomb detectors, vibration sensors, humidity and temperature sensors, ECG modules, Heartbeat sensors and so on are affixed to the jacket of soldiers [2]. The soldier fixes these for full mobility. This scheme would offer a link to the control room utilising MANET. The information gathered in the control room could be used for further investigation. It might assist the control room to recognize the circumstances in the war field [3–5].

MANET networks are huge with difficulty, mainly in battery life and energy competence [6,7]. The existing routing protocols for MANET are hard and also need enormous memory with processing power that are inadequate assets for the devices, including a MANET network [8,9]. Thus, there is a requirement for a simpler routing algorithm that is capable of efficaciously







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# Simulation based Predictive analysis of Indian Airport transportation system using Computational intelligence techniques

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## ABSTRACT


Normally, flight delays and cancellations have significant impact on airlines operations and passenger's satisfaction. Flight delays reduce the performance of airline operations and make significant effect on airports on time performance. Previously statistical models have been used for flight delays analysis. This study was applied in Indian aviation industry and it has given statistical analysis of domestic airlines. In this research paper, we have applied Machine Learning models with the help of computational intelligence techniques for predicting airport transport management system. We have also applied computational intelligence techniques such as Particle Swarm Optimization (PSO) and Ant Colonization Optimization (ACO) to optimize the prediction model for delay period time and calculating the most optimal dependability. We have made comprehensive analysis of Data Efficiency Model for different airlines with various approaches as well as comparative analysis of accuracy for predicting airport model by using various machine learning models. In this study we have presented invaluable insights for the analysis of flight delay models.

**Keywords:** Particle Swarm Optimization; Ant Colonization Optimization; Delay Period; Airport delay; Air transport.

## INTRODUCTION

India is on the verge of overtaking the UK and becoming the third largest aviation market in 2024, with growing traffic. In 2018, air passenger traffic amounted to 341.05 million. Travel and tourist contributions are expected to produce the Indian GDP (gross domestic product) by increasing US\$247.3 billion in 2018. The expenditures in business travel climbed in 2018 from \$201,71bn in 2017 to \$234,44bn in 2018 and from \$11,61bn in 2017 to \$12,86bn in 2018. Pilots, flight attendants and aircrafts can also have extraordinary schedules to preserve plans for maintaining airplanes. Hence, any disruption in the device can have an impact on the subsequent flights of the identical airline (Rebollo and Balakrishnan 2014). Flight extends prediction difficulty can be handled by taking distinct factors of view: (i) lengthen propagation, (ii) root extend and cancellation. Reynolds-Feighan and Button (1999)

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## EMOTION BASED MUSIC PLAYER

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**Abstract:** Human expression plays a vital role in determining the current state and mood of an individual, it helps in extracting and understanding the emotion that an individual has based on various features of the face such as eyes, cheeks, forehead or even through the curve of the smile. Music is basically an art form that soothes and calms the human brain and body. Taking these two aspects and blending them together our project deals with detecting emotion of an individual through facial expression and playing music according to the mood detected that will alleviate the mood or simply calm the individual and can also get quicker song according to the mood, saving time from looking up different songs and parallel developing a software that can be used anywhere with the help of providing the functionality of playing music according to the emotion detected. By developing a recommendation system, it could assist a user to make a decision regarding which music one should listen to, helping the user to reduce his/her stress levels. The user would not have to waste any time in searching or to look up for songs and the best track matching the user's mood is detected, and songs would be shown to the user according to his/her mood. The image of the user is captured with the help of a webcam. The user's picture is taken and then as per the mood/emotion of the user an appropriate song from the playlist of the user is shown matching the user's requirement.

**Keywords:** Emotions, Songs, Testing, Detection, Playlist

### I. INTRODUCTION

## SENTIMENT ANALYSIS USING TELUGU SENTIWORDNET

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**Abstract-** In recent times, sentiment analysis in low resourced languages and regional languages has become emerging areas in natural language processing. Researchers have shown greater interest towards analyzing sentiment in Indian languages such as Hindi, Telugu, Tamil, Bengali, Malayalam, etc. In best of our knowledge, microscopic work has been reported till date towards Indian languages due to lack of annotated data set. In this project, we proposed a two-phase sentiment analysis for Telugu news sentences using Telugu SentiWordNet. Initially, it identifies subjectivity classification where sentences are classified as subjective or objective. Objective sentences are treated as neutral sentiment as they don't carry any sentiment value. Next, Sentiment Classification has been done where the subjective sentences are further classified into positive and negative sentences. With the existing Telugu SentiWordNet, our proposed system attains an accuracy of 74% and 81% for subjectivity and sentiment classification respectively.

**KEYWORDS:** SentiWordNet, Natural Language Processing, Sentiments, Emotions.



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## EARLY PEST DETECTION FROM CROP USING IMAGE PROCESSING AND COMPUTATIONAL INTELLIGENCE

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**Abstract:** Tomatoes are one of the most popular vegetables and second –largest tomato grower in the world is India. However, many diseases affect the quality and quantity of tomato crops. Technological innovations have great potential in facilitating disease detection and control. More specifically, artificial intelligence algorithms in the form of deep learning methods have established themselves in many real life applications in a wide range of disciplines (e.g., medicine, agriculture, or facial recognition, etc.). Deep learning is a cutting-edge image processing method that is still relatively new but produces reliable results. Leaf disease detection and categorization employ a variety of deep learning approaches. A Convolutional-Neural-Network based technique is used for disease detection and classification. In this model, two convolutional and two pooling layers are used. The results of the experiments show that the proposed model outperformed pretrained Inception V3, ResNet 152, and VGG19.

**Keywords:** Deep learning, VGG19, image processing, pest detection from crop

### I. INTRODUCTION

Agriculture is one of humanity's most critical activities, of which plant disease control is a cornerstone. It is necessary to pay attention to the quality and wellbeing of the agricultural harvest. This will help maintain food production levels in the face of natural diseases and aid countries in coping with political and environmental challenges. Tomatoes are among the vital crops and staple food products around the world because of their rich nutritional

content and their role in many recipes. The food and agriculture organization (FAO) ranks tomatoes as the sixth most abundant vegetable around the world. In 2017, nearly 170.8 million tons of tomatoes were produced worldwide. However, the tomato plant is susceptible to many diseases caused by bacteria, viruses, or fungi that have a direct adverse effect on productivity. To detect plant diseases, farmers refer to plant pathologists. Alternatively, they can rely on their own



## Detection of fake online reviews using semi supervised and supervised learning

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**Abstract:** Online reviews have a great impact on business and commerce today. The decision to buy products online is generally based on the reviews given by the users. Therefore, opportunistic individuals or companies attempt to manipulate product reviews for their own interests. This paper presents some models of supervised and supervised text mining models to find fake online reviews and compares the performance of both methods on datasets containing hotel reviews.

**Keywords:** Supervised, online user reviews, products, detection of fake user identification.

### I. INTRODUCTION

Technologies are developing rapidly. Old technologies are constantly being replaced by new and developing ones. These new technologies allow humans to do their jobs efficiently. Such a technological development is the online market. We may purchase and reserve the use of the Websites online. Almost everyone tries to do reviews before buying some products or services. Therefore, online reviews have become a huge source of group popularity.

In addition, they have a significant impact on the marketing and promotion of services and products. As the online market has expanded, so have fake reviews online. It is surprisingly dependent on the problem. People can run fake reviews promoting their own personal products that harm real customers. In addition, aggressive groups may attempt to harm the recognition of others by providing false negative evaluations.

## DROWSY DRIVER DETECTION USING TRANSFER LEARNING

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**Abstract:** Drowsy driving is a major contributing factor to motor vehicle accidents, resulting in thousands of deaths and injuries each year. To address this issue, researchers have developed various approaches for detecting drowsy drivers, including the use of transfer learning and computer vision techniques such as OpenCV and Haar cascades. Transfer learning involves transferring knowledge from one domain or task to another, and has proven effective in a variety of applications, including drowsy driver detection. By leveraging pre-trained models or adapting existing models to new tasks, transfer learning can reduce the amount of data and resources required for training, while still achieving good performance. OpenCV (Open-Source Computer Vision) is a popular open-source library for computer vision tasks, including drowsy driver detection. It provides a wide range of algorithms and functions for image and video processing, including feature extraction, object detection, and face recognition. Haar cascades are a type of machine learning algorithm used for object detection in images and videos. They work by training a classifier to identify features in images that are indicative of a particular object, such as eyes or mouth, and then using these features to detect the object in new images. Haar cascades are commonly used in drowsy driver detection to identify features such as closed or partially closed eyes. Combining transfer learning with OpenCV and Haar cascades has proven effective for drowsy driver detection in various settings.

**Keywords:** Drowsy driving, OpenCV, Haar cascades, transfer learning, Deep learning.

### I. INTRODUCTION

## DEEPPFAKE DETECTION

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**Abstract:** *The growing computation power has made the deep learning algorithms so powerful that creating a indistinguishable human synthesized video popularly called as deep fakes have become very simple. Scenarios where this realistic face swapped deep fakes are used to create political distress, fake terrorism events, revenge porn, blackmail peoples are easily envisioned. In this work, we describe a new deep learning-based method that can effectively distinguish AI-generated fake videos from real videos. Our method is capable of automatically detecting the replacement and re-enactment deep fakes. We are trying to use Artificial Intelligence(AI) to fight Artificial Intelligence (AI). Our system uses a Res-Next Convolution neural network to extract the frame-level features and these features and further used to train the Long Short Term Memory(LSTM) based Recurrent Neural Network(RNN) to classify whether the video is subject to any kind of manipulation or not, i.e., whether the video is deep fake or real video. To emulate the real time scenarios and make the model perform better on real time data, we evaluate our method on large amount of balanced and mixed data-set prepared by mixing the various available data-set like Face-Forensic++ [1], Deepfake detection challenge, and Celeb-DF. We also show how our system can achieve competitive result using very simple and robust approach.*

**Keywords:** *Res-Next Convolution neural network, Recurrent Neural Network (RNN), Long Short-Term Memory (LSTM), Computer vision.*

### I. INTRODUCTION

In the world of ever-growing social media platforms, Deepfakes are considered as the major threat of the present. There are many



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## CRIME RATE PREDICTION & ANALYSIS USING K-MEANS CLUSTERING ALGORITHM

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**Abstract:** Crimes have a negative effect on any society both socially and economically. Law enforcement bodies face numerous challenges while trying to prevent crimes. We propose a Crime Data Analytic Platform (CDAP) to assist law enforcement bodies to perform descriptive, predictive, and prescriptive analysis on crime data. CDAP has a modular architecture where each component is built separately from each other. CDAP also supports plugins enabling future feature expansions. The platform can ingest any crime dataset which has the required attributes to map dataset to attributes required by the platform. It can then analyze them, train models, and then visualize data. We demonstrate the utility of the platform by visualizing spatial and temporal relationships in a set of real-world crime datasets. Predictive capabilities of the platform are demonstrated by predicting crime categories, for which a machine learning approach is used. To construct a model Naive Bayesian, Random Forest Classifier, and Multi-layer Perceptron Network classification algorithms are provided. Identification of optimized police district boundaries and allocating patrol beats are used to demonstrate the prescriptive analytics capabilities of the tool. Heuristic-based clustering approach was taken to define police district boundaries in a way that the identified districts have equitable population distribution with compact shape. The resulting districts are then evaluated on inequality of population and the compactness using Gini Coefficient and Isoperimetric Quotient. Another heuristic-based approach was taken to define new police patrol beats to be optimized on equitable workload distribution, compactness, and minimizing response time for new police patrol beats.



## TKR COMMUNITY

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**Abstract:** This is an application where people who are recognized as a part of TKR institute can access to the application. This is an instant messaging and social network platform, which allows users to register and connect to one another for easy communication within campus. WhatsApp social network enables sharing of different-type data and resource, ensuring effective communication and interaction, and even the creating joint activities within created groups. With this high level of communication and interaction environment, it is seen that higher education institutions have started to adopt mobile technologies to meet the needs and expectations of students. But it had a bad impact on students like: Students, who are dependent on instant messaging, may be unsuccessful in academic processes. Negative results such as inability to concentrate, reduced learning skills and productivity may occur in students, who are deprived of sleep due to active WhatsApp use. Receiving too many messages over WhatsApp may negatively affect learning. Active topic may be easily left out of account, because of unnecessary comments in WhatsApp environment. So, an educational institute must not encourage students to use such platforms.

**Keywords:** WhatsApp social network, Negative results, communication and interaction environment.

## I. INTRODUCTION

The use of social media is increased with the increase in population. In recent years, Chat applications have improved and made

substantial improvements to the social media due to its distinctive characteristics, which attract audiences. It offers real-time messages and provides various services like text, image, data, etc. In addition,



## OPTICAL CHARACTER RECOGNITION SYSTEM

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**Abstract-** This project speaks about the objective of developing a system that can help disabled people in their day-to-day activities. Many challenges were faced by visually impaired people. In most instances, they require constant support in all situations, especially in their daily activities. Some of the major challenges include difficulty in moving from one place to another without the assistance of others. In addition to that, they face difficulty in recognizing people, detecting obstacles, etc. To overcome this condition, we put forward "optical character recognition". This system guides the visually impaired person. A camera will capture the live footages. Optical Character Recognition (OCR) is used to extract the text from the images. The data read is converted to speech using text to the speech synthesizer. The system is implemented using various available technologies that helps visually impaired. The paper discusses the design of system and the challenges involved in designing the device. .

**KEYWORDS:** Optical Character Recognition (OCR), GTTS, Camera, Visually Impaired, Human Emotion, Pyttsx3.



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## IMAGE BASED QUESTION AND ANSWERING SYSTEM

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**ABSTRACT:** Image based question answering is a useful way of finding information about physical objects. Current question answering (QA) systems are text-based and can be difficult to use when a question involves an object with distinct visual features. An image QA system allows direct use of a image to refer to the object. We develop a three-layer system architecture for image QA that brings together recent technical achievements in question answering and image matching.

**Keywords:** Image based question answering system.

### I. INTRODUCTION

vision-to-Language problems present a particular challenge in Computer Vision because they require translation between two different forms of information. In this sense the problem is similar to that of machine translation between languages. In machine language translation there have been a series of results showing that good performance can be achieved without developing a higher-level model of the state of the world. In [1], for instance, a source sentence is transformed into a fixed-length

vector representation by an 'encoder' RNN, which in turn is used as the initial hidden state of a 'decoder' RNN that generates the target sentence. Despite the supposed equivalence between an image and a thousand words, the manner in which information is represented in each data form could hardly be more different. Human language is designed specifically so as to communicate information between humans, whereas even the most carefully composed image is the culmination of a complex set of physical processes over which humans have





## AI BASED PERSONALITY ASSISTANT SYSTEM

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**Abstract:** Exercise is a flow of body movement pack in an organized exercise to force the body muscles to contract under tension by using weights such as barbells, dumbbells in order to trigger growth, strength, power. Performing wrong posture is a very common issue for every beginner or even professional. Computer Vision is a field of computer science that seeks to develop techniques in enabling computers to see, identify, understand and process the content of digital images. Object detection and object recognition, which are two of the famous CV technologies, have been applied in this project. KNN classifier has been trained from calculating angles between joint keypoints of the user to recognise the workout type. The systems with the function of detect and recognize the workout type from the input video had been tested with multiple workout type under different environments and achieved around 98% accuracy.

**Keywords:** ASR, Internet of things, Virtual Assistant, smart things, Artificial Intelligence.

### I. INTRODUCTION

In our work, we introduce Fitecercise, an application that detects the user's exercise pose counts the specified exercise repetitions and provides personalized, detailed analysis about improving the user's body posture. This is an AI-based Workout Assistant and Fitness guide to

guide people who don't have access to the gym but are still willing to work out at home to maintain their physique and fitness and keep their body in good shape. To help them perform the exercises correctly and prevent them from chronic and immediate injuries. This also provides a personalised health guide and diet plan along with a personalised daily workout

## A SHORT-RANGE RADAR SYSTEM - USING ARDUINO

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**Abstract:** Radio Detection and Ranging (RADAR) is a machine used to monitor a specific area 24 hours a day, seven days a week. Their primary desire is protection. RADAR is an object detection tool. It can attack aircraft, spacecraft, missiles, vehicles, weather formations, etc. Radar is an addition to the human sensory system that provides new centres. It includes a Trans-receiver and processor. RADAR can be of many types. Ultrasonic RADAR is an element detection device that shows the rapid range area. This system consists of an Arduino connected to an ultrasonic sensor mounted on a servo motor. The proposed system, "ultrasonic radar for the object detection distance and the speed measurement", employs an ultrasonic module that includes an ultrasonic transmitter and receiver. It operates by transmitting a 40 kHz frequency pulse which is not audible to the human ear.

**Keywords:** Radar, object detection, Arduino, ultrasonic RADAR, Servo Motor.

### I. INTRODUCTION

A radar is an object-detection device that uses radio waves to determine objects' type, direction, or pace. It can trip aircraft, ships, spacecraft, guided missiles, engines, and weather and terrain formations. This assignment provides sufficient knowledge of Arduino and MATLAB Simulink for Arduino and mechanics. Machines are small yet efficient vehicles used in many products ranging from helicopters to

robots. In this challenge, we use an ultrasonic sensor to operate with the help of emitting a wave of sound waves in swift succession. These sound waves hit the intended target, reach the sensor, and travel at the required speed. Ultrasonic sensors, the radar is far below the temperature, which improves consistency and accuracy. Radar was developed secretly for military use by several

countries in the lead-up to World War II.

## HUMAN-COMPUTER INTERACTION BASED EYE CONTROLLED MOUSE

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**Abstract:** *With advanced technologies in this digital era, there is always scope for development in the field of computing. Hands-free computing is in demand today it addresses the needs of quadriplegics. This paper presents a Human-computer interaction (HCI) system that is of great importance to amputees and those who have issues with using their hands. The system built is an eye-based interface that acts as a computer mouse to translate eye movements such as blinking, gazing, and squinting towards the mouse cursor actions. Moving the pointer along with the screen using a computer mouse or by moving one's finger has become fairly common in today's technology. Every movement of the mouse or finger is detected and mapped to the movement of the pointer by the system. Because their arms are not functioning, certain people, known as "amputees," will be unable to use the present technology to use the mouse. If the amputee's eyeball and facial features, as well as the direction in which their eye is staring, can be recorded, the movement of the facial features may be transferred to the cursor, allowing the amputee to move the cursor at whim. An 'eye-tracking mouse' is a gadget that tracks the user's eye movements. The project relies on mapping facial traits to the cursor to recognize and capture them in the video. When the camera is opened, the application must extract all of the video's frames. Since the video's frame rate is typically around 30 frames per second, every frame will be processed in about 1/30th of a second.*

**Keywords:** *Human-computer interaction, Eye-tracking mouse, OpenCV.*

### I. INTRODUCTION



## IMAGE BASED CURRENCY RECOGNITION SYSTEM

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**Abstract :** *In this report, we propose a system for automated currency recognition using image processing techniques. The proposed method can be used for recognizing the country or origin as well as the denomination or value of a given banknote. Only paper currencies have been considered. This method works by first identifying the country of origin using certain predefined areas of interest, and then extracting the denomination value using characteristics such as size, color, or text on the note, depending on how much the notes within the same country differ. The following project mainly focuses on the recognition of currency by its image or photograph. It will help users to recognize details about currency like Currency Value, Currency Name, the value in INR, EURO and US Dollar. We have considered INDIAN Rupee and US Dollar, the most used currencies in our domain with their denominations. This system works accurately and also able to quickly identify the currency notes.*

**Keywords:** *currency recognition system, machine learning, image based retrieval.*

### I. INTRODUCTION

According to the UN charter there are around 195 countries around the globe. In which 193 countries are members of the UN and two are observing states. According to The U.N., worldwide there are 180 currencies. All these currencies are different in characteristics such as size, color and

texture. In the era of rapidly growing levels of trade between countries and also tourism all over the world, it becomes necessary to recognize each currency note correctly. Now a days people travel to different countries, they use their native country currency in paying bills or buying stuffs and because most of the local people are not familiar with the currency other than their own

## A SHORT-RANGE RADAR SYSTEM - USING ARDUINO

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**Abstract:** Radio Detection and Ranging (RADAR) is a machine used to monitor a specific area 24 hours a day, seven days a week. Their primary desire is protection. RADAR is an object detection tool. It can attack aircraft, spacecraft, missiles, vehicles, weather formations, etc. Radar is an addition to the human sensory system that provides new centres. It includes a Trans-receiver and processor. RADAR can be of many types. Ultrasonic RADAR is an element detection device that shows the rapid range area. This system consists of an Arduino connected to an ultrasonic sensor mounted on a servo motor. The proposed system, "ultrasonic radar for the object detection distance and the speed measurement", employs an ultrasonic module that includes an ultrasonic transmitter and receiver. It operates by transmitting a 40 kHz frequency pulse which is not audible to the human ear.

**Keywords:** Radar, object detection, Arduino, ultrasonic RADAR, Servo Motor.

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A radar is an object-detection device that uses radio waves to determine objects' type, direction, or pace. It can trip aircraft, ships, spacecraft, guided missiles, engines, and weather and terrain formations. This assignment provides sufficient knowledge of Arduino and MATLAB Simulink for Arduino and mechanics. Machines are small yet efficient vehicles used in many products ranging from helicopters to

robots. In this challenge, we use an ultrasonic sensor to operate with the help of emitting a wave of sound waves in swift succession. These sound waves hit the intended target, reach the sensor, and travel at the required speed. Ultrasonic sensors, the radar is far below the temperature, which improves consistency and accuracy. Radar was developed secretly for military use by several countries in the lead-up to World War II



## CLASSIFICATION OF MELANOMA SKIN CANCER USING DEEP LEARNING

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**Abstract-** One of the major health concerns for human society is skin cancer. When the pigments producing skin color turn carcinogenic, this disease gets contracted. A skin cancer diagnosis is a challenging process for dermatologists as many skin cancer pigments may appear similar in appearance. Hence, early detection of lesions (which form the base of skin cancer) is definitely critical and useful to completely cure the patients suffering from skin cancer. Significant progress has been made in developing automated tools for the diagnosis of skin cancer to assist dermatologists. The worldwide acceptance of artificial intelligence-supported tools has permitted usage of the enormous collection of images of lesions and benevolent sores approved by histopathology. This paper performs a comparative analysis of six different transfer learning nets for multi-class skin cancer classification by taking the HAM10000 dataset. We used replication of images of classes with low frequencies to counter the imbalance in the dataset. The transfer learning nets that were used in the analysis were VGG19, InceptionV3, InceptionResNetV2, ResNet50, Exception, and Mobile Net. Results demonstrate that replication is suitable for this task, achieving high classification accuracies and F-measures with lower false negatives. It is inferred that Exception Net outperforms the



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## Biometric-Based Secure Access Mechanism Efficient for Cloud Services

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### Abstract

The demand for remote data storehouse and calculation services is adding exponentially in our data-driven society; therefore, the need for secure access to similar data and services. In this paper, we design a new biometric-grounded authentication protocol to give secure access to a remote (pall) garçon. In the proposed approach, we consider biometric data of a stoner as a secret credential. We also decide a unique identity from the stoner's biometric data, which is further used to induce the stoner's private key. In addition, we propose an effective approach to induce a session key between two communicating parties using two biometric templates for a secure communication transmission. In other words, there's no need to store the stoner's private crucial anywhere and the session key is generated without participating any previous information. A detailed Real-Or-Random (ROR) model grounded formal security analysis, informal (non-mathematical) security analysis and also formal security verification using the astronomically-accepted Automated confirmation of Internet Security Protocols and Applications (AVISPA) tool reveal that the proposed approach can repel several given attacks against (unresistant/ active) adversary. Eventually, expansive trials and a relative study demonstrate the effectiveness and mileage of the proposed approach.

**Index Terms**—Authentication, biometric-based security, cloud service access, session key.

### 1. Introduction

Cloud administrations are a standard in our general public. Nonetheless, giving secure admittance to cloud administrations is certainly not a paltry undertaking, and planning strong confirmation, approval and representing access is a continuous test, both functionally and research-wise. Various verification systems have been proposed in the writing, for example, those in light of Kerberos [1], OAuth [2] and OpenID [3] (see [1], [4]-[12]). By and large, these conventions try to lay out a protected designated admittance component among two conveying substances associated in a circulated framework. These conventions depend on the basic suspicion that the distant server liable for verification is a confided in substance in the organization. In particular, a client first registers with a far off server. This is expected to guarantee the approval of the proprietor. At the point when a client wishes to get to a server, the far off server verifies the client and the client likewise validates the server. When the two checks are effectively completed, the client gets admittance to

the administrations from some distant server. One vital impediment in existing verification systems is that the client's accreditations are put away in the confirmation server, which can be taken and (mis)used to acquire unapproved admittance to different administrations. Likewise, to guarantee secure and quick correspondence, existing systems for the most part utilize symmetric key cryptography, which requires various cryptographic keys to be shared during the verification interaction. This technique brings about an above to the verification conventions. Planning secure and productive validation conventions is trying, as proven by the shortcomings uncovered in the distributed conventions of Jiang et al. [13], Althobaiti et al. [14], Xue et al. [15], Turkanovic et al. [16], Park et al. [17], Dhillon and Kalra [18], Kaul and Awasthi [19] and Kang et al. [20] - see likewise Segment II. Hence, in this paper we try to plan a safe and productive validation convention. In particular, we will initially give an option in contrast to regular secret phrase based validation component. Then, we show the way that one can construct a protected



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## IOT BASED SMART SECURITY AND SMART HOME AUTOMATION

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### ABSTRACT:

The main goals of this work are to manage home appliances and create a smart wireless home security system that leverages Wi-Fi for communication. Home automation is the focus of the project, which focuses on controlling lights and fans. We have created a low-cost Web of Points-based system that enables the early detection of house fires and gas leaks. By calculating temperature and gas concentration, we are recreating a situation in which we notice a rising risk of house fire in a kitchen atmosphere. In this job, we suggest a smart security entire lot system that combines a NodeMCU microcontroller with a variety of sensors, such as a DHT11, flame sensor, and gas detecting unit. The idea behind the Internet of Things (IoT) is the remote connection and monitoring of physical objects (things) via the Internet. This concept can be effectively applied to our home to make it smarter, safer, and more automated. This Internet of Things project focuses on creating a smart wireless home security system that alerts the owner over the web in the event of a break-in and activates an alarm system as well. Additionally, the same may be used for home automation by utilising the same set of sensors.

**Key words:** Node MCU microcontroller, DHT11, flame sensor, and gas sensor.

## 1 INTRODUCTION

### 1.1 MOTIVATION

Wireless The two components of this work are home automation and also home security. The system's present design alerts the owner via voice calls made over the Internet if any type of human activity is detected close to his front door and may also sound an alarm at the customer's option. The system also has a provision for delivering direct communications to concerned security personnel in case of a critical scenario. Instead of activating the security alarm system, the user/owner can plan to open the door and turn on numerous inside appliances that are also connected to and controlled by the microcontroller in the system to welcome his visitor if, on the other hand, the owner realises that the person entering his home is not a burglar but rather an unplanned visitor. The same can be done when the user enters the area personally, and thanks to the system, he can also make setups from his doorstep so that once he enters his home, he can make himself completely at ease without having to manually turn on the electricity or, for example, his favourite TV channel. Therefore, the dual issues of home security and dwelling automation may be addressed on a complimentary basis by using the same collection of sensors. The user may check the alerts and status of the IoT system from any location, even if Web connectivity is not readily available (considering that just having access to Wi-Fi is necessary; having a mobile phone linked to the internet is not required). The current infrared (IR) or Bluetooth remote controllers available on the market are still generally device-specific and cannot be used back-to-back. It is impossible to control Bluetooth-enabled mobile phones that are connected to electric appliances from a distance. Thus, using such devices would make it impossible to do tasks like turning on an air conditioner while coming home. On the other hand, our approach provides a simple, low-cost alternative to wired home automation and security systems. This work attempts to address the issue that existing home security and surveillance systems have with providing information about the situation to users who are not at home.

written works Survey





## SENTIMENTAL ANALYSIS OF BOOK REVIEWS USING UNSUPERVISED SEMANTIC ORIENTATION AND SUPERVISED MACHINE LEARNING

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### ABSTRACT:

Sentimental analysis aims at identifying the opinions of various users. This paper presents my research work on the application of sentimental analysis on book reviews. I have applied both unsupervised (Semantic Orientation - Pointwise Mutual Information - Information Retrieval) and supervised (Support Vector Machine and Naïve Bayes) machine learning approaches on two openly available book review datasets from GoodReads and Amazon. The comparative analysis of the approaches on the datasets indicates that unsupervised approach performs better on GoodReads dataset with an accuracy of 73.23% whereas supervised approach gives better results on Amazon dataset with Naïve Bayes giving the maximum accuracy which ranges from 73.72% to 74.73% in the case of 5-folds and 10-folds respectively.

### INTRODUCTION:

The advent of internet and technology has facilitated the users with a higher access to web applications through smart devices and mobile phones thus improving product rating system immensely. Now, a customer can become an active user by giving reviews about different products/services which may be useful to other potential customers. But, there are hundreds, thousands or even more product/service related reviews available on the web and reading all those available reviews is a very tedious and taxing task for the customer. Therefore, there is a need gap for apt techniques which automatically summarize these reviews into a positive or a negative category to give useful information to the user. This task of classification of reviews by identifying the opinions of various users is formally known as Opinion Mining or Sentimental Analysis. Sentimental analysis may be defined as the classification of a text or document into a positive or a negative class by judging the connotation contained in the text. A positive opinion expressing text is assigned a positive label whereas a negative label denotes a negative

opinion. Any objective opinion would be assigned a neutral label. It is observed that significant work has been done in the domain of product reviews, movie reviews, restaurant reviews, blog posts etc. to identify their sentiments but comparatively very less work has been done in the domain of book reviews. Hence, this paper targets sentimental analysis in book domain. Researchers have explored various sentimental analysis techniques such as:-

i) Supervised approaches like Support Vector Machine (SVM), Naïve Bayes (NB), Random Forest (RF), Maximum Entropy (ME) etc. and

ii) Unsupervised approaches like Semantic Orientation - Pointwise Mutual Information - Information Retrieval (SO-PMI-IR), SentiWordNet (SWN) etc. Among the above-mentioned techniques, I have chosen SOPMI-IR technique which computes the polarity of reviews by extracting the opinionated words from the reviews using Part-of-Speech (POS) tagging, evaluating their Semantic Orientations (SO) and then aggregating these SO scores to decide the overall class of the review. I have taken two datasets from GoodReads and Amazon



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# RECOMMENDER SYSTEM WITH ARTIFICIAL INTELLIGENCE FOR FITNESS ASSISTANCE SYSTEM

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## ABSTRACT:

This paper proposes a recommender system (RS) to support the fitness assistance system (FAS) with artificial intelligence. The RS is applied to make these suggestions for the beginners and existing users. The goal of the paper aims to develop an RS that has an ability to learn, analyze, predict, and make these suggestions as well as communicate to human through AI. Artificial Neural Network and Logistic Regression have been employed to predict the suitable workout for each beginner. In addition, the agent developed with reinforcement learning capability of Soar architecture help the members select their workout based on their condition. Through the experimental result, the effectiveness of utility application is validated.

## INTRODUCTION:

The RS is known as a part of information filtering system which helps the users seek the prediction of rating or preference that users would give to an item or service recommendations . Currently, the RS has been upgraded with the several machine learning algorithms to provide users with the suggestion for their purposes in or build the framework for RS as shown in . In the fitness field, recent studies have focused on developing the RS to user with a wearable device and recording data in real-time. A fitness assistant framework is developed to smartly track and identify user's activity based on contextual interpretation in . Moreover, RS has been approached for a runner, which is described in . The purpose of this study is to design the RS that will suggest personalized workout to the users and predict the plan for doing exercise in future. In the proposed RS, we use machine learning algorithms on activity data to build a predictive module in the basic training layer (BTL) that classify the user's

activity in their workout. In addition, we also build the trainer agent (TA) with Soar architecture and machine learning algorithm to reflect the prediction of BTL for suggesting the several workouts to help users select the suitable workout fitting well with their exercise plan.

## 1.1 INPUT AND OUTPUT DESIGN

### 1.1.1 INPUT DESIGN

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so

## Flight Ticket Price Prediction Using Machine Learning

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**Abstract:** *In this project we majorly targeted to uncover underlying trends of flight prices in India using historical data and also to suggest the best time to buy a flight ticket. The project implements the validations or contradictions towards myths regarding the airline industry, a comparison study among various models in predicting the optimal time to buy the flight ticket and the amount that can be saved if done so. Remarkably, the trends of the prices are highly sensitive to the route, month of departure, day of departure, time of departure, whether the day of departure is a holiday and airline carrier. Highly competitive routes like most business routes (tier 1 to tier 1 cities like Mumbai-Delhi) had a non-decreasing trend where prices increased as days to departure decreased, however other routes (tier 1 to tier 2 cities like Delhi - Guwahati) had a specific time frame where the prices are minimum. Moreover, the data also uncovered two basic categories of airline carriers operating in India – the economical group and the luxurious group, and in most cases, the minimum priced flight was a member of the economical group. The data also validated the fact that, there are certain time-periods of the day where the prices are expected to be maximum. The scope of the project can be extensively extended across the various routes to make significant savings on the purchase of flight prices across the Indian Domestic Airline market.*

**Keywords:** *Feature selection, Airfare price, Machine learning, Pricing Models, Prediction Model, Random Forest.*

### I. INTRODUCTION

The flight ticket buying system is to purchase a ticket many days prior to flight take-off so as to stay away from the effect

## An Automatic Digital Audio Authentication/Forensic System

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**Abstract:** *With the continuous rise in ingenious forgery, a wide range of digital audio authentication applications are emerging as a preventive and detective control in real-world circumstances such as forged evidence, breach of copyright protection and unauthorized data access. To investigate and verify, this paper presents a novel automatic authentication system that differentiates between the forged and original audio. The design philosophy of the proposed system is primarily based on three psychoacoustic principles of hearing, which are implemented to simulate the human sound perception system. Moreover, the proposed system is able to classify between the audio of different environments recorded with the same microphone. To authenticate the audio and environment classification, the computed features based on the psychoacoustic principles of hearing are dangled to the Gaussian mixture model to make automatic decisions. It is worth mentioning that the proposed system authenticates an unknown speaker irrespective of the audio content i.e., independent of narrator and text. To evaluate the performance of the proposed system, audios in multi-environments are forged in such a way that a human cannot recognize them. Subjective evaluation by three human evaluators is performed to verify the quality of the generated forged audio. The proposed system provides a classification accuracy of  $99.2\% \pm 2.6$ . Furthermore, the obtained accuracy for the other scenarios, such as text dependent and text-independent audio authentication, is 100% by using the proposed system.*

**Keywords:** *Digital audio authentication, Audio forensics, Forgery, machine learning algorithm, human psychoacoustic principles.*



## WATER PUMP CONTROL AND MONITORING THE MOISTURE USING IOT

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Indian agriculture is still reliant on technologically advanced practises from hundreds of years ago and does not consider resource conservation. The recent situation of declining groundwater levels, depleting rivers and also storage facilities, and unpredictable environment provide an urgent need for proper water usage. With our invention, we can close the gap between water use and water waste. The technology used in some developed nations is too expensive and complex for the average farmer to grasp. Our goal is to provide technology that is inexpensive, dependable, cost-effective, and simple to use in order to help save resources like water and automate farms. Smart watering apparatus. Here, we're creating an IoT-based water pump control system that uses an ESP8266 Node MCU component and a dirt moisture sensor. In addition to immediately supplying water based on the amount of moisture in the soil, it will also send data to an IOT server such as cayenne, adafruit, or thing speak to monitor the condition of the land. The system will consist of a water pump that will be used to spray water on the ground based on the environmental conditions of the land, such as wetness. An unique Android application will display these sensing parameters as well as motor status.

**Key words:** ESP8266NodeMCU,IOT Server , Smart watering system, sprinkle water.

**Introduction :**

Despite what individuals may think they know about how agriculture works, the reality is that the industry is more data-driven, accurate, and intelligent than ever. Nearly every business, including "wise agriculture," was completely reconfigured as a result of the Internet-of-Things (IoT)-based technologies' quick ascent. This sector was moved from analytical to measurable approaches. These radical adjustments are destroying the conventional agricultural practises and opening up new opportunities while overcoming a number of barriers. new article discusses the potential of cordless sensing devices and IoT in agriculture, as well as the difficulties that will inevitably arise when combining new technology with conventional agricultural methods. IoT technologies and communication methods linked to wireless sensors used in agriculture applications are thoroughly assessed. Agriculture applications include soil preparation, crop standing, irrigation, insect as well as parasite identification, and available sensing units are described in depth. It is described how this sophisticated technology helps farmers throughout all plant phases, from planting through harvesting, packing, and delivery. This essay also takes into account the utilisation of unmanned flying vehicles for plant inspection and other advantageous purposes like increasing crop return. Where suitable, advanced IoT-based architectures and systems are also emphasised in relation to agriculture. Finally, based on this thorough assessment, we identify present and also future IoT in agriculture patterns and suggest potential research roadblocks.

**1.1 INFLUENCE.**

In order to accomplish this goal, a device that can both pump water and wet the earth while preserving energy was created. The system is built by attaching an Arduino board, a solar panel, and a surface-mounted submersible water pump. This will undoubtedly aid in maintaining the proper level of soil moisture. In order to fill the void of

## Clickbait's Detection Using Deep Learning

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**Abstract:** Clickbait's, in social media, are exaggerated headlines whose main motive is to mislead the reader to "click" on them. They create a nuisance in the online experience by creating a lure towards poor content. Online content creators are utilizing more of them to get increased page views and thereby more ad revenue without providing the backing content. This paper proposes a model for detection of click bait by utilizing Artificial neural networks and presents a compiled click bait corpus. We create a corpus using multiple social media platforms and utilize deep learning for learning features rather than undergoing the long and complex process of feature engineering. Our model achieves high performance in identification of clickbait's.

**Keywords:** Clickbaits, Exaggerated headlines, Artificial Neural Networks, Clickbait corpus.

### I. INTRODUCTION

The prevalence of click bait, which is nothing more than deceptive online content created with the sole purpose of drawing viewers to their website, is a current popular trend in online content. Poor quality, low-value content is a hallmark of click bait, and the agencies that use it heavily rely on ad revenue to make money.

In order to generate cash, they therefore construct titles that are visually appealing and entice people to click on them. These articles prey on human psychology and frequently promise a valuable experience or a crucial revelation; however, the user frequently does not receive the caliber of content they were hoping for. This frustrates the user. As can be seen, the headlines

## Student Live Behaviour Monitoring

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**Abstract:** Due to the health emergency situation, which forced universities to stop using their centres as a means of teaching, many of them opted for virtual education. Affecting the learning process of students, which has predisposed many of them to become familiar with this new learning process, making the use of virtual platforms more common. Many educational centers have come to rely on digital tools such as: Discord, Google Meet, Microsoft Team, Skype and Zoom. The objective of the research is to report on the impact of student learning through the use of the aforementioned videoconferencing tools. Surveys were conducted with teachers and students who stated that 66% were not affected in their educational development. Most of them became familiar with the platforms; however, less than 24% qualified that their academic performance has improved, some teachers still have difficulties at a psychological level due to this new teaching modality. In conclusion, teachers and students agree that these tools are a great help for virtual classes. The primary objective of this project is to create a self-sufficient agent that can offer information to both teachers and pupils. The level of student involvement is directly related to important academic outcomes like critical thinking and the marks students get in a topic.

**Keywords:** Face Detection, Shape Predictor Model, Modules-Client, Server, Face Processing Module

### I. INTRODUCTION

Human behavior analysis is an important area of computer vision research dedicated to the detection, monitoring and

understanding human physical actions . The teaching and learning cycle may be regarded to be the most critical operation in the academic institution. During classes,



## TWO LEVEL LSTM FOR SENTIMENT ANALYSIS WITH LEXICON EMBEDDING AND POLAR FLIPPING

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**Abstract :** Sentiment analysis is a key component in various text mining applications. Numerous sentiment classification techniques, including conventional and deep-learning based methods, have been proposed in the literature. In most existing methods, a high-quality training set is assumed to be given. Nevertheless, constructing a high-quality training set that consists of highly accurate labels is challenging in real applications. This difficulty stems from the fact that text samples usually contain complex sentiment representations, and their annotations subjective. We address this challenge in this project by leveraging a new labeling strategy and utilizing a two-level long short-term memory network to construct a sentiment classifier.

**KEYWORDS:** Sentiment analysis, Labeling, Training, Encoding, Dictionaries, Logic gates, neural networks

### I. INTRODUCTION

Text is important in many artificial intelligence applications. Among various text mining techniques, sentiment analysis is a key component in applications, such as public opinion monitoring and comparative analysis. Sentiment analysis can be divided into three problems according to input texts, namely, sentence, paragraph, and document

levels. This study focuses on sentence and paragraph levels Text sentiment analysis is usually considered a text classification problem. Almost all existing text classification techniques are applied to text sentiment analysis. Typical techniques include bag-of-words (BOW)-based, topic model-based, deep learningbased, and lexicon based (or rule-based) methods.





## SPAMMER DETECTION AND FAKE USER RECOGNITION IN OSN

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**Abstract:** *Social networking sites engage millions of users around the world. The user's interactions with these social sites, such as Twitter and Facebook have a tremendous impact and occasionally undesirable repercussions for daily life. The prominent social networking sites have turned into a target platform for the spammers to disperse a huge amount of irrelevant and deleterious information. Twitter, for example, has become one of the most extravagantly used platforms of all times and therefore allows an unreasonable amount of spam. Fake users send undesired tweets to users to promote services or websites that not only affect legitimate users but also disrupt resource consumption. Moreover, the possibility of expanding invalid information to users through fake identities has increased that results in the unrolling of harmful content. Recently, the detection of spammers and identification of fake users on Twitter has become a common area of research in contemporary online social Networks (OSNs). In this paper, we perform a review of techniques used for detecting spammers on Twitter.*

**Keywords:** Online social network, Classification, Spammer detection, Twitter, Modifier Random Forest

### I. INTRODUCTION

It has become quite unpretentious to obtain any kind of information from any source across the world by using the Internet. The increased demand of social sites permits users to collect abundant amount of information and data about users. Huge volumes of data available on these sites

also draw the attention of fake users [1]. Twitter has rapidly become an online source for acquiring real-time information about users. Twitter is an Online Social Network (OSN) where users can share anything and everything, such as news, opinions, and even their moods. Several



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## Generating and Protecting the QR Code of User Details and Allowing Access to Selected Users

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**Abstract:** Nowadays, it is almost impossible to secure and hide personal confidential information like system credentials, Ticket Passenger Name Record (PNR), Aadhar and PAN card details, etc. QR (Quick Response) codes are two-dimensional barcodes with the ability to encode different types of information. Because of their high information density and robustness, QR codes have gained popularity in various fields of application. Securing and hiding personal confidential information has become a challenge in these modern days. Due to the lack of security and confidentiality, forgery of confidential information can cause a big margin loss to a person. Personal confidential information needs to be securely shared and hidden with the expected recipient and he should be able to verify the information by checking its authenticity. QR codes are being used increasingly to share data for different purposes. In information communication, QR code is important because of its high data capacity. However, most existing QR code systems use insecure data format. Securing and hiding personal confidential information has become a challenge in these modern days. Due to the lack of security and confidentiality, Personal confidential information needs to be securely shared and hidden with the expected recipient and he should be able to verify the information by checking its authenticity. QR codes are being used increasingly to share data for different purpose. For better security we can allow QR code access to selected users only. So that non selected users cannot access to the QR code.

**Keywords:** Quick Response (QR) Code, Secure QR Code (SQRC), RSA, Encryption, Decryption, Verification, Validation.



## WEB BASED GRAPHICAL PASSWORD AUTHENTICATION SYSTEM

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**Abstract:** *User authentication is a fundamental component in most computer security contexts. It provides the basis for access control and user accountability. While there are various types of user authentication systems, alphanumeric username/passwords are the most common type of user authentication. They are versatile and easy to implement and use. However, it has its disadvantages like easy or short passwords are easy target of dictionary and brute-forced attacks and Difficult passwords are hard to remember. Hence, we propose to use graphical passwords, in which graphics (2D images) are used instead of alphanumeric passwords. This can be achieved by asking the user to select regions from an image rather than typing characters as in alphanumeric password approaches. The operation of the proposed scheme is simple and easy to learn for user since they familiar with textual graphical password scheme. In conclusion, this graphical password scheme will make it easier for user to do their authentication process since it is easy to remember and hard to guess by other.*

**Keywords:** *Authentication, Graphical Passwords, Image Slicing, Encryption*

### I. INTRODUCTION

Authentication is the process of determining that the person requesting a resource is the one who it claims to be. Most of the authentication system

nowadays uses an integration of username and password. The problem with the password is that it requires user to remember it and it should be kept secret.

Each authentication system has its own





## Access and Manage the Android Files Via Local Server Wirelessly

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**Abstract:** Now a days successful functioning of computer networks is important. For that network management systems are very much important. This paper describes the method by using which a LAN network can be controlled by a user with the help of android application. Accessing and managing the android files via data cables and some third-party apps are commonly seen in these days (one to one). But when it comes to connect the same phone with multiple devices simultaneously for accessing and managing files, we came up with an idea to implement using local server. For this we need to develop an android application for establishing the server and a web page for accessing the device(phone). Once the server is established it gives us an URL, using this URL we can access and manage the phones data with other devices by pasting the URL in the browser. So, all the devices that wants to access the phone should be connected to the same network. Using this the users can simultaneously copy files from one device to many devices and can also upload the data to phone (server established phone).

**Keywords:** Wireless communication, android application, smart phone

### I. INTRODUCTION

The project "Access and Manage the Android Files Via Local Server Wirelessly" focuses on providing a

convenient and efficient way to control an Android device using a web browser over the same network. With the increasing dependency on smartphones and the need for



## IMPLEMENTATION OF SECURED WATERMARKING MECHANISM BASED ON CRYPTOGRAPHY AND BIT PAIRS MATCHING.

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**ABSTRACT:** Watermarking is one of the most vital digital information hiding technique, which can be used with cryptography mechanism for providing more security to digital data. In image watermarking mechanism mostly LSB substitution is used on the cover image for hiding the secret watermark. In this paper, a novel technique based on the matching of bit pairs and symmetric key cryptography is proposed. Pixel bits of original image and encrypted watermark image are arranged in pairs. The pixel bits are represented in pairs following the proposed algorithm, then the encrypted watermark pixel bit pairs are compared with all bit pairs of original image and accordingly the replacement of bit pairs takes place with the respective matched pair assigned number binary equivalent. If no match is found then go for replacing the 0th pair with watermark bits and replace the two LSB with the value of pair number 0. The proposed mechanism shows good quality of watermarked image along with good PSNR values with a good payload. By comparing the results with some existing algorithms, the proposed scheme shows the valuable results.

### I. INTRODUCTION

For copyright protection of multimedia information, a variety of digital watermarking techniques have been developed, which are used to protect the multimedia information from being abused. There are two categories of techniques of embedding the watermark for copyright shield in any



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# Effective Garbage Data Filtering Algorithm for SNS Big Data Processing by Machine Learning

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**Abstract-** Recently, as the use of social network services (SNS) increases in modern daily life, the amount of SNS data has become enormous. In addition, more and more efforts are being made to extract different pieces of information by collecting, processing, and analysing large amounts of SNS data. Although various pieces of information can be extracted from SNS data through big data processing, this is a resource-intensive task. Therefore, extracting information from SNS data requires considerable time and material resources. In this paper, we propose a data filtering algorithm that filters out junk data that has no data meaning in SNS data. The proposed algorithm improves the filtering accuracy by iterative learning based on the initial learning data. Experimental results show that the proposed algorithm has a filtering effect of more than 70% on experimental keywords.

**Indexed Terms-** Social network services, big data, machine learning, iterative learning.

## I. INTRODUCTION

Due to the fast growth of social network services (SNS), the number of users has recently increased. As the number of mobile devices grows, so does the volume of data gather on social networking sites. SNS is frequently used for friendship and social interactions, but in recent years, its secondary usage for collecting, analysing, and acquiring various bits of information from large datasets on SNS has significantly increased. Therefore, by examining the data on SNS, it is possible to deduce information about a variety of flows and opinions on topics such as society, the economy, and politics. However, because the data on SNS is a mixture of relevant data, data from advertisements, and beneficial data for the research itself, it is highly difficult and time-consuming to analyse it successfully. Studies on stable data

collection and storage as well as effective data processing with constrained computing resources have been done recently as interest in big-data processing has grown. The value of large data prior to processing, however, is the subject of less research and study [1]. Recently, the number of users of social network services (SNS) is increasing due to the explosive growth of mobile devices, and the amount of data generated on SNS is increasing correspondingly. SNS is widely used for social relations and friendship, but recently, it has been increasingly used for the secondary purpose of gathering and analyzing large datasets on SNS and obtaining various pieces of information. The data on SNS includes content related to opinions being expressed in various fields such as economy, society, and culture [2]. Therefore, by analyzing the data on SNS, information on various flows and opinions on topics such as society, economy, and politics can be extracted. However, it is very difficult and time consuming to accurately analyze the data on SNS as it consists of a mix between positive data that is helpful to the actual analysis, advertisement data, and irrelevant data. In recent years, as interest in big-data processing has increased, studies have been conducted on collecting and storing big data in a stable manner and more efficiently processing data using limited computing resources[3]. However, less research and fewer studies are available regarding the utility of big data before they are processed. Therefore, this study investigates how to effectively filter garbage data from big data, and thereby improve the accuracy and speed of the data analysis in real big-data processing as Figure 1. In particular, this study focuses on improving the filtering accuracy by including machine learning in the process of filtering garbage data. Therefore, in this study, we propose an algorithm that can improve the garbage data filtering accuracy of SNS big data by cyclic learning and prove the effectiveness of the algorithm through experiments. As a result, this work



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# EVALUATING MACHINE LEARNING TECHNIQUES FOR DETECTING OFFENSIVE AND HATE SPEECH IN GUJARATI TWEETS

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**Abstract:** Toxic online content has become a major issue in today's world due to an exponential increase in the use of internet by people of different cultures and educational background. Differentiating hate speech and offensive language is a key challenge in automatic detection of toxic text content. In this paper, we propose an approach to automatically classify tweets on Twitter into three classes: hateful, offensive and clean. Using Twitter dataset, we perform experiments considering n-grams as features and passing their term frequency-inverse document frequency (TFIDF) values to multiple machine learning models. We perform comparative analysis of the models considering several values of n in n-grams and TFIDF normalization methods. After tuning the model giving the best results, we achieve 95.6% accuracy upon evaluating it on test data.

**Keywords:** Detecting Offensive, Twitter dataset, term frequency-inverse document frequency, machine learning, SVM, RF.

## I. INTRODUCTION

Social networks are among the most impactful innovations in the 21st century. A popular social networking platform is Twitter, which allows subscribers to propagate information in the cyberspace

using alphanumeric, special characters, hyperlinks, images, emoticons, and other icons. Over the years, it has experienced several changes in functionalities [1]. For example, the maximum size of character per tweet has recently been increased from

## An Efficient and Secure Electronic Payment System for E-Commerce

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**Abstract:** *E-commerce implies an electronic purchasing and marketing process online by using typical Web browsers. As e-commerce is quickly developing on the planet, particularly in recent years, many areas of life are affected, particularly the improvement in how individuals regulate themselves non-financially and financially in different transactions. In electronic payment or e-commerce payment, the gateway is a major component of the structure to assure that such exchanges occur without disputes, while maintaining the common security over such systems. Most Internet payment gateways in e-commerce provide monetary information to customers using trusted third parties directly to a payment gateway. Nonetheless, it is recognized that the cloud Web server is not considered a protected entity. This article aims to develop an efficient and secure electronic payment protocol for e-commerce where consumers can immediately connect with the merchant properly. Interestingly, the proposed system does not require the customer to input his/her identity in the merchant's website even though the customer can hide his/her identity and make a temporary identity to perform the service. It has been found that our protocol has much improved security effectiveness in terms of confidentiality, integrity, non-repudiation, anonymity availability, authentication, and authorization.*

**Keywords:** *E-commerce; electronic payments system; payments gateway*

### I. INTRODUCTION

E-commerce was introduced to the consumer and business worlds as a unique



# Weed Identification in Vegetable Plantation Using Deep Learning & Image Processing

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**Abstract:** Weed identification in vegetable plantations is more challenging than crop weed identification. So far, little work has been found on identifying weeds in vegetable plantations. Traditional methods of crop weed identification used to be mainly focused on identifying weed directly; however, there is a large variation in weed species. Here we propose a new method, which combines deep learning and image processing technology. Deep learning is the nucleus in machine learning discipline which uses knowledge representation of learning. Learning can be supervised or unsupervised. A Trained CenterNet model was used to detect vegetables and draw bounding boxes around them. The remaining green objects falling out of bounding boxes were considered as weeds. The image of the crop field is given as input training. By using the extracted feature, the images with weeds are detected and classified. A deep learning model is developed using convolution neural networks to detect weeds with a good accuracy so that the model could be used to detect the weeds in various crop fields within a shorter time.

**Keywords:** Weed identification, deep learning, image processing, genetic algorithms, color index.

## I. INTRODUCTION

Vegetables are considered one of the most nutrient-dense foods all around the world due to its sufficient vitamins, minerals and

antioxidants. Raising living standards boosts the consumption of green vegetables, which makes them a substantial part of our lives and possess

## SMART ATM SYSTEM USING FINGERPRINT MODULE

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**Abstract:** *In this project we have survey on biometric authentication system. Biometric authentication system is used for various kinds of authentication system instead of the tension of cards to put with them and to memorize their difficult passwords and pin numbers. Biometric authentication system is much safe and secure and very easy to use and even without using any password or secret codes to remember as compare with previous system like credit card payment system, wireless system and mobile system etc. Biometric authentication system is reliable, economical and it has more advantage as compare with others. In daily life the usage of credit cards, check cards for shopping, bus card, subway card for traveling, student card for library and department, and many kinds of cards for unlimited purpose and so on. So problem is that a person has to take many cards and has to remember their password or secret codes and to keep secure to take with it all time. So, the biometric authentication system will solve this problem. Greater adoption of biometric authentication system will drive down the cost of biometric readers and thus making it more affordable to small business owner.*

**Keywords:** *Enhancing ATM, Security System for ATM, Biometric Base ATM, and Fingerprint Based ATM.*

### I. INTRODUCTION

Biometrics is a technology that helps to make your data extremely secure, unique

all the users by way of their personal physical characteristics. Biometric information can be used to perfectly identify people by using their fingerprint,

## Detection of Possible illicit messages using Natural Language processing and computer vision on linked websites

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**Abstract:** Human trafficking is a global problem that strips away the dignity of millions of victims. Currently, social networks are used to spread this crime through the online environment by using covert messages that serve to promote these illegal services. In this context, since law enforcement resources are limited, it is vital to automatically detect messages that may be related to this crime and could also serve as clues. In this paper, we identify Twitter messages that could promote these illegal services and exploit minors by using natural language processing. The images and the URLs found in suspicious messages were processed and classified by gender and age group, so it is possible to detect photographs of people under 14 years of age. The method that we used is as follows. First, tweets with hashtags related to minors are mined in real-time. These tweets are pre-processed to eliminate noise and misspelled words, and then the tweets are classified as suspicious or not. Moreover, geometric features of the face and torso are selected using Haar models. By applying Support Vector Machine (SVM) and Convolutional Neural Network (CNN), we are able to recognize gender and age group, taking into account torso information and its proportional relationship with the head, or even when the face details are blurred. As a result, using the SVM model with only torso features has a higher performance than CNN.

**Keywords:** Detection of possible illicit messages, deep learning, Convolutional neural network.

### I. INTRODUCTION

Initially the websites were isolated and just placed for reading since the user could not truly interact with the web. However, from the innovation and arrival of web 2.0, there

was a revolutionary and radical change since the user stopped being a simple spectator and became an active individual in social networks such as Facebook, Twitter, Instagram, among others.



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# DENSITY BASED SMART TRAFFIC GREEN LIGHT TIMER ALLOCATION SYSTEM USING CANNY EDGE DETECTION ALGORITHM

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**Abstract:** Urban traffic congestion is the focus of the project density-based smart traffic green light timer allocation system using clever edge detection algorithm. With more and more people living in metropolitan areas, there is a pressing need for cutting-edge technology and tools to better manage traffic flow. As the volume of traffic continues to grow, it has become clear that the timers and human controls now in use are inadequate. Using clever edge detection with digital image processing, we suggest a strategy for allocating time in this project in accordance with the density of vehicles. This revolutionary traffic management system is light-years ahead of the competition when it comes to speed of reaction, control of vehicles, automation, dependability, and overall efficiency. In order to use this method, we are sending the current traffic image to an application, which will then extract edges from the image, with more white edges indicating more traffic and fewer white edges indicating less traffic.

## I. INTRODUCTION

Congestion on the roads is a serious problem in any contemporary metropolis. A recent World Bank research found that in the previous decade, the average speed of vehicles in Dhaka has dropped from 21

km to 7 km/h. There is evidence from research comparing metropolitan areas that congestion decreases regional competitiveness and shifts economic activity by reducing the rise of county gross product or metropolitan area





## DENSITY BASED SMART TRAFFIC SYSTEM USING CANNY EDGE DETECTION

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**ABSTRACT:-** Traffic Management is one of important issues in the modern cities. There has been a manifold increase in the number of vehicles in all major cities leading to traffic congestion and less space on the road. At traffic light junctions traffic management systems are placed to automatically manage the control of red, green and yellow lights for smooth conduction for traffic. But in most systems, the scheduling of the lights is done on fixed basis without taking into account the actual traffic scenarios in each lane. In this research work, a method of detecting the density of traffic in each lane is proposed using image processing and canny edge detection technique. Recent study of World Bank has shown that average vehicle speed has been reduced from 21 km to 7 km per hour in the last 10 years



## Twitter Sentiment Polarity Prediction Using Naïve Bayes Algorithm

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**Abstract:** Sentiment Analysis (SA) is the computational treatment of opinions, sentiments and subjectivity of text. Aspect based Sentiment Analysis (ABSA) is a specific SA that aims to extract most important aspects of an entity and predict the polarity of each aspect from the text. Aspect based sentiment analysis consists of aspect and sentiment extraction, and determination of the sentiment's orientation. In this project, we propose a system to extract the aspect sentiment pair and compute the rating for each grouped aspect. Our approach starts with selecting the subjective sentences in the reviews. Then, it extracts aspects and opinions from the sentences, and determine the orientation of the sentiment. Twitter is the popular micro blogging site where thousands of people exchange their thoughts daily in the form of tweets. The characteristics of tweet is to be short and simple way of expressions. though this thesis will focus on sentiment analysis of twitter data. The research area of sentiment analysis are text data mining and NLP. By using different supervised machine learning techniques, we will perform the sentiment analysis on twitter data. However, we will focus on techniques and types of sentiment analysis where we will perform how to extract tweets from twitter. Further we will compare different machine learning techniques on the same dataset and also find some standard measures.

**Keywords:** Sentiment analysis, label data, sentiment polarity, sentiment classification.

### I. INTRODUCTION

With the increasing popularity of social networking, blogging and micro-blogging



## AN INTELLIGENT DATA-DRIVEN MODEL TO SECURE INTRAVEHICLE COMMUNICATIONS BASED ON MACHINE LEARNING

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**Abstract-** The high relying of electric vehicles on either in-vehicle or between-vehicle communications can cause big issues in the system. This paper is going to mainly address the cyber-attack in electric vehicles and propose a secured and reliable intelligent framework to prevent hackers from penetration into the vehicles. The proposed model is constructed based on an improved support vector machine model for anomaly detection based on the controller area network (CAN) bus protocol. In order to improve the capabilities of the model for fast malicious attack detection and avoidance, a new optimization algorithm based on social spider (SSO) algorithm is developed which will reinforce the training process offline. Also, a two-stage modification method is proposed to increase the search ability of the algorithm and avoid premature convergence. Finally, the simulation results on the real data sets reveal the high performance, reliability and security of the proposed model against denial-of-service (DoS) hacking in the electric vehicles.

**KEYWORDS:** Cyber-Attack, Controller Area Network, Denial-Of-Service, Social Spider



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## IDENTIFYING INJECTION ATTACKS IN DBMS

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**Abstract:** Database stay the most broadly utilized backend stockpiling in organizations, however they are often associated with unreliable applications, for example, web frontends, permitting infusion attacks to be done. The achievement of such attacks is because of a semantic confuse between how SQL questions are believed to be performed and how databases really handle them. This outcomes in minor blemishes in the manner in which input approval is taken care in the programs. In this examination, we present a new strategy of Identification and Prevention of Injection Attacks (IPIA) for DBMS at tacks version that can likewise assist with application weakness disclosure. The technique was carried out in MySQL and widely tried with an assortment of utilizations and other security components. Rather than past arrangements, our information demonstrate no bogus negatives or bogus up-sides with database. They likewise show that our mechanism has a negligible exhibition overhead of around 2.2 percent. SQL Injection Attacks (SQLIAs) are attacks that compromise the security of online applications by adjusting, refreshing, procuring, or erasing delicate data hidden database servers through web applications. The privacy, trustworthiness, and accessibility of online application information base frameworks might be endangered by this sort of attacks. Albeit numerous specialists and engineers have dealt with staying away from this kind of attacks and giving arrangements, such methods either neglect to completely deal with this sort of attacks or have critical cutoff points in forestalling a wide range of SQLIAs.

**Keywords:** SQL Injection Attacks, Identification and Prevention of Injection Attacks, DBMS.

### I. INTRODUCTION

Web applications have been available for over twenty years and are currently a

critical part of the economy, since they regularly fill in as an interface to various business-related exercises. Data sets stay



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## A CHAT APPLICATION USING BLUETOOTH TECHNOLOGY

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**Abstract-** The project discussed here is an Android messenger application which connects using Bluetooth. The main concepts discussed here are: Bluetooth connection between two or more android smart phones, whereby users can chat with each other. State machines and finite expressions used to achieve robustness, thereby delivering error free messages. This app doesn't require an internet connection rather uses the in-built Bluetooth facility in a phone. Bluetooth provides the communication on low-cost, low-power basis. Wireless communication can also be done with the help of Bluetooth technology in a mobile communication. Short-range establishment of two-way communication has occurred without any support of the network. Bluetooth is integrated into Android which is a mainstream Smartphone platform as a mean of mobile communication. Nowadays Android becomes the latest technology in the Smartphone's which provides the open sourcing and powerful application API.

**KEYWORDS:** Component; Android; Bluetooth; Wireless Communication; chat



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## THYROID ANALYSIS USING NEURAL NETWORK TECHNIQUES

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### ABSTRACT:

My Project is about detecting the thyroid disease using the neural network techniques. The thyroid hormone affects the growth and development depending on the amount of secretion. The important thing is to identify the disease and diagnosis to be made at early stages to prevent the disease from further complications. The aim of the present study is to detect the types of thyroid disease.

### INTRODUCTION:

Thyroid illness determination is profoundly complex and tedious exercises. The ordinary conclusion of thyroid sickness includes clinical testing and many blood tests. Hyperthyroidism is caused by higher production of the thyroid hormones. Grave's disease is a hyperthyroidism autoimmune condition. These are dry skin symptoms, increased temperature sensitivity, hair thinning, loss of weight, increase cardiac speed, high blood pressure, excess perspiration, expansion of the neck, anxiousness and reduction of menstrual cycles, frequent bowel motions and tearing of hands. Reducing thyroid hormone production results in hypothyroidism. The phrase hypo denotes poor or less

Inflammation and thyroid gland damage are the causes of hypothyroidism. Symptoms include obesity, low cardiac rates, increased cold sensitivity, swelling of the neck, dry skin, numbness of the hands, hair condition, heavy menstrual cycles and digestive difficulties. And, if not addressed, these symptoms may increase over time. The key objective is thusly in any case to determine the illness to have a high definite rate in the beginning phases. Data mining is a significant piece of disease diagnostics in the clinical business. To decide ailment precision, data mining offers a few order techniques. For hazard factors examination in different diseases, the patient information gathered from various medical services associations are useful. The applications dependent data mining are profoundly helpful and

# MPOX DETECTION USING MODIFIED VGG16 & CUSTOM CNN MODEL

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**Abstract:** This documentation provides an overview of a project focused on the detection of Mpox (Monkey Pox) using a modified VGG16 model and a custom convolutional neural network (CNN). Mpox detection is a crucial task in the field of medical imaging, as early identification can significantly improve patient outcomes. The aim of this project is to develop advanced models for accurate detection of monkey pox, a virus that is similar to smallpox and can be contracted through close contact with contaminated materials of an infected person. Symptoms include fever, rash, and swollen lymph nodes and testing is usually done in severe cases. Thirteen pre-trained deep learning models will be compared and analysed using four measures - Precision, Recall, F1-score, and Accuracy. The bestperforming models will be ensembled to improve overall performance, and the experiments will be conducted on a publicly available dataset. This approach can aid health practitioners in mass screening, as WHO has reported 87,000 cases of Monkeypox since Jan 2022, primarily from America, Europe, and Africa. The smallpox vaccine can treat Monkeypox to some extent, and the proposed approach can potentially aid in early diagnosis and treatment.

**Keywords:** Deep learning, Convolutional neural network, VGG16 model, Mpox detection.

## I. INTRODUCTION

Monkeypox is a zoonotic viral disease that predominantly affects animals, including monkeys, rats, and other rodents. However, it can also be transmitted to humans, leading to a range of symptoms, including fever, rash, and swollen lymph nodes. The disease shares similarities with smallpox but is generally less severe.

Nevertheless, Monkeypox outbreaks can have significant public health implications, and early detection recent years, deep learning, a subset of artificial intelligence, has revolutionized the field of medical image analysis. Convolutional neural networks (CNNs) have emerged as a

powerful tool for automated disease detection and classification in medical



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## Music Recommendation System Based On Facial Emotion Gestures

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Music plays a vital role in our everyday life. Life without music cannot be imagined. Music changes our mood; whatever our mood might be, the only thing we do in all of our moods is to listen to music. We also listen to music when working, driving, travelling and even when reading a comic or a story. Music can induce a clear emotional response in its listeners. The pitch and rhythm of the music are managed in the areas of the brain that deal with emotions and mood. Thus, music plays an important role in enhancing our mood. As elders have said "Face is the Index of the Mind", the mood of a person can be known by looking at the face of the person. The abstract of this system/ project is to build an automated system that builds playlists and plays the songs according to the mood of the user by directly discerning the facial emotions of the user. This model requires a camera to capture the face of the user and then the mood of the user is recognized by CNNs. Then the playlist is recommended to the user based on the discerned "Mood" of the user. This disposes of the tedious and monotonous task of physically gathering tunes into various records and helps in creating a suitable playlist dependent on a person's passionate highlights. Hence, the proposed system can be used to build a music recommendation system based on the facial emotion gestures of the user.

Keywords – Mood, Music, CNN, Facial emotion gestures

### 1. INTRODUCTION

Music prompts a reasonable passionate reaction in its audience. Melodic inclinations have been exhibited to be exceptionally associated with character qualities and mind-sets. Facial emotions are the most common and natural methods of passing on feelings, temperaments and sentiments. Convolutional Neural network, as a Deep Learning Neural Network, assumes a critical part in face image recognition. Cognition technology of CNN and Music Recommendation System based on Facial Emotion Gestures is created to distinguish a model that perceives facial articulations and prescribes music as indicated by comparing mind-set of the user or client.

Human beings have the innate capacity to see somebody's face and conjecture their mind-set. This capacity if learnt by an electronic gadget - computer, humanoid robot or a mobile gadget - can have important applications in reality. Music, an instrument for stirring emotions and feelings, is undeniably more remarkable than language. Music is something which takes advantage of our emotional centre as human beings [1]. Accordingly, paying attention to good music can assist us with lifting our mind-set from a negative sense to a positive sense. For example,

focusing on lively tunes when the individual is feeling grim can assist him with arising his difficulty and start feeling better. This framework proposes one such application, emotion-based music recommendation. Emotion of the client can be effortlessly speculated by taking a gander at his/her face. For this reason, face detection and emotion recognition, examining the fiducial highlights from his/her face is essential.



Fig 1.1 Facial expression with different emotions [2]

The issues related with face detection incorporate foundation components, lighting conditions, posture and facial demeanour. This space of face detection and emotion detection is as of now a functioning space of examination because of advancement of Virtual Reality and Augmented Reality. Constant face



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## VEHICLE DETECTION AND COUNTING SYSTEM

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**Abstract:** In this project, the main focus is on detecting vehicles and counting, particularly in traffic control. Vehicle detecting and also counting are becoming growing important in the area of highway regulators. However, because of the various structure of vehicles, their detections remain challenging which directly influence in the accuracy of a vehicle count. This project address video-based techniques for vehicle recognition and counting based on OpenCV technologies. Vehicle detection and counting system plays an important role in an intelligent transportation system, especially for traffic management and parking management. The proposed method uses the background subtraction technique to find foreground objects in a video sequence. In order to detect moving vehicles more accurately, several computer vision techniques, hole filling, and adaptive morphology operations, are then applied. Finally, vehicle counting is done by using a virtual detection zone.

**Keywords:** Vehicle detection, video sequence, OpenCV, Vehicle tracking, intelligent transportation system.

### I. INTRODUCTION

The result of the increase in vehicle traffic, many problems have appeared. For example, traffic accidents, traffic congestion, traffic induced air pollution and so on. Traffic congestion has been a significantly challenging problem. It has widely been realized that increases of preliminary transportation infrastructure,

more pavements, and widened road, have not been able to relieve city congestion. As a result, many investigators have paid their attentions on intelligent transportation system (ITS), such as predict the traffic flow on the basis of monitoring the activities at traffic intersections for detecting congestions. To better understand traffic flow, an increasing reliance on

traffic surveillance is in need for better



## A BI-OBJECTIVE HYPER-HEURISTIC SUPPORT VECTOR MACHINE (SVM) FOR BIG DATA CYBER SECURITY

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**Abstract:** Cyber security in the content of big data is known to be a critical problem and presents a great challenge to the research community. Machine learning algorithms has been suggested as candidates for handling big data security problems. Among these algorithms support vector machines (SVMs) have achieved remarkable success on various classification problems. We formulate the SVM configuration in advance which is a challenging task that requires expert knowledge and large amount of manual effort of a trial and error. We propose a novel hyper-heuristic framework for bi-objective optimization that is independent of the problem domain. The proposed hyper-heuristic framework consists of a high-level strategy and low-level heuristics. The high-level strategy uses the search performance to control the selection of which low-level heuristic should be used to generate a new SVM configuration. The low-level heuristics each use different rules to effectively explore the SVM configuration search space. The effectiveness of the proposed framework has been evaluated on two cyber security problems: Microsoft malware big data classification and anomaly intrusion detection. The obtained results demonstrate that the proposed framework is very effective, if not superior, compared with its counterparts and other algorithms.

**Keywords:** Hyper-heuristics, big data, cyber security, optimisation

### I. INTRODUCTION

The rapid advancements in technologies and networking's such as mobile, social

and Internet of Things create massive amounts of digital information. In this context, the term big data has been emerged to describe this massive amount

## Document Clustering and Topic Classification Using LDA

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**Abstract:** *With the world becoming more data-driven, enormous amounts of data are being added to databases, documents, libraries, and papers. The whole data would be useless if it is not utilized properly to get useful information out of it. And this useful information is never directly available to us as the data is mostly unstructured, confusing, and open-ended. The data can be well utilized if it is properly classified and could be categorized to have separate studies on each category of data. In the era of technology, computer science, and mathematics is continuously working to resolve problems like these. With a huge amount of data being available it is not an easy task to analyze the data. A number of studies have been conducted to extract features from the data. Text Mining is a sub-field of machine learning that deals with unauthorized and unorganized text to get meaningful data that can be analyzed and used. It is intensely being used to analyze unstructured text, get structured features from the text and find patterns. So, unsupervised learning is aiding the supervised algorithms to work on such kinds of text. One of the growing text mining algorithms is topic modelling, which distributes documents into topics and topics into words. This algorithm is working better than other algorithms like tf-idf as it and considers the actual scene where the topic can be related to multiple words, so LDA is working closer to the real-world topics and their distributions. Latent Dirichlet Allocation, sometimes known as LDA, is one of the most popular topic modelling algorithms. More importantly, it provides straightforward and understandable subjects that are similar to what the human mind assigns when reading a*

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**Abstract:** Cyber security in the content of big data is known to be a critical problem and presents a great challenge to the research community. Machine learning algorithms has been suggested as candidates for handling big data security problems. Among these algorithms support vector machines (SVMs) have achieved remarkable success on various classification problems. We formulate the SVM configuration in advance which is a challenging task that requires expert knowledge and large amount of manual effort of a trial and error. We propose a novel hyper-heuristic framework for bi-objective optimization that is independent of the problem domain. The proposed hyper-heuristic framework consists of a high-level strategy and low-level heuristics. The high-level strategy uses the search performance to control the selection of which low-level heuristic should be used to generate a new SVM configuration. The low-level heuristics each use different rules to effectively explore the SVM configuration search space. The effectiveness of the proposed framework has been evaluated on two cyber security problems: Microsoft malware big data classification and anomaly intrusion detection. The obtained results demonstrate that the proposed framework is very effective, if not superior, compared with its counterparts and other algorithms.

**Keywords:** Hyper-heuristics, big data, cyber security, optimisation

### I. INTRODUCTION

The rapid advancements in technologies and networking's such as mobile, social

and Internet of Things create massive amounts of digital information. In this context, the term big data has been emerged to describe this massive amount





## TOUCH LESS SCREEN FOR ONLINE CLASS

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**Abstract-** Due to the health emergency situation, which forced universities to stop using their centers as a means of teaching, many of them opted for virtual education. Affecting the learning process of students, which has predisposed many of them to become familiar with this new learning process, making the use of virtual platforms more common. Many educational centers have come to rely on digital tools such as: Discord, Google Meet, Microsoft Team, Skype and Zoom. This system can be beneficial to everyone, especially who are taking online classes. We used computer vision so that user can select colour of pens and use fingers to write on screen using a yellow-coloured cap on his fingertip, and can also erase content on screen using eraser. Once the user is in screen writing controlling mode, user can perform all the drawings and writings operations only by moving fingers.

**KEYWORDS:** Display, Screen, Technology, Touch, Leap Motion Controller.

### 1. INTRODUCTION

The idea for this tool is a result of interest in digital drawing and smart photo recognition software. The initial motivation came when there was a need for a dustless class room for the students to study in. We

know that there are many ways like touch screens and more but what about the schools which can't afford it to buy such huge large screens and teach on them like a T.V. OpenCV in python to draw on the screen using a virtual pen i.e, any marker can be used to draw using the technique of

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## CHRONIC HEART FAILURE FROM HEART SOUND USING MACHINE LEARNING AND END-TO-END DEEP LEARNING

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**Abstract-** Chronic heart failure (CHF) is a severe condition that affects millions of people worldwide, leading to a significant decrease in quality of life and high mortality rates. Early detection and timely intervention are crucial for effective management of CHF. In recent years, machine learning (ML) and deep learning techniques have shown promise in various medical applications, including the analysis of heart sounds. The proposed model takes raw heart sound recordings as input and automatically learns relevant features for CHF detection and classification. The model consists of multiple convolutional and recurrent layers, followed by fully connected layers for classification. A large dataset of heart sound recordings from patients with and without CHF is used to train and evaluate the model. The recordings are preprocessed to remove noise and artifacts, and then divided into segments representing different phases of the cardiac cycle. The results demonstrate the effectiveness of the end-to-end deep learning approach in accurately detecting and classifying CHF based on heart sound analysis. The proposed model has the potential to be integrated into clinical practice as a non-invasive and cost-effective tool for early detection and monitoring of CHF. By providing timely and accurate information, this technology can aid healthcare professionals in making informed decisions and improving patient outcomes.



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## E-FARMING AN E-COMMERCE WEBSITE FOR FRESH FARM PRODUCE VEGETABLES AND FRUITS

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***Abstract:** E-commerce is clearly beginning to have a major impact in the agricultural sector. The way people go about purchasing agricultural products is of great concern. Most of the time customers have to travel far distances to get agricultural products and getting the right quality is not ensured. E -Farming is to help farmers as well as customers for buying and selling agricultural products across the country using a computerized approach. The one of the main goals of this product is to eliminate middleman and provide an efficient and robust alternative method to ease the flow of overall market. The website builds a platform for farmers to ensure greater profitability through end user communication. This allows viewing various products available enables users to purchase desired products instantly by online payment.*

***Keywords:** E-commerce, agricultural products, E -Farming*

### I. INTRODUCTION

Farming is the Prime Occupation in India in spite of this, today the people involved in farming belongs to the lower class and is in deep poverty. The Advanced techniques and the Automated machines which are leading the world to new heights, is been lagging when it is concerned to farming, either the lack of awareness of the

advanced facilities or the unavailability leads to the poverty in farming. Even after all the hard work and the production done by the farmers, in today's market the farmers are cheated by the Agents, leading to the poverty. E-Farming would make all the things automatic which make easier serving as a best solution to all the problems. Farmer's E- Farming will serve



## HOTEL REVIEW ANALYSIS FOR THE PREDICTION OF BUSINESS USING DEEP LEARNING APPROACH

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**Abstract:** Sentiment analysis is a widely used topic in Natural Language Processing that allows identifying the opinions or sentiments from a given text. Social media is the scope for the customers to share their opinion over the products or services as part of customer reviews. Dissect this review has become an important factor for business analysis since online business is exponentially growing in today's techno-friendly competitive market. A large number of algorithms have been found in recent articles. Among those deep learning is an important approach. In the proposed methodology, long short-term memory (LSTM) and gated recurrent units (GRUs) have been used to train the hotel review data where the accuracy rate of identifying customer opinion is 86%, and 84% respectively. The dataset is also tested by using Naïve Bayes, Decision Tree, Random Forest, and SVM. For Naïve Bayes obtains an accuracy of 75%, for Decision Tree obtains an accuracy of 71%, for Random Forest the accuracy is 82% and for SVM our accuracy result is 71%. Deep learning is used to obtain better business performance and also get the review from customers and also to predict the sentiment about customer review. Our algorithm works properly and gives better accuracy.

**Keywords:** Natural Language Processing, Machine Learning, Deep Learning, Artificial Intelligent, LSTM, GRU.

### I. INTRODUCTION

In the age of modern science, everything is based on online and on the internet.

Internet-based shopping has become easier and more popular because of better quality, and fast logistic systems. Internet-based



**DEEP-LEARNING- BASED IN-FIELD CITRUS FRUIT DETECTION AND TRACKING**

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**Abstract :**

Fruit yield estimation is crucial to establish fruit harvesting and marketing strategies. Recently, computer vision and deep learning techniques have been used to estimate citrus fruit yield and have exhibited notable fruit detection ability. However, computer-vision based citrus fruit counting has two key limitations: inconsistent fruit detection accuracy and double-counting of the same fruit. Using oranges as the experimental material, this paper proposes a deep-learning-based orange counting algorithm using video sequences to help overcome these problems. The algorithm consists of two sub-algorithms, Orange Yolo for fruit detection and OrangeSort for fruit tracking. The Orange Yolo backbone network is partially based on the YOLOv3 algorithm, which has been improved upon to detect small objects (fruits) at multiple scales. The network structure was adjusted to detect small-scale targets while enabling multiscale target detection. A channel attention and spatial attention multiscale fusion module was introduced to fuse the semantic features of the deep network with the shallow textural detail features. Orange Yolo can achieve mean Average Precision (mAP) values of 0.957 in the citrus dataset, higher than the 0.905, 0.911, and 0.917 achieved with the YOLOv3, YOLOv4, and YOLOv5 algorithms. OrangeSort was designed to alleviate the double-counting problem associated with occluded fruits. A specific tracking region counting strategy and tracking algorithm based on motion displacement estimation were established. Six



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## COST BASED EFFICIENTLY ALLOCATING RESOURCES FOR EDGE COMPUTING WEB APPLICATION

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***Abstract:** The emerging edge computing paradigm promises to deliver superior user experience and enable a wide range of Internet of Things (IoT) applications. In this paper, we propose a new market-based framework for efficiently allocating resources of heterogeneous capacity-limited edge nodes (EN) to multiple competing services at the network edge. By properly pricing the geographically distributed ENs, the proposed framework generates a market equilibrium (ME) solution that not only maximizes the edge computing resource utilization but also allocates optimal resource bundles to the services given their budget constraints. When the utility of a service is defined as the maximum revenue that the service can achieve from its resource allotment, the equilibrium can be computed centrally by solving the Eisenberg-Gale (EG) convex program. We further show that the equilibrium allocation is Pareto-optimal and satisfies desired fairness properties including sharing incentive, proportionality, and envy-freeness. Also, two distributed algorithms, which efficiently converge to an ME, are introduced. When each service aims to maximize its net profit (i.e., revenue minus cost) instead of the revenue, we derive a novel convex optimization problem and rigorously prove that its solution is exactly an ME. Extensive numerical results are presented to validate the effectiveness of the proposed techniques*

### I. INTRODUCTION

Data traffic through the communication network has skyrocketed during the last decade, mostly due to the rise of cloud computing and the use of mobile devices. New generations of applications, such as

4K/8K UHD video, tactile Internet, virtual/augmented reality (VR/AR), and other Internet of Things (IoT) applications, are projected to continue this trend in the near future. A great strain will be placed on the network as cloud infrastructure and the



## DETECTION AND CLASSIFICATION OF PCB DEFECTS USING DEEP LEARNING METHODS

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### ABSTRACT:

*Printed Circuit boards (PCBs) are one of the most important stages in making electronic products. A small defect in PCBs can cause significant flaws in the final product. Hence, detecting all defects in PCBs and locating them is essential. In this paper, we propose an approach based on denoising convolutional autoencoders for detecting defective PCBs and to locate the defects. Denoising autoencoders take a corrupted image and try to recover the intact image. We trained our model with defective PCBs and forced it to repair the defective parts. Our model not only detects all kinds of defects and locates them, but it can also repair them as well. By subtracting the repaired output from the input, the defective parts are located. The experimental results indicate that our model detects defective PCBs with high accuracy (97.5%) compare to state of the art works. Index Terms—PCB, defect detection, autoencoder, denoising convolutional autoencoders. We describe the complete model architecture and compare with the current state-of-the-art using the same PCB defect dataset. These benchmark methods include the Faster Region Based Convolutional Neural Network (FRCNN) with ResNet50, RetinaNet, and You-Only-Look-Once (YOLO) for defect detection and identification. Results show that our method achieves a 98.1% mean average precision (mAP [IoU = 0.5]) on the test samples using low-resolution images. This is 3.2% better than the state-of-the-art using low-resolution images (YOLO V5m) and 1.4% better than the state-of-the-art using high-resolution images (FRCNN-ResNet FPN). While achieving better accuracies, our model also requires roughly 3× fewer model parameters (7.02M) compared with the state-of-the-art FRCNN-ResNet FPN (23.59M) and YOLO V5m (20.08M). In most cases, the major bottleneck of the PCB manufacturing chain is quality control, reliability testing and manual rework of defective PCBs. Based on the initial results, we firmly believe that implementing this model on a PCB manufacturing line could significantly increase the production yield and throughput, while dramatically reducing manufacturing costs.”*

## DEEP-LEARNING- BASED IN-FIELD CITRUS FRUIT DETECTION AND TRACKING

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### Abstract :

Fruit yield estimation is crucial to establish fruit harvesting and marketing strategies. Recently, computer vision and deep learning techniques have been used to estimate citrus fruit yield and have exhibited notable fruit detection ability. However, computer-vision based citrus fruit counting has two key limitations: inconsistent fruit detection accuracy and double-counting of the same fruit. Using oranges as the experimental material, this paper proposes a deep-learning-based orange counting algorithm using video sequences to help overcome these problems. The algorithm consists of two sub-algorithms, Orange Yolo for fruit detection and OrangeSort for fruit tracking. The Orange Yolo backbone network is partially based on the YOLOv3 algorithm, which has been improved upon to detect small objects (fruits) at multiple scales. The network structure was adjusted to detect small-scale targets while enabling multiscale target detection. A channel attention and spatial attention multiscale fusion module was introduced to fuse the semantic features of the deep network with the shallow textural detail features. Orange Yolo can achieve mean Average Precision (mAP) values of 0.957 in the citrus dataset, higher than the 0.905, 0.911, and 0.917 achieved with the YOLOv3, YOLOv4, and YOLOv5 algorithms. OrangeSort was designed to alleviate the double-counting problem associated with occluded fruits. A specific tracking region counting strategy and tracking algorithm based on motion displacement estimation were established. Six



## ADVANCE DETECTION OF MACHINE FAILURE IN AUTOMATED INDUSTRIES USING MACHINE LEARNING ALGORITHMS

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**Abstract-** Machinery faults prediction is expensive both in terms of repair and loss output in production. These losses or faults may lead to complete machinery or plant breakdown. Applying advanced machine learning techniques to avoid these losses and faults and replace them with predictive maintenance. To identify and predict the faults in industrial machinery using Machine Learning (ML). These datasets were analyzed to predict the faults using machine learning models. A major problem faced by businesses in asset-heavy industries such as manufacturing is the significant costs that are associated with delays in the production process due to mechanical problems. Most of these businesses are interested in predicting these problems in advance so that they can proactively prevent the problems before they occur which will reduce the costly impact caused by downtime. The performance of the model was evaluated for both the datasets with binary and multi-classification problems using the different machine learning models and their statistics. The availability of this historical data makes it easier to build and

# Traffic Sign Board Recognition And Voice Alert System

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**Abstract:** -Millions of people are injured annually in vehicle accidents. Most of the traffic accidents are the result of carelessness, ignorance of the rules and neglecting traffic signboards, both at the individual level by the drivers and the society at large. The magnitude of road accidents in India is alarming. This is evident from the fact that every hour there are about 56 accidents taking place similarly, every hour more than 14 deaths occur due to road accidents. When someone neglects to obey traffic signs, they are putting themselves at risk as well as other drivers, their passengers and pedestrians. All the signs and signals help keep order in traffic and they also are designed to reduce the number and severity of traffic accidents. Some drivers believe that some traffic signs are simply not necessary.

## INTRODUCTION:

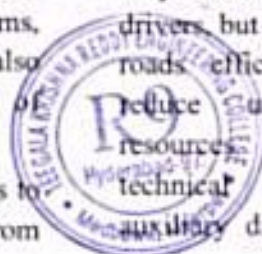
In recent years, with the outbreak of Artificial Intelligence (AI), the vehicle-aided driving system has updated previous driving mode. By acquiring real-time road condition information, the system promptly reminds drivers to make accurate operations, thereby prevent car accidents due to driver fatigue. In addition to the auxiliary driving systems, development of autonomous vehicles also requires rapid and accurate detection of traffic signs from digital images.

Traffic Sign Recognition (TSR) is to detect the location of traffic signs from

digital images or video frames, given a specific classification. The TSR methods basically make use of visual information such as shape and color of traffic signs. However, the conventional TSR algorithms are facing drawbacks in real-time tests, such as being easily restricted by driving conditions, including lighting, camera angle, obstruction, driving speed, and so on. It's also very difficult to achieve multitarget detection, easy to miss visual objects because of slow recognition.

With continuous improvement of computer hardware, the limitation of artificial neural networks has been well alleviated, which has brought machine learning into a golden time of development. Deep learning is a type of machine learning methods. A deep neural network model simulates the neural structure of our human brain while processing information. Using this neural network model to extract the effective features from the road image is much better than the conventional TSR algorithms, which has the potential to improve the robustness and generalization of the algorithms.

The research outcomes in TSR not only avoid traffic accidents and protect drivers, but also help inspect traffic signs on roads efficiently and accurately, which reduce unnecessary manpower and resources. In addition, it also provides technical support for unmanned and auxiliary driving. Therefore, the research



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## VITAMIN DEFICIENCY AND FOOD RECOMMENDATION SYSTEM

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**Abstract:** *The main objective of this project is to recommend a diet to different individual. The recommender system deals with a large volume of information present from the dataset. In this project own data set is prepared based on various high and low values of vitamins from (vitamin a, b, c, d, e, k) and features are divided from normal and abnormal conditions of vitamins and labels are divided in to 0 and 1 as normal and abnormal. Another dataset is prepared based on combination of various vitamins and their deficiency and food to be recommended based on which vitamin is deficient. In this project multiple classifier algorithms are used ( KNN, Decision Tree, Random forest, Logistic regression, voting classifier ) ensemble algorithm is used to combine multiple algorithms and train a new algorithm. Accuracy of each algorithm is calculated and best algorithm is used for prediction purpose. Prediction is shown using flask web application which will detect deficiency of vitamin and recommend type of food to be taken on various combinations.*

**Keywords:** *Vitamin Deficiency, Food Recommendation, machine learning*

### I. INTRODUCTION

Nowadays, a human being is suffering from various health problems such as fitness problem, inappropriate diet, mental problems etc. Various studies depict that inappropriate and inadequate intake of diet is the major reasons of various health issues and diseases. A study by WHO reports that inadequate and imbalanced intake of food causes around 9% of heart

attack deaths, about 11% of ischemic heart disease deaths, and 14% of gastrointestinal cancer deaths worldwide. Moreover, around 0.25 billion children are suffering from Vitamin-A deficiency, 0.2 billion people are suffering from iron deficiency (anemia), and 0.7 billion people are suffering from iodine deficiency. The main objective of this work to recommend a diet to different individual. The recommender

## SECURE AND DYNAMIC MULTI KEYWORD RANKED SEARCH SCHEME OVER ENCRYPTED CLOUD DATA FOR IMPROVING EFFICIENCY

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### ABSTRACT

A Secure and Dynamic Multi-keyword Ranked Search Scheme over Encrypted Cloud Data Due to the increasing popularity of cloud computing, more and more data owners are motivated to outsource their data to cloud servers for great convenience and reduced cost in data management. However, sensitive data should be encrypted before outsourcing for privacy requirements, which obsoletes data utilization like keyword-based document retrieval. In this paper, we present a secure multi-keyword ranked search scheme over encrypted cloud data, which simultaneously supports dynamic update operations like deletion and insertion of documents. Specifically, the vector space model and the widely-used TFIDF model are combined in the index construction and query generation. We construct a special tree-based index structure and propose a "Greedy Depth-first Search" algorithm to provide efficient multi-keyword ranked search. The secure kNN algorithm is utilized to encrypt the index and query vectors, and meanwhile ensure accurate relevance score calculation between encrypted index and query vectors. In order to resist statistical attacks, phantom terms are added to the index vector for blinding search results. Due to the use of our special tree-based index structure, the proposed scheme can achieve sub-linear search time and deal with the deletion and insertion of documents flexibly. Extensive experiments are conducted to demonstrate the efficiency of the proposed scheme.

### 1. INTRODUCTION

With the advent of cloud computing, it has become increasingly popular for data owners to outsource their data to public cloud servers while allowing data users to retrieve this data. For privacy concerns, secure searches over encrypted cloud data have motivated several research works under the single owner model. However, most cloud servers in practice do not just serve one owner; instead, they support multiple owners to share the benefits brought by cloud computing. In this paper, we propose schemes to deal with Privacy preserving Ranked Multi-keyword Search in a Multi-owner model (PRMSM). To enable cloud servers to perform secure search without knowing the actual data of both keywords and trapdoors, we systematically construct a novel secure search protocol. To rank the search results and preserve the privacy of relevance scores between keywords and files, we propose a novel Additive Order and Privacy Preserving Function family. To prevent the attackers from eavesdropping secret keys and pretending to be legal data users submitting searches, we propose a novel dynamic secret key generation protocol



## POLICE COMPLAINT MANAGEMENT SYSTEM USING BLOCKCHAIN

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**ABSTRACT:** Criminal activities in India are increasing at an alarming rate, and many go unreported. Despite having an online portal for the police to store FIRs and NCRs, most are still handwritten. A centralized system called the Crime and Criminal Tracking Network and Systems (CCTNS) was implemented in 2009 for the entire country, but it is only centralized for a specific state. Thus, a completely decentralized system is needed to ensure no central point of failure exists, and complaints are securely managed and protected from unauthorized access. To achieve this, a blockchain-based solution is proposed to manage complaints against both cognizable and noncognizable offenses. The police-filed FIR will be encrypted, stored in IPFS, and added to the blockchain network with a hash. This will provide strong proof for the complainant if the police refuse to file the FIR under pressure or deny receiving a complaint. With all records stored in an immutable database, there is no chance of FIR/NCR tampering or going unnoticed.

**Keywords:** Crime and Criminal Tracking Network and Systems, block chain. Criminal activities

### I. INTRODUCTION

In India, complaints regarding offenses have to be registered under the law. There are two types of offenses i.e. cognizable and non-cognizable offenses. Cognizable offenses include serious types of crimes like murder, theft, kidnapping, and rape, etc. As defined in Section 2 (c) of the Criminal Procedure Code 1973, in case of a cognizable offense,

police can arrest the suspect without any warrant. The assigned inspector can start the investigation process without any orders from the court. In the commission of any cognizable offense, the First information report aka FIR, is registered at the police station. Any individual can file an FIR, if he/she is a vic-tim or has seen the offense being committed. FIR details include the complainant's name and address, date and



## EFFICIENT AND SECURE FILE TRANSFER IN CLOUD THROUGH DOUBLE ENCRYPTION USING AES AND RSA ALGORITHM

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**Abstract:** With recent advances in Cloud computing, information is being contracted by cloud services. Dropbox and Google Drive provide cloud services to users with low-cost storage. Here we present a protection method by encrypting and decrypting the files which offer an enhanced level of protection. To encrypt the file that we upload in cloud, we make use of Double Encryption technique. The file is being encrypted twice using the two algorithms one after the other. The file is first encrypted using AES algorithm and then by RSA algorithm. The corresponding keys are being generated during the execution of the algorithm. This technique increases the security level.

**Keywords:** Double Encryption, Security in Cloud storage, Security analysis, AES, RSA.

### I. INTRODUCTION

Cloud computing is a very vast and rapidly emerging technology. It may have different meanings for different individuals but the common characteristic that brings different individuals together is the high availability of data at any time and at any place. Cloud computing not only reduces the role of local computers but also makes computing more integrated. In addition,

Software as a Service is a software delivery model in which a third party provides host applications to the organizations and makes them accessible over the internet. Also, SaaS reduces the need for organizations to individually install and run applications on their own computers [1]. This property of SaaS eliminates the cost of installation and support, software licensing, maintenance,



## CURSOR CONTROL SYSTEM USING HAND GESTURES

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**Abstract:** In a world of technological advancements, almost 300 million are deaf and 1 million are dumb people. For conversations to be possible, knowledge on ways of expression and insights of their standard versions in practice are to be studied and as a concern towards making their lives better, many research works have been under progress. The following proposed project helps to develop an integrated system which can be useful for deaf/dumb people to easily communicate with normal people. This can be further developed into an innovative communication system which can support mobile or wireless communication for deaf and dumb in a compact device. The basic approach of the idea involves conversion of one mode of communication to the other which is Sign language to text/speech and control mouse using hand gestures. Sign language is a well-structured non-verbal communication skill through which a speaker's thoughts can be meaningfully conveyed where in, each gesture, including movement of head and other body parts, has a meaning assigned to it. In the proposed system a gesture or sign image is sent to the system which is then evaluated using neural network models like (CNN)convolution neural networks. It involves different layers where feature extraction and classification steps are performed to enhance the features extracted from the image. When the input image matches with the given datasets the output gesture is recognized and based on that mouse functions are performance.

**Keywords:** Cursor Control System, Hand gesture, convolutional neural network,

### I. INTRODUCITON

The main objective of this project is recognition of a gesture by appropriate training of the neural network and

controlling mouse with gesture. We aim to achieve accuracy in identifying correct gesture during run time. This recognition system is beneficial for





**CHIROGRAPHY DOCUMENTATION USING OCR IN CNN**

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**Abstract-** Chirography documentation is the capacity of a computer to accept and analyze legible handwriting input from sources such as paper documents, touch screens, pictures, and so on. One kind of pattern recognition is chirography text recognition. or categories. It is difficult to train an optical character recognition (OCR) system based on these conditions.

Deep learning algorithms have produced breakthrough results in the area of handwriting recognition research in recent years Convolutional neural networks (CNNs) are particularly excellent in perceiving the structure of handwritten characters/words in ways that aid in the automated extraction of distinguishing characteristics, making CNN the best solution for solving handwriting recognition difficulties.

**KEYWORDS:** Chirography, Deep learning algorithms, Convolutional neural networks.



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## WHEEL CHAIR-PERSON FALL DETECTION WITH IOT

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***Abstract:** Falling down is among the major causes of medical problem that are faced by the elderly people and movement disability person. By coupling the accelerometer with the gyroscope(MPU6050 sensor), the accuracy of the system was improved by reducing false positives and true negatives and also detects temperature of the person respectively. When fall event occur, an alert notification was transmitted to the concerned authorities via the Blynk IOT server platform and also The IoT system will send email notification to the registered person to alert them fall event happen and help needed.*

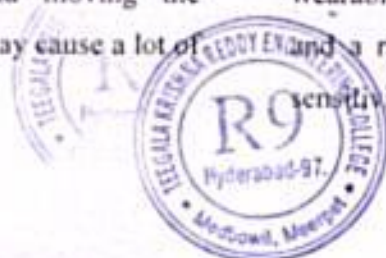
### I. INTRODUCTION

One of the leading causes of emergency room visits for the elderly is falls. Falls are a leading cause of injury for the elderly, particularly those who live alone. In order to lessen the victim's danger after a fall, immediate medical assistance is required. Webcams have been integrated into a number of monitoring systems specifically designed for the elderly. However, the setup and maintenance costs are high, and it can only be used inside... The currently available commercial product is a wristwatch-shaped wireless emergency transmitter. Swinging and moving the gadget around too much may cause a lot of

false alarms and severely limit how the user can move.

This concept offered a dependable and affordable technology to detect falls and notify loved ones to provide assistance. Accelerometers and gyroscopes were used to measure the rate of acceleration and the angle of the faller's body to identify falls. When the accelerometer was combined with the gyroscope, the system's precision increased because of the decrease in false positives and increases in true negatives. The appropriate authorities have been notified through the alert system. This wearable gadget also has a low-price tag and a rapid reaction time. Therefore, the

sensitivity and specificity of our fall



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## AN IOT BASED SMART WATERING SYSTEM USING SOIL MOISTURE CONCEPT

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**Abstract:** India is mainly an agricultural country. Agriculture is the most important occupation for the most of the Indian families. It plays vital role in the development of agricultural country. In India, agriculture contributes about 16% of total GDP and 10% of total exports. Water is main resource for Agriculture. Irrigation is one method to supply water but, in some cases, there will be lot of water wastage. So, in this regard to save water and time we have proposed project titled smart watering system using soil moisture concept. In this proposed system we are using various sensors like soil moisture sensors which senses the various parameters of the soil and based on soil moisture value land gets automatically watered by ON/OFF the motor. The Smart watering system. Here we are building a IoT based Irrigation System using ESP8266 Node MCU Module and Soil moisture Sensor. It will not only automatically supply the water based on the moisture level in the soil but also send the Data to Thing Speak Server or ada fruit server or cayenne IOT Server to keep track of the land condition. The System will consist a water pump which will be used to sprinkle water on the land depending upon the land environmental condition such as Moisture. These sensed parameters and motor status will be displayed on user android application.

**Keywords:** Soil moisture sensors, IoT, Arduino, Android, Microcontroller, duplex communication.

### I. INTRODUCTION



# INVENTORY MANAGEMENT SYSTEM USING QR CODE

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**Abstract:** *Tracking your assets should be one of your several business priorities. To get the most out of your fixed assets, you must at all times be in the know about the history of your assets. To collect and analyse info you need an asset tracking system in place. The traditional way of tracking assets involves using barcodes, which is still popular, however, many businesses now use QR code inventory management software. As hard as it may be for you to believe, QR codes were invented for asset tracking and not marketing. You can use a smartphone or a handheld scanner to scan QR codes. That said, only scanners that can read both 1D and 2D barcodes QR codes.*

**Keywords:** *Barcode scanner, Inventory management system, QR Code, ZXing library.*

## I. INTRODUCTION

QR Inventory is lightweight, yet powerful inventory management system that uses QR codes, NFC and mobile technology to streamline inventory management process for small businesses. Use smartphones to efficiently check in, check out and lookup inventory by scanning QR codes, regular UPC barcodes or NFC tags. No bulky proprietary scanners are required - no matter how many people in your organization are involved in handling

inventory, they all have scanners in their pockets[1].

Process high volume asset and inventory transactions fast using NFC technology - and a smartphone. NFC technology allows for much more efficient assets and inventory processing and does not require purchase of the extra hardware.

Access accurate real-time inventory status, location and other details from anywhere -

use smartphones, tablets or desktop



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## UNDERWATER IMAGE ENHANCEMENT WITH A DEEP RESIDUAL FRAMEWORK

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**Abstract:** Owing to refraction, absorption, and scattering of light by suspended particles in water, raw underwater images have low contrast, blurred details, and color distortion. These characteristics can significantly interfere with visual tasks such as segmentation and tracking. The first step in the process includes noise reduction by smoothing the image. Following the noise reduction step, the next step is to perform color correction separately on every color channel. The next step is to perform contrast enhancement in order to improve the visibility of objects in the image. Image fusion refers to combining more than one image to get a high-quality single image. In this case, multi-scale fusion can be used to integrate the color-corrected image and contrast-enhanced image to get a high-quality underwater image. According to the underwater image enhancement experiments and a comparative analysis, the color correction and detail enhancement performance of the proposed methods are superior to that of previous deep learning models.

### INTRODUCTION:

Underwater images find applications in various fields, like marine research, an inspection of aquatic habitats, underwater surveillance, identification of minerals, and more. However, underwater shots are affected a lot during the acquisition process due to the absorption and scattering of light. As depth increases, longer wavelengths get absorbed by water; therefore, the images appear predominantly bluish-green, and red gets absorbed due to higher wavelengths. These phenomenon's result in significant degradation of images due to which images have low contrast, color distortion, and low visibility. Hence, underwater images

need enhancement to improve the quality of images to be used for various applications while preserving the valuable information contained in them.



Figure 1. Comparison of enhanced image and the image enhanced by the proposed framework.

### IMAGE

An image is a two-dimensional picture, which has a similar appearance to some subject usually a physical object or a person. Image is a two-dimensional, such as a photograph, or screen display, and as well as three-dimensional, such as a statue. They may be captured by optical devices—such as cameras, mirrors, lenses, telescopes, microscopes,

## NETWORK TRAFFIC IDENTIFICATION BASED ON MACHINE LEARNING AND DEEP PACKET INSPECTION

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**ABSTRACT:** Accurate network traffic identification is an important basis for network traffic monitoring and data analysis and is the key to improving the quality of user service. In this paper, through the analysis of two network traffic identification methods based on machine learning and deep packet inspection, a network traffic identification method based on machine learning and deep packet inspection is proposed. This method uses deep packet inspection technology to identify most network traffic, reduces the workload that needs to be identified by the machine learning method, and deep packet inspection can identify specific application traffic, and improves the accuracy of identification. The machine learning method is used to assist in identifying network traffic with encryption, new applications, and unknown features, which makes up for the disadvantage of deep packet inspection that cannot identify new applications and encrypted traffic. Experiments show that this method can improve the identification rate of network traffic.

### I. INTRODUCTION

As networking technology advances rapidly, customers' expectations for network speeds and quality continue to rise. Therefore, it has become one of the challenges in network operation and maintenance management to effectively manage and control different types of network business traffic, differentiate between services, offer varying

levels of quality assurance, and cater to the business requirements of users. Application-specific traffic may be easily identified on a network using network traffic identification. Classifying, identifying, and distinguishing the application of network traffic allows for the traffic of various applications to be subdivided, allowing for the provision of individualized network services, which in





## CHIRONOMY TRANSCRIPTION

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**Abstract:** Gesture recognition is one of the most popular techniques in the field of computer vision today. In recent years, many algorithms for gesture recognition have been proposed, but most of them do not have a good balance between recognition efficiency and accuracy. In order to offer new possibilities to interact with machine and to design more natural and more intuitive interactions with computing machines, our research aims at the automatic interpretation of gestures based on computer vision. In this paper, we propose a technique which commands computer using six static and eight dynamic hand gestures. The three main steps are: hand shape recognition, tracing of detected hand (if dynamic), and converting the data into the required command. Experiments show 93.09% accuracy.

**Keywords:** computer vision, deep learning, hand gesture, neural network, transfer learning, hand gesture recognition

### I. INTRODUCTION

Gesture recognition is the mathematical interpretation of a human motion by a computing device. Modern research of the control of computers changes from standard peripheral devices to remotely commanding computers through speech, emotions and body gestures [1]. Our application belongs to the

domain of hand gesture recognition which is generally divided into two categories i.e., contact-based and vision-based approaches. The second type is simpler and intuitive as it employs video image processing and pattern recognition. The aim is to recognize six static and eight dynamic gestures while maintaining accuracy and speed of the system. The





## ENERGY EFFICIENT TEACHING LEARNING BASED OPTIMIZATION FOR DISCRETE ROUTING PROBLEMS IN WIRELESS SENSOR NETWORKS

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**Abstract-** Wireless sensor networks (WSNs) are composed of sensor nodes, having limited energy resources and low processing capability. Accordingly, major challenges are involved in WSNs Routing. Thus, in many use cases, routing is considered as an NP-hard optimization problem. Many routing protocols are based on metaheuristics, such as Ant Colony Optimization (ACO) and Particle Swarm Optimization (PSO). In this paper, we propose a new routing approach based on Teaching Learning Based Optimization (TLBO) which is a recent and robust method, consisting on two essential phases: Teacher and Learner. As TLBO was proposed for continuous optimization problems, this work presents the first use of TLBO for the discrete problem of WSN routing. The approach is well founded theoretically as well as detailed algorithmically. Experimental results show that our approach allows obtaining lower energy consumption which leads to a better WSN lifetime. Our method is also compared to some typical routing methods; PSO approach, advanced ACO approach, Improved Harmony based approach (IHSBEER) and Ad-hoc On-demand Distance Vector (AODV) routing protocol, to illustrate



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## RESUME PARSING USING NLP

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**Abstract:** *The resume parser helps us to convert the amorphous form of resume data into a structured format. A resume parser analyses resume data and extract the most important information that automatically stores, organizes, and analyses to find the best candidates. For this project, we collected the data from 25 different category resumes for developing a Machine learning model to find which category the resume belongs to. We build a resume parser to extract text from two different files docx and pdf files. Using the Python-docx library we extract the text when the resume is in a docx file and if the resume is in pdf format means we use the PyMuPDF library for extracting the text. For converting the text into numerical data, we implemented term frequency and inverse document frequency concept which gives importance to each word based on probability. The ML models we developed were used to find the category of the resume to which it belongs ex: java developer, data scientist, Full stack developer. Email address and Phone number are well-defined patterns in themselves. Thus, we would be using Regular Expressions in order to capture them in the resume. So, with the help of ML models and python, we developed a resume parser application that can extract the important information from the resume.*

**Keywords:** *Resume Parsing, Machine learning, Natural language processing*

### I. INTRODUCTION

Resumes are commonly presented in PDF or MS word format, and there is no particular structured format to present/create a resume. So, we can say

that each individual would have created a different structure while preparing their resumes. It is easy for us human beings to read and understand those unstructured or rather differently structured data because of our experiences and understanding, but





## PRICE NEGOTIATING CHATBOT ON E-COMMERCE WEBSITE

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**Abstract:** *In recent years, online shopping has gained a huge boom, but some features like negotiating with shopkeepers are not available. To avoid this, a chatbot has been implemented which interacts with customers and assists them to get a satisfactory price on product(s). To ensure accuracy, an algorithm has been developed which works along with prediction of old available data to provide a price. Price prediction has less accuracy at times due to either irrelevant features/attributes of data or some algorithms are not suitable for a particular dataset. Ecommerce business does not directly rely on price prediction systems since even a wrong prediction of a single product can result in business losses. Some models also fail when data scales or some feature is unavailable after time on which model prediction was dependent. The chatbot system has tried to resolve some of these issues.*

**Keywords:** *Chatbot, e-commerce website, machine learning models.*

### I. INTRODUCTION

E-commerce websites today apply various AI techniques to determine most liked products or most sold products which eventually are calculated to provide an effortless search for customers shopping on their website. But at times when the best products are sold at high prices,

customers have to compromise on their product. There are also some other problems that customers may face on low-cost products. These problems can be eliminated by giving them an opportunity to negotiate on the products. Negotiation is a combination of both linguistic and reasoning problems. Negotiation is the





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## PRE-WARNING SYSTEM FOR WEAK HOUSES AND BRIDGES USING IOT

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### ABSTRACT:

In this project, the alert is made about weak bridges and houses that may destroy and having a risk of collapsing. The main aim of the project is to avoid hazards. Early warning systems are the systems by which people receive relevant and timely information in systematic way. Early action can often prevent a hazard turning into a human disaster by preventing loss of life and reducing the economic and material impacts. In this bridge or House monitoring system is significant to be health monitoring of both old/new bridges and flyovers an infrastructure daily used by citizens of their respective countries. In this system, we use MEMS-Micro Electro Mechanical sensor for dislocation or uneven movement of the bridge or house, flex sensor is used to crack detection, and a Atmega328 micro controller is used for processing the data and to react according to the instructions and alert the system whenever there is an uneven conduction occurred.

**Key Words:** Arduino Uno, MEMS sensor, Flex sensor, Buzzer, red LED, Green LED.

### INTRODUCTION:

Human beings need shelter to live, so they have started building houses and buildings. A Bridge is a structure which connects two places. A bridge is a structure built to span a physical obstacle, such as a body of water, valley, or road, without closing the way underneath. It is constructed for the purpose of providing passage over the obstacle, usually something that is

otherwise difficult or impossible to cross. Two things should be considered when you are building the foundations - the solidarity of the soil and the heaviness of the building and its contents. The causes of weak building or houses may be weak foundations, poor soil condition, poor materials - Materials that just aren't strong enough to withhold the load used in construction.



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## PREDICTION OF HYPOENDOCRINE GLAND USING MACHINE LEARNING ALGORITHMS

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**Abstract:** The thyroid gland is a vascular gland and one of the most vital organs in the human body. This gland secretes two hormones that help control the body's metabolism. The types of thyroid disorders are hyperthyroidism and hypothyroidism. When this disease occurs in the body, they secrete certain hormones that lead to an imbalance in the body's metabolism. A thyroid-related blood test is used to screen for this disorder, but it's often blurry, and the noise can be a gift. Data cleaning techniques were used to make the information primitive enough to be analysed to detect the likelihood of patients having the disorder. Machine Learning plays a very deciding role in the disease prediction. Machine Learning algorithms like, Decision Tree(DT), Support vector machine (SVM), K-Nearest Neighbour (KNN), and Artificial neural network (ANN) Algorithms are used to predict the patient's risk of getting thyroid disease. Web app is created to get data from users to predict the type of disease. The proposed machine learning algorithms outperformed all other classifiers and achieved the highest accuracy with 97.5%.

**Keywords:** Machine learning, Random Forest, Logic regression, thyroid gland, endocrine gland.

### I. INTRODUCTION

Computational biology advances are used in healthcare organizations. It allows the

## E-FARMING AN E-COMMERCE WEBSITE FOR FRESH FARM PRODUCE VEGETABLES AND FRUITS

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**Abstract:** E-commerce is clearly beginning to have a major impact in the agricultural sector. The way people go about purchasing agricultural products is of great concern. Most of the time customers have to travel far distances to get agricultural products and getting the right quality is not ensured. E –Farming is to help farmers as well as customers for buying and selling agricultural products across the country using a computerized approach. The one of the main goals of this product is to eliminate middleman and provide an efficient and robust alternative method to ease the flow of overall market. The website builds a platform for farmers to ensure greater profitability through end user communication. This allows viewing various products available enables users to purchase desired products instantly by online payment.

**Keywords:** E-commerce, agricultural products, E –Farming

### I. INTRODUCTION

Farming is the Prime Occupation in India in spite of this, today the people involved in farming belongs to the lower class and is in deep poverty. The Advanced techniques and the Automated machines which are leading the world to new heights, is been lagging when it is concerned to farming, either the lack of awareness of the

advanced facilities or the unavailability leads to the poverty in farming. Even after all the hard work and the production done by the farmers, in today's market the farmers are cheated by the Agents, leading to the poverty. E-Farming would make all the things automatic which make easier serving as a best solution to all the problems. Farmer's E- Farming will serve a way for the farmers to sell their





## AIR DRUMS PLAYING DRUMS USING COMPUTER VISION

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**ABSTRACT:** *The cost of a drum set is an investment that most aspiring drummers would eventually need to shoulder in order to continue their craft. What this research aims to do is to hasten the introduction of drummers to the drumming experience without the costs, and also to allow for drummers to be able to practice, at least casually, without a full drum set. This thus allows the experience of drumming to a wider audience. The solution we explore is the development of a prototype virtual drum set that would only require users to have a laptop with a camera, along with easily accessible markers representing the tips of drum sticks and knee movement, such as colored papers. OpenCV based on Python was used to implement this, and used the concept of color-biased blob detection for detecting the markers.*

### I. INTRODUCTION

The drums is the most popular percussive instrument in the music industry today. Many beginners who aspire to be a percussive musician start out with learning how to play the drums. However, a typical drum set is usually expensive, takes a lot of space, and not easily transportable unlike other instruments such as the guitar or keyboard. Figure 1 shows the different

components that consist of a standard drum set. The goal of this study is to build a system that will enable aspiring drummers to be able to play and practice the drums on thin air, with the use of computer vision. The idea is to translate a video being captured of a user playing the virtual drums, considering realistic movements with an actual drum set, to an audio synthesis of appropriate drum samples in real-time. Making use of a laptop's built-in web camera, the project



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## SINGLE IMAGE DEHAZING USING SKY ADAPTIVE FUSION

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**Abstract:** Hazy days often appears in our daily life, which reduces the visibility of images captured from various cameras. High quality dehazing algorithms are in great demand. Most of the common approaches are based on the dark channel prior (DCP). However, DCP is not valid in the sky region and make the estimated transmission close to zero, which lead to color distortions and noise appear in the sky region. To deal with the above problem, this paper proposes a bright channel prior (BCP) to for computing the transmission map in the sky region. After that, the transmission maps obtained using DCP and BCP are fused effectively using the proposed gradient-based fusion scheme. The haze-free images are finally recovered using the fused transmission map and input hazy image. Experimental results demonstrate that the proposed method outperforms the DCP method especially on preserving the color consistence of sky regions.

**Keywords:** -component image dehazing bright channel prior; dark channel prior; gradient

### I. INTRODUCTION

There are various kinds of turbid media in the atmosphere (e.g. dust, water droplets). Scene reflect light which is absorbed and scattered before it reaches the camera. The weather transmission decline severely causing the reflected light attenuate.

images contrast become lower and color faded, so that these images lose their authenticity. algorithm base on dark channel prior, and refined the transmission by soft matting. The image restoration effect is more natural. However, this method can produce halo and color distortion in





## IMAGE FORGERY DETECTION BASED ON FUSION OF LIGHT WEIGHT DEEP LEARNING MODELS

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**Abstract-** Image forgery detection is one of the key challenges in various real time applications, social media, and online information platforms. The conventional methods of detection based on the traces of image manipulations are limited to the scope of predefined assumptions like hand-crafted features, size, and contrast. In this paper, we propose a fusion based decision approach for image forgery detection. The fusion of decision is based on the lightweight deep learning models namely Squeeze Net, MobileNetV2 and Shuffle Net. The fusion decision system is implemented in two phases. First, the pretrained weights of the lightweight deep learning models are used to evaluate the forgery of the images. Secondly, the fine-tuned weights are used to compare the results of the forgery of the images with the pre-trained models. The experimental results suggest that the fusion-based decision approach achieves better accuracy as compared to the state-of-the-art approaches.

**KEYWORDS:** Image forgery, Decision Approach, Deep Learning, Squeeze Net, MobileNetV2.



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## Catching Unauthorised Fishing in Oceans using Machine Learning

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**Abstract:** In this project we are using regression model algorithm to detect unauthorised fishing and to implement this project we are using vessel dataset from Global Fishing Watch. Global Fishing Watch will have details of each fishing boat or vessel and this GFW will attach sensors to each vessel and whenever this vessel is in water then sensor will send data to GFW and by analysing this dataset GFW can extract vessel ID and can detect whether vessel is doing authorised fishing or unauthorised fishing. GFW analysing this data manually so in this project we are using GFW dataset to train regression model and upon receiving new records then regression model will predict whether that new record data is doing normal or unauthorised fishing.

**Keywords:** Unauthorized Fishing, Normal fishing, Regression model, GFW, Machine learning

### I. INTRODUCTION

Globally the fishing industry takes seafood worth up to \$23.5 billion. Every year this fishing business grows efficiently. Illegal fishing is one of the big back steps in this business. Illegal fishing is defined as no authorization against conservation and management measures by the Regional

Fishery Management Organization (RFMOs). Due to this type of fishing, we face issues in the economic growth of this business. Through this type of high-risk fishing, many of the species were extinct. Unreported fishing and illegal fishing are causing high damage to the economy illegal fishing is the loss worldwide is





## An Efficient and Fine-grained Big Data Access Scheme with Privacy-Preserving Policy

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**Abstract:** How to control the access of the huge amount of big data becomes a very challenging issue, especially when big data are stored in the cloud. Ciphertext-Policy Attribute based Encryption (CP-ABE) is a promising encryption technique that enables end-users to encrypt their data under the access policies defined over some attributes of data consumers and only allows data consumers whose attributes satisfy the access policies to decrypt the data. In CP-ABE, the access policy is attached to the ciphertext in plaintext form, which may also leak some private information about end-users. Existing methods only partially hide the attribute values in the access policies, while the attribute names are still unprotected. In this paper, we propose an efficient and fine-grained big data access control scheme with privacy-preserving policy. Specifically, we hide the whole attribute (rather than only its values) in the access policies. To assist data decryption, we also design a novel Attribute Bloom Filter to evaluate whether an attribute is in the access policy and locate the exact position in the access policy if it is in the access policy. Security analysis and performance evaluation show that our scheme can preserve the privacy from any LSSS access policy without employing much overhead.

**Keywords:** Ciphertext-Policy Attribute based Encryption, Cloud computing, fine grained access control.

### I. INTRODUCTION

In the era of big data, a huge amount of data can be generated quickly from various sources (e.g., smart phones, sensors,

machines, social networks, etc.). Towards these big data, conventional computer systems are not competent to store and process these data. Due to the flexible and elastic computing resources, cloud



# Human Activity Recognition using Machine Learning Classification Techniques

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**Abstract:** In recent years, automatic helmet recognition for motorcyclists in real-time surveillance footage has become an important application of computer science. This has led to the increasing use of deep learning techniques, particularly for object detection and classification. However, existing models face several challenges such as low resolution, poor lighting, weather conditions, and occlusion, which limit their accuracy in detecting motorcycle helmets. To address these challenges, a novel approach using the Faster R-CNN model has been proposed. This method involves using the Region Proposal Network (RPN) with the input image as the starting point, followed by training the Faster RCNN model using the RPN weights. This approach is designed to improve the accuracy of helmet detection in real-time surveillance videos. The experimental results of this approach have shown promising outcomes, with an accuracy rate of 97.26% in detecting motorcycle helmets in real-time surveillance videos. This demonstrates the effectiveness of the proposed method in addressing the challenges faced by existing models, and the potential for deep learning techniques in the field of automatic helmet recognition for motorcyclists in real-time surveillance footage.

**Keywords:** Machine learning, convolutional neural network, RCNN, LSTM, human action recognition.

## I. INTRODUCTION

Human action recognition (HAR) is a well-known research topic, that involves the correct identification of different activities, sampled in a number of ways. In particular, sensor-based HAR makes use of inertial sensors, such as accelerometers and gyroscopes, to sample acceleration and

angular velocity of a body. Sensor-based techniques are generally considered superior when compared with other methods, such as vision-based, which use cameras and microphones to record the movements of a body: they are not intrusive for the users, as they do not involve video recording in private and



# COLLABORATIVE DATA CACHING IN EDGE COMPUTING

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*Abstract: Technology, especially mobile devices like smartphones, wearables, tablets, smart cars, and IoT gadgets, has been expanding at a rapid clip during the last decade. Congestion and increased latency are common results of such heavy usage of the network. Our solution included edge computing (EC) to deal with this problem. Edge computing has evolved as a means to redistribute processing power away from the cloud and onto edge computers. Our work is a web-based programme. By storing frequently used data on edge devices that are closer to end-users, collaborative data caching employing edge computing may boost the speed of web applications. In addition to a data-storing cloud server, edge servers are set up as well. Data stored on edge servers is automatically deleted after one day to save memory. The data is sent from the edge server or the cloud server to the mobile destination, where it is received, but the files can only be downloaded using a key. The created key and extremely secure data protection and privacy key are sent to the user's specified email address. There were a few key safeguards included in our collaborative data caching project to prevent unwanted eyes from spying on or intercepting private information.*

## I. INTRODUCTION

The use of smartphones and other mobile devices has skyrocketed in recent years. Congestion and delays in the network are common results of the massive amount of traffic. In response, a new computing paradigm known as edge computing (EC) has arisen to shift the focus of computing resources away from the cloud and onto

decentralised edge servers. Each edge server receives its power from one or more hardware devices and is connected to a nearby base station or access point used by mobile app users. By leasing processing power and data storage space from edge servers, providers of mobile and IoT applications may guarantee their consumers experience low latency and





## A STRATEGY FOR NEAR-DEDUPLICATION WEB DOCUMENTS CONSIDERING BOTH DOMAIN & SIZE OF THE DOCUMENT

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**Abstract:** *The advice on the web is adopting to huge volumes, so an arduous affair to atom near-duplicate abstracts efficiently. The alike and near-duplicate abstracts are breeding a boundless botheration for seek engines, appropriately decelerate or access the number of confined answers. Elimination of near-duplicates save arrangement bandwidth and reduces the accumulator amount and advances the superior of seek indexes. It as well decreases the amount on the limited host that is confined such web documents. Server applications are as well benefited by identification of abreast duplicates. In this avant-garde approach, the crawled web certificate is taken and keywords are acquired and are compared with the keywords accessible in the athenaeum of the accurate domain, again an accommodation of certificate acceptance to an accurate area is absitively adjoin the number of keywords akin in that accurate domain. After selecting the domain, the admeasurement of the ascribe certificate is advised and the seek amplitude is bargain and calculations of affinity array are as well diminished. Thereafter the affinity account is affected with abstracts which are acceptance to that accurate area only. This access reduces seek amplitude thereby abbreviation the seek time.*

**Keywords:** *web content mining, deduplication of web content, Web Structured Mining, web usage mining.*

### I. INTRODUCTION

Data deduplication is a process of eliminating the redundant data in a system, typically it is meant for improving effective storage utilization

During the deduplication process, it identifies an extra copy of already existing data in a data set /storage medium, delete the extra copy, leaving only one copy of the data to be stored.



## MEDI-E-CONSULT

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**Abstract:** A medical application android app is a software program that can be installed on a device running the Android operating system, such as a smartphone or tablet, and is designed to help users access and manage their medical information and receive medical assistance. providing users with access to emergency medical information and resources, such as phone numbers for poison control or emergency services. providing information about potential causes and treatment options for various symptoms. This project is based on the Mobile Application for online consultancy for people all around the world. This App allows us to consult ourselves while sitting at our homes. From this application, a user can input their symptoms, and based on the symptoms we can get to know the disease and can have the basic information regarding that disease. It provides links for more information and also options for finding nearby hospitals through google maps and provides the option for emergency calls.

**Keywords:** Medi e-consults, teleconsulting, telehealth, telemedicine.

### I. INTRODUCTION

Electronic consultations (e-consults) are a promising approach to the challenge of improving access to specialty care. E-consults offer a rapid, direct, and documented communication pathway for consultation between primary care and specialist. They may avert the need for a face-to-face visit between specialist and patient. As a result, they have the potential

to enable cost-effective and convenient care for patients while improving access to and coordination of specialty care across the system. As such, they may offer an appealing new modality for rational appropriation of health care services. We define an e-consult as an asynchronous communication between healthcare providers that occurs within a shared electronic health record (EHR) or secure



## SOCIAL MEDIA AND MISLEADING

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**ABSTRACT:** *In this paper, we present a resource allocation mechanism to incentivize misinformation filtering among strategic social media platforms, and thus, to indirectly prevent the spread of fake news. We consider the presence of a strategic government and private knowledge of how misinformation affects the users of the social media platforms. As a result, individuals have developed a tendency to form their opinions based on the believability of presented information rather than its truthfulness. Our proposed mechanism strongly implements all generalized Nash equilibria for efficient filtering of misleading information in the induced game, with a balanced budget. We also show that for quasi-concave utilities, our mechanism implements a Pareto efficient solution.*

**Keywords:** *Social media, misleading, customer opinions, Nash equilibria.*

### I. INTRODUCTION

For the last few years, political commentators have been indicating that we live in a post-truth era, wherein the deluge of information available on the internet has made it extremely difficult to identify facts. As a result, individuals have developed a tendency to form their opinions based on the believability of presented information rather than its truthfulness. This

phenomenon is exacerbated by the business practices of social media platforms, which often seek to maximize the engagement of their users at all costs. In fact, the algorithms developed by platforms for this purpose often promote conspiracy theories among their users.

The sensitivity of users of social media platforms to conspiratorial ideas makes them an ideal terrain to conduct



## TEXT SUMMARIZER USING BART

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**Abstract:** With the exponential growth of digital data, the ability to quickly and efficiently process large amounts of text data has become increasingly important. Text summarization is a key tool in natural language processing (NLP) that enables users to quickly understand the key points of a document without reading through the entire text. Text summarization has a wide range of applications, including news summarization, document summarization. The data owner will upload the files into the system and double encryption is used on the file. The generated cipher text is going to be divided into seven fragments. These fragments will upload into the firebase cloud. The user can download the files by requesting the file key. The user will receive the key via email after a request processed by the data owner. If the key is valid the file will download. while downloading the seven fragments will combine as a single fragment and double description will apply on the file. The plain text will be downloaded as a text file. The cloud can track the upload and downloads, the cloud can view data owners and data user's details.

**Keywords:** Automatic text summarizer, natural language processing, BERT.

### I. INTRODUCTION

In the era of information overload, extracting key insights and relevant information from vast amounts of text has become a daunting task. Text summarization, the process of condensing lengthy documents or articles into concise and informative summaries, has emerged as a vital solution. This project focuses on leveraging advanced natural language

processing models, including BERT, T5, and Pegasus, to develop a robust and effective text summarization system[1].

By harnessing the power of these state-of-the-art models, we aim to provide users with quick and comprehensive overviews of complex textual content. BERT, with its ability to capture contextual information, T5, with its versatile text-to-text framework, and Pegasus, with its expertise



## Detection of Malevolent statements using machine learning algorithms

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**Abstract:** Prior to the innovation of information communication technologies (ICT), social interactions evolved within small cultural boundaries such as geo spatial locations. The recent developments of communication technologies have considerably transcended the temporal and spatial limitations of traditional communications. These social technologies have created a revolution in user generated information, online human networks, and rich human behaviour-related data. However, the misuse of social technologies such as social media (SM) platforms, has introduced a new form of aggression and violence that occurs exclusively online. A new means of demonstrating aggressive behaviour in SM websites are highlighted in this paper. The motivations for the construction of prediction models to fight aggressive behavior in SM are also outlined. We comprehensively review cyberbullying prediction models and identify the main issues related to the construction of cyberbullying prediction models in SM. This paper provides insights on the overall process for cyberbullying detection and most importantly overviews the methodology. Though data collection and feature engineering process has been elaborated, yet most of the emphasis is on feature selection algorithms and then using various machine learning algorithms for prediction of cyberbullying behaviours. Finally, the issues and challenges have been highlighted as well, which present new research directions for researchers to explore.

**Keywords:** social media, cyber-bullying, machine learning, information communication technologies.

### I. INTRODUCTION





## CHURN PREDICTION USING ENSEMBLE MODEL

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**Abstract:** Nowadays, as some banks are filing for bankruptcy, people are losing their trust in banks and withdrawing their accounts. And this is not at all good for the economic growth nationally and individually.. In order to counter this we have come up with an idea of predicting whether a customer will churn or not using an ensemble model consisting of decision tree, logistic and linear regression together predicting if a customer will churn or not. In accordance to our predictions., the bank can act as to whom to give additional benefits and whom they can ignore for the time, this will help the banks grow and inturn the companies and individuals grow leading to economic growth of the country

**Keywords:** Convolutional Neural Network; Accident Detection; Deep Learning; Video Classification; Recurrent Neural Network.

### I. INTRODUCTION

Churn prediction is a machine learning model with the task of predicting whether a particular customer is going to churn or not. Churn means if the person is going to continue to stay as a customer in the bank Or not.

World Health Organization (WHO) on road accidents based on the income status of the country, it is seen that low and middle-income or developing countries have the highest number of roads accident related deaths. Developing countries have road accident death rate of about 23.5 per





## MALICIOUS URL DETECTION

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**Abstract-** We address our experience training and testing a malicious URL detection system in this article. Our research is inspired by a range of technical and security developments. To begin with, the internet has become a more dangerous environment. Semanteme announced a 36 percent rise in cyber threats year over year in 2011. This equates to about 4,500 new attacks every day. The rate at which new attacks are launched has far outpaced the capabilities of conventional anti-malware tools. Second, both personal and business use of mobile web data has improved significantly. Semanteme observed in their 2012 State of Flexibility Survey that, while smartphones were once largely banned by IT, they are now used by hundreds and thousands of workers around the world. As a result, the attackable demographic for attackers has not only expanded, but also contains a potentially more appealing community from a commercial or financial perspective. We obtain a performance of 0.84 and a F1-measure of 0.74 using an Logistic Regression with a polynomial kernel. The user is, however, expected to take some action in all situations, such as click on a preferred resource on the internet (URL). The web security organizations have developed blacklisting programs to help identify malicious websites.

**KEYWORDS:** Malicious , URL, Attacks, Attackers, Internet.



# SLIDING WINDOW BLOCKCHAIN ARCHITECTURE FOR IOT

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**Abstract** -This project is describing concept to provide security to IOT devices using Blockchain technology as this technology supports decentralized data storage which means data will be stored at multiple nodes compare to centralized storage where data is stored at single centralized server. Decentralized data storage provides facility of receiving data from any available node and it has strong security where a single data store will verify hash value of all nodes . To overcome from this problem it is introduce Sliding window technique where the window size will be fixed and all Blockchain transaction hash values will be stored in window and if window size exceeded then old transaction blocks will be slided or removed and maintain only recent blocks due to this technique memory storage and data transfer overhead will be reduced.

## I .INTRODUCTION

Blockchain is a distributed ledger used to record transactions between two or more parties. Unlike relational database systems, blockchain is a data structure where new entries get appended at the end of the ledger, and there exist no administrator permissions within a blockchain which allow modification of the data. Also, the addition of a new block to the chain needs to be verified by all other parties through a consensus algorithm. Since there exists a distributed control over the blockchain, it is difficult for attackers to modify the data compared to a relational database system. Relational databases are primarily designed for centralized data storage and blockchain are specifically designed for decentralize data storage.

## II Literature survey

Traditional blockchain approach is not suitable for IoT with real-time data streams due to their computationally complex Proof-of-Work (PoW). As the computational time increases, Blockchain security becomes infeasible to be used for IoT. The computational complexity depends on difficulty

## STEGANOGRAPHY TECHNIQUES FOR HIDING SECRET INFORMATION

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**Abstract:** Steganography is a technique for hiding data behind the file such as image, audio, video etc. and that data securely transfer from sender to receiver. It serves as a better way of securing message than cryptography which only conceals the content of the message not the continuation of the message. Original message is being hidden within a file such that the changes so occurred in the file are not noticeable. To hide the secret information verity of steganography techniques can be used and are more complex than others while all of them have respective strong and weak points. The absolute invisibility of the secret information is maintained by different applications, while others require a large secret message to be hidden. This paper discusses an overview of image steganography, its uses and techniques to satisfy the need for privacy on the internet. Various steganography techniques to provide privacy while transferring data from source to destination.

**Keywords:** steganography, cryptography, secret information, digital image.

### I. INTRODUCTION

Steganography is the art of hiding the fact that communication is taking place, by hiding information in other information. Many different carrier file formats can be

used, but digital images are the most popular because of their frequency on the internet. One of the reasons that intruders can be successful is the most of the information they acquire from a system is in a form that

## DUAL ACCESS CONTROL FOR CLOUD BASED DATA STORAGE AND SHARING

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**Abstract:** Cloud-based data storage service has drawn increasing interests from both academic and industry in the recent years due to its efficient and low-cost management. Since it provides services in an open network, it is urgent for service providers to make use of secure data storage and sharing mechanism to ensure data confidentiality and service user privacy. To protect sensitive data from being compromised, the most widely used method is encryption. However, simply encrypting data (e.g., via AES) cannot fully address the practical need of data management. Besides, an effective access control over download request also needs to be considered so that Economic Denial of Sustainability (EDoS) attacks cannot be launched to hinder users from enjoying service. In this paper, we consider the dual access control, in the context of cloud-based storage, in the sense that we design a control mechanism over both data access and download request without loss of security and efficiency. Two dual access control systems are designed in this paper, where each of them is for a distinct designed setting. The security and experimental analysis for the systems are also presented.

**Keywords:** Cloud computing, dual data accessing, data sharing, AES, Denial of Sustainability.

### I. INTRODUCTION

Due to its extensive list of advantages, which includes access freedom and the

lack of local data management, in many Internet-based commercial products (such as Apple iCloud). Nowadays, a growing





## IOT BASED SPY CONTROL ROBOT FOR MILITARY PURPOSE

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**ABSTRACT:** In this project, we will deliberate how to control robot-controlled car using IOT technology through an android mobile phone. A new version of wireless controlled vehicle is proposed for spying purposes. This robot supposes a movable spy robot with wireless system. The spy robot is made up of an IP camera, DC motors, servo motors for camera rotation, solar cells instead of the regular lithium rechargeable ion batteries, and 3 movable wheels. Smart phone camera is used as an IP camera to capture live streaming video surrounding the robot and that information will be appeared in user's smart phone GUI window. In this vehicle, the signals transmitted from the user's smart phone are used for vehicle motion and then the camera mounted on robot will take the video live streaming. This live streaming information is sent back to the user's smart phone via Wi-Fi wireless system.

**Keywords:** spy robot, IoT, IP camera, DC motors, GUI

### I. INTRODUCTION

In today's world the monitoring of military areas is essential due to increased attacks of the enemies but the quality of that monitoring i.e., surveillance is not that much satisfactory, this results in the increasing ratio of lives of the soldier in danger. Because of that it is necessary to improve the quality of surveillance through effective surveillance. This can be done more effectively by high quality

transmission. In this project the quality of video is improved using Closed Circuit Cameras. For all this there is a need of the ground Robot which is able to move on the hills, muddy areas. By using Closed Circuit Cameras various technical advancements are took placed in surveillance [1]. Lots of crime scenes have been solved by using this technology but still, the crime rate has not reduced because of immobility of the surveillance



## Squint Eye Disease Detection Using Machine Learning

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**Abstract:** Eye plays an important role in human life. Squint eye is one of the eye diseases. It stands for crossed eye i.e., a condition in which the eyes do not align properly. "Squint eye disease detection using machine learning"- it aims to provide screening method for people who live in remote areas with poor medical accessibility. This model detects the type and percentage of the defect by uploading an image in a website, where types include esotropia, exotropia, hypotropia, hypertropia. Dataset is trained using CNN (convolution neural network) algorithm and this model is used to detect. Accuracy of the type is calculated using this model. Web application is developed using flask framework and detected result with details are displayed.

**Keywords:** Squint eye disease detection, convolutional neural networks, machine learning.

### I. INTRODUCTION

In recent years, eye detection has become an important research topic in computer vision and pattern recognition, because the human eye's locations are essential information for many applications, including psychological analysis, facial expression recognition, auxiliary driving, and medical diagnosis. However, eye

detection is quite challenging in many practical applications.

The cameras are sensitive to light variations and the shooting distance, which makes the human eyes very eccentric in a facial image. Sometimes the face is partially occluded and we are not able to obtain a complete facial image. For



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## WATER LEVEL MONITORING AND DAM GATE CONTROL OVER IOT

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**ABSTRACT:** The cradle of our project is based on methodology of IOT. Water level in a dam needs to be maintained effectively to avoid complications. The quantity of water released is hardly ever correct resulting in wastage of water & it is impossible for a man to precisely control the gates without knowledge of exact water level and water inflow rate. We have designed a system in which real time things are interconnected to web. Water level sensors are placed in dam to serve the same purpose automatically and forward the status to nodeMCUesp8266. Microcontroller which process the data coming from sensors and upload the status of water level on web. By this project each and every variation of water level is informed to control room through the internet (using blynk application) and nearby people can be informed in time thus saving lots of lives and avoiding the unpleasant scenarios and also this system consist of dam health monitoring system by crack detection. And previous data is stored in app which helps in proper management.

### I. INTRODUCTION

Dams are the major sources of water supply to cities; they also play a vital role in flood control and can assist river navigation. Most of the dams are built to serve more than one purpose and their benefits are manifold. It is necessary to implement some sort of communication between the

systems and computer models to provide support in managing the complex systems. In India, nearly 4000 major/medium dams are constructed and many more are in a pipeline. Normally, the range of dam storage capacity of 185 billion cubic meters of water with a surface area of 5,580km (93.4TMCft). During rainfall, for every 9.6mm the rise of







## DEEP LEARNING METHODS TO DETECT HAND GESTURES FOR DEAF AND DUMB

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**Abstract:** In Recent years human-machine interaction has become the most interested field in computer science & engineering. Artificial intelligence and Deep learning have advanced in leaps and boundaries, thanks to the rapid growth of hardware and software technologies. Speech and Gesture are the two key functionalities for Human Machine Interaction. The main focus here is on extracting features from images and identify the gestures. In this paper we explored Convolutional Neural Networks (CNN) for this purpose. CNN set up deep Learning methods for completing the task. In this paper, we proposed a model to detect hand gestures from the trained dataset of given images. From an each image, fingers and palms are separated so that the gestures can be interpreted easily. we used a dataset of nearly 2500 images so that the margin of error could be reduced. images are captured using a simple camera (preferably laptop web-cam for collecting images) and the size of the dataset may become very large because images need to be captured from different angles, to be able to identify a particular gesture. The outcome of results are compared with the preexisting results of KNN and HMM models. In this paper we did only exploring CNN in depth. because they could make hand gesture recognition a cost-effective process. later this can be facilitate future work for remote learning for deaf and dumb community across the globe.

**Keywords** — *Convolutional Neural Network, Hand Gestures, Human Machine Interaction, Image Preprocessing, Computer Vision.*

### I. INTRODUCTION

Hand Gesture recognition is a process that wants to decipher human gestures with the help of mathematical processes. HMI is not limited to just keyboard and mouse use. It has gained vast functionalities due to technical advancements in the previous decade. Hand gestures are classified into two categories: Static and dynamic gestures. The authors have compared various static hand recognition methods like Hidden Markov Method, Convolutional Neural Networks, and K-Nearest Neighbors method. The motivation for choosing this area of research was the fact that the deaf and dumb community all over the world, especially in India do not have a universal way of communicating and they are not accorded the respect they deserve. The authors have felt the need to create a methodological way so that these people



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## INTRUSION DETECTION SYSTEM USING MACHINE LEARNING TECHNIQUES

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### Abstract:

Relevant features can considerably increase the accuracy and performance for intrusion detection engine recently with emerging of new technologies, vast amount of traffic is being generated Therefore we need a dynamic system which can collect data and analyze the incoming traffic. However not all the features may not contribute to identify the incoming traffic, hence we need a reduced subset of features that can improve the speed and accuracy of intrusion detection system In this paper feature selection method has been applied to identify relevant features which can contribute in improving accuracy and speed of intrusion detection system and selected relevant feature based on the score. The main objective is to identify relevant features that can contribute in improving speed and accuracy of intrusion detection system To achieve this in this paper the feature selection approach has been applied on NSL-KDD dataset and used scikit library. relevant features has been identified and observed accuracy rate has been increased.

### Keywords:

Network traffic, Intrusion Detection system, classification, NSL-KDD 1999, scikitlearn.

## I. INTRODUCTION

Modern technologies like Big Data, Cloud Computing, and Social Network have been emerged. discovering knowledge from these emerging technologies has become very challenging task for business analyst ,marketers and data scientists "With this amount of data transmitted over a network or internet, security becomes a major concern, although multiple intrusion prevention technologies have been built in the past decade to eliminate potential threats despite that, attacks still continue and increase in complexity, this is the reason there is a need of a mechanism to detect any suspicious or unwanted traffic which may cause damage on a particular network. This security mechanism can be implemented using an Intrusion Detection System (IDS) which can be described as a collection of software or hardware devices able to collect, analyze and detect any unwanted, suspicious or malicious traffic either on a particular computer host or network [1]. hence, to achieve its task, an IDS should use some statistical or mathematical method to read and interpret the information it collects and subsequently reports any malicious activity to the network administrator"[2]. "There still exists one main issue regarding the actual intrusion detection technique that is the involvement of human interaction when it comes to label the traffic between an intrusion and a normal one, another major concern is the new challenge of "Big Data" and "Cloud Computing". These two ubiquitous technologies produce a large amount of data that must be collected and analyzed by the intrusion detection engine dynamically and often the IDS need to deal with multi-dimensional data generated by these large quantities of data. It is necessary to consider that the intrusion dataset can be huge in size, not only the number of observations grown, but the number of observed attributes can also increase significantly and may generate a considerable number of false positives results as it can contain many redundant or duplicate records". Machine learning helps to optimize performance criterion using example data or past experience using a computer program, models are defined with some parameters, and learning is the execution of the programming computer to optimize the parameters of the model using training data. The model can be predictive to make predictions or descriptive to gain knowledge from data"[4].



## MITIGATION DISTRIBUTED DENIAL OF SERVICE ATTACKS IN MACHINE LEARNING

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**Abstract-** In imbalanced network traffic, malicious cyber-attacks can often hide in large amounts of normal data. It exhibits a high degree of stealth and obfuscation in cyberspace, making it difficult for Network Intrusion Mitigation System to ensure the accuracy and timeliness of detection. First, use the Nearest Neighbor algorithm to divide the imbalanced training set into the DOS set and the easy set. SDN networks are exposed to new security threats and attacks, especially Distributed Denial of Service (DDoS) attacks. For this aim, we have proposed a model able to detect and mitigate attacks automatically in SDN networks using Machine Learning (ML). Different than other approaches found in literature which use the native flow features only for attack detection, our model extends the native features.

**KEYWORDS:** Distributed Denial of Service, Cyber-Attacks, Machine Learning.



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## Image captioning using CNN and RNN

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**Abstract:** Image captioning is a fast-growing research field of computer vision and natural language processing that involves creating text explanations for images. It is a concept of gathering the right description of the given image on the internet use Computer Vision and natural language processing. It is achieved using the Deep learning techniques called as convolution neural network and recurrent neural network. The dataset used for implementation is called as the Flickr8k Dataset. The task of image captioning can be divided into two modules logically – one is an image-based model - which extracts the features and nuances out of our image, and the other is a language-based model – which translates the features and objects given by our image-based model to a natural sentence.

**Keywords:** Image captioning, convolutional neural network, recurrent neural networks, deep learning.

### I. INTRODUCTION

Image Caption generation is a task in which a machine model is trained using artificial Intelligence in a way that the machine can understand the image scene at

a same level as human beings understand the visual world. Image Captioning is basically like a short description generated by just looking at the image visually. In this task, a machine is fed with an input image and based on the intelligence and



## ACCIDENT DETECTION WITH CCTV USING CONVOLUTIONAL NEURAL NETWORK

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**Abstract:** *Accidents have been a major cause of deaths in India. From past decade surveillance cameras have been installed for security purposes on several roads and are still being installed, but those surveillance cameras aren't being used to their fullest. Also, there isn't enough of man power to survey each and every road, each and every surveillance video. More than 80% of accident-related deaths occur not due to the accident itself but the lack of timely help reaching the accident victims. The intent is to create a system which would detect an accident based on the live feed of video from a CCTV camera installed on a road. The idea is to take each frame of a video and run it through a deep learning convolution neural network model which has been trained to classify frames of a video into accident or non-accident. Convolutional Neural Networks has proven to be a fast and accurate approach to classify images.*

**Keywords:** *Convolutional Neural Network; Accident Detection; Deep Learning; Video Classification; Recurrent Neural Network.*

### I. INTRODUCTION

Over 1.3 million deaths happen each year from road accidents, with a further of about 25 to 65 million people suffering from mild injuries as a result of road accidents. In a survey conducted by the

World Health Organization (WHO) on road accidents based on the income status of the country, it is seen that low and middle-income or developing countries have the highest number of roads accident related deaths. Developing countries have road accident death rate of about 23.5 per



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## Driver Drowsiness Monitoring System Using Visual Behaviour and Machine Learning

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**Abstract:** Drowsy driving is one of the major causes of road accidents and death. Hence, detection of driver's fatigue and its indication is an active research area. Most of the conventional methods are either vehicle based, or behavioral based or physiological based. Few methods are intrusive and distract the driver, some require expensive sensors and data handling. Therefore, in this study, a low-cost, real-time driver's drowsiness detection system is developed with acceptable accuracy. In this system, a webcam records the video and the driver's face is detected in each frame employing image processing techniques. Facial landmarks on the detected face are pointed and subsequently the eye aspect ratio and nose length ratio are computed and depending on their values, drowsiness is detected based on developed adaptive threshold. Machine learning algorithms have been implemented as well in an offline manner.

**Keywords:** drowsiness detection, visual behaviour, eye aspect ratio, mouth opening ratio, nose length ratio.

### I. INTRODUCTION

Drowsy driving is one of the major causes of deaths occurring in road accidents. The truck drivers who drive for continuous long hours (especially at night), bus drivers of long-distance route or overnight buses are more susceptible to this problem.

Driver drowsiness is an overcast nightmare to passengers in every country. Every year, a large number of injuries and deaths occur due to fatigue related road accidents. Hence, detection of driver's fatigue and its indication is an active area



## EYE BALL CURSOR DRIVE USING OPENCV LIBRARY

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**ABSTRACT:** There are different reasons for which people need an artificial of locomotion such as a virtual keyboard. The number of people, who need to move around with the help of some article means, because of an illness. Moreover, implementing a controlling system in it enables them to move without the help of another person is very helpful. The idea of eye controls of great use to not only the future of natural input but more importantly the handicapped and disabled. Camera is capturing the image of eye movement. First detect pupil center position of eye. Then the different variation on pupil position gets different command set for virtual keyboard. The signals pass the motor driver to interface with the virtual keyboard itself. The motor driver will control both speed and direction to enable the virtual keyboard to move forward, left, right and stop.

**Keywords:** Eye ball cursor, eye movement, virtual keyboard, OpenCV.

### I. INTRODUCTION

There are different reasons for which people need an artificial of locomotion such as a virtual keyboard. The number of people, who need to move around with the help of some article means, because of an illness. Moreover, implementing a controlling system in it enables them to move without the help of another person is very helpful.

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# Ascertaining Along With Taxonomy of Vegetation Folio Ailment Employing CNN besides LVQ Algorithm

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**Abstract**— In agriculture, early disease detection is crucial for increasing crop yield. The diseases Microbial Blotch, Late Blight, Septoria leaf spot, and yellow twisted leaves all have an impact on tomato crop productivity. Automatic plant illness classification systems can assist in taking action after ascertaining leaf disease symptoms. This paper emphasis on multi-classification of tomato crop illnesses employs Convolution Neural Network (CNN) model and Learning Vector Quantization (LVQ) algorithm-based methodology. The dataset includes 500 photographs of Tomato foliage with four clinical manifestations. CNN paradigm performs feature extraction and categorization in which color information is extensively used in plant leaf disease investigations. The model's filters have been applied to triple conduit similar tendency on RGB hues. The LVQ was fed during training by a yield countenance vector of the convolution component. The experimental results reveal that the proposed method accurately detects four types of solanaceous leaf diseases.

**Keywords**-Leaf Disease Detection, Leaf Disease Classification, Convolution Neural Network(CNN), Learning Vector Quantization(LVQ).

## I. INTRODUCTION

Flora illnesses have quite an effect on vegetation development as well as agricultural production and the social, ecological, and economic well-being of husbandry. Late research on leaf malady demonstrates how it affects plants. Plant leaf disorder causes substantial economic detriments for ranchers. Former sickness detection requires particular attention. Pathogens are intensively investigated in journals. There is an emphasis on organic characteristics whoever vile the disease is. Disorders are visible surface on vegetation and foliage. The early diagnosis

appears critical and also effective disorder conduct. Individual specialists usually executed detection. They could detect ailments graphically, but they face obstacles that might jeopardize their efforts. With such circumstances, detecting along with categorizing illness is critical to complete tasks precisely and on schedule outstanding paramount[1].

The relentless utilization of CNN models in picture classification hurdles in the past decade. Deep learning may be conceived of as a neural network-based learning approach. Deep learning has the benefit of automatically extracting





# Empowering Visually Impaired through the Assistance of SAHAYAK – A Walking Aid for the Blind

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**Abstract-** To help blind people overcoming difficulty in their movement in the physical environment and even in their home, a study on an engineering concept is very much necessary. So, our research comes out with an aid that will help blind people in their surroundings. It can detect any obstacle that will block the path of the blind. And The motion of the user can be sensed by the bot. Thus, Blind people can comfortably receive the help of our bot in assisting their movement from one place to another. This paper describes about an automated vehicle which can be controlled by an ultrasonic sensor to avoid obstacles when they move in their environment. Our automated robotic system is made up of an ultrasonic sensor and Arduino micro controller controls our automated bot. It is located in the front part of the bot. The ultrasonic sensor retrieves the data from the environment through the sensors attached to the bot. When any obstacle is detected then immediately that path is changed and an obstacle free path is chosen. The bot wheel is moved based on the data received by the controller from the sensor. The direction and wheel movement of the bot and will be decided from the ultrasonic sensor sensing and also using wheel encoder. It is used for detection and avoidance of interference. The controller is also programmed to be used with an android application.

**Index Terms-** Blindness, Arduino, ultrasonic sensor, bot wheel, motor driver.

## I. INTRODUCTION

Blindness is one of the critical stumbling blocks to all the disabilities of Human being. It is not possible for the blind people to live like normal people. They cannot feel their surrounding environment. So, there is a need for some assistance which can help them travel to navigate with easily in their physical surroundings. Some of the researchers have invented many devices for the blind people to navigate freely in the environment. But most of them are costly and task-specific. So, A device with lot of features is required to gain independent navigation. To fulfill this goal an automaton named "sahayak" is designed. This automated device removes the requirement of help of a human being for visually disabled when they travel in the physical environment. The parts of the automated device when compared with industry bots are reliable and low in cost. Each different part of the device is simulated and tested. It also needs low power and can run by any operator. The Sahayak detects obstacles holes and steps and notifies the user with sound. The "sahayak" that helps the blind, means HELPER in Hindi. It does what its name means, it helps people especially blind people when moving from one place to another.

A resource like a human is needed continuously to guide a blind person and provide assistance to the blind. As technology advances, human resources are reduced to guide a blind person.

But the inventions are not sufficient enough to guide him smoothly. To overcome the complexity, there is a need to design the technology that has a significant scope for further research. In future, there may be more developments for this project which would be very more useful and easier to use by blind people. The word SAHAYAK means HELPER in Hindi. It does what it's name means, it assists people especially blind people in moving from one place to another.

**Existing System:** TheNavBelt:Computer-Assisted travel assistance, proposed by Shraga Shoval, Johann Borenstein, and Yoram Koren, is one of the most helpful wearable assistive technologies for the visually impaired. It's a combination of a portable compute, stereo headphones, and an ultrasonic sensor. SMART WALKING STICK IS AN ELECTRONIC APPROACH TO HELP THE Blind proposed by Mohammad Hazzaz Mahmud, Rana Sahaand Sayemul Islam to design the smartest competition prototype of SMARTWALKINGSTICK for the visually impaired, provides artificial vision with the ability to mimic good dimensions of help and avoid small obstacles. This low power, lightweight, and affordable device is designed to embrace the traditional portable device paradigm. The main goal of this work is to narrow down the complications of blindness in visually impaired people by developing automated microcontrollers.

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## CHATBOT USING NATURAL LANGUAGE PROCESS(NLP)

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### ABSTRACT

A chatbot is a computer program that makes conversations with humans using Artificial Intelligence (AI) in messaging platforms. Every time the chatbot gets input from the user, it saves input and response which helps the chatbot with little initial knowledge to evolve using gathered responses. We can implement an online chatbot system to assist website users. Using this tool, we can access files easily instead of going through different modules. Artificial Intelligence methods such as Natural Language Processing (NLP). Chatbots eliminate the requirement of any manpower during online interaction and are available 24x7, once installed. These learn and update themselves on their own and can handle multiple queries at once.

**Keywords:** Research on Chatbot.

### I. INTRODUCTION

This chapter gives an overview of the purpose, aim, objectives, background & operation environment of the system.

#### 1.1 PURPOSE, AIM & OBJECTIVES:

A chatbot is a computer program that makes conversations with humans using Artificial Intelligence in messaging platforms.

✓ Every time the chatbot gets input from the user, it saves input and response which helps the chatbot with little initial knowledge to evolve using gathered responses.

✓ We can implement an online chatbot system to assist users who access the website. By using this tool, we can access files easily instead of going through different modules.

✓ Artificial Intelligence methods such as Natural Language Processing, allows users to communicate with college chatbot using natural language input and to train the chatbot using appropriate Machine Learning methods.

#### 1.2 BACKGROUND OF PROJECT:

The earlier versions of chatbots communicated by matching user questions with scripted responses entered into its database. knowledge is limited, and therefore, it can discuss only in a particular domain of topics. Also, it cannot keep long conversations and cannot learn or discover context from the discussion. Later, Live Chatbots released a framework that lets users build chatbots without coding. It establishes long emotional relationships with its users, taking into account cultural peculiarities and ethical issues. Chatbots are used by help desk tools, automatic telephone answering systems, e-commerce and so on.

#### 1.3 SCOPE OF PROJECT:

Our system mainly focuses on implementing an online chatbot system to assist users who access websites. By using this tool, we can access files easily instead of going through different modules. Artificial Intelligence methods such as Natural Language Processing, allow users to communicate with college chatbot using natural language input and to train the chatbot using appropriate Machine Learning methods.





## LIPNET: END-TO-END LIPREADING MODEL FOR SPEECH RECOGNITION

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**Abstract-** In this project, we explore LipNet, an end-to-end neural network model for lipreading and speech recognition. Using deep learning frameworks like TensorFlow and Keras, along with computer vision libraries like OpenCV, we aim to evaluate LipNet's accuracy in recognizing spoken words directly from video input. Our evaluation will use the GRID corpus dataset, which features audiovisual recordings of people speaking in noisy and visually-occluded environments. We will assess the model's performance by varying factors such as the number of LSTM layers and the amount of training data. Our LipNet project showcases the potential of end-to-end neural networks for speech recognition and its applications in accessibility, security, and human-computer interaction. Our research could pave the way for more accurate and efficient multimodal speech recognition systems.

**KEYWORDS:** LipNet, Neural Network Model, Deep Learning, LSTM.



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## Artificial Intelligence based Smart Education System

M Sunitha, B Vjitha, E Gunavardhan

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Artificial Intelligence (AI) has become widely used recently in several industries, including education. AI can be used in the educational setting to deliver individualized and engaging learning opportunities. AI tools can be created with the potential to revolutionize the way students learn, answer their academic questions, and provide a personalized learning experience that adapts to their unique needs and learning preferences by using the power of artificial intelligence, natural language processing, along with other frameworks. These technologies turn conventional teaching strategies into ones that are more participatory, interesting, and successful. They may give each student specialized support that improves their learning opportunities and promotes academic success by attending to their individual needs. The goal of the proposal is to develop an AI tool that can take questions from students as input and produce pertinent responses as output. Modern Natural Language Processing (NLP) techniques were used to build the suggested AI tool, allowing it to understand and interpret student questions in a natural and intuitive way. The user interface was created using the Python Kivy framework, which guarantees a straightforward and user-friendly layout that is simple for students to utilize. The end result is a creative and approachable tool that encourages students to ask for assistance with their academic problems and improves their learning process.

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## WEB APPLICATION FOR HEALTH WORKERS

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**Abstract:** India's Auxiliary Nurse Midwives (ANMs) is village-level female health workers who provide essential primary care services to pregnant women, mothers and new born children. ANMs cater to populations of 3,000-5,000 people, and their work mainly involves providing primary healthcare services for maternal and child health, family planning, nutrition and immunization programmes. Another extremely important part of the job is collecting healthcare data. ANMs capture around 200 key indicators related to health, nutrition and immunization of pregnant women, mothers and new born children in their paper registers. Like many other ANMs, handles more than one village, and on an average day carries 12-15 separate registers to record key data indicators while on the go. The proposed new application is helping them log healthcare data.

**Keyword:** Auxiliary Nurse Midwives, female health workers, web application.

## I. INTRODUCTION

Healthcare organizations are constantly designing effective systems aiming to help achieve customer satisfaction. Web-based and mobile-based technologies are two forms of information technologies that healthcare executives are increasingly looking to merge as an opportunity to develop such systems. Web mobile-based applications for healthcare management

address the difficult task of managing admissions and waiting lists while ensuring a quick and convincing response to unanticipated changes of the clinical needs. Web mobile-based applications for healthcare management tackle the limitations of traditional systems and take into consideration the dynamic nature of clinical needs, scarce resources, alternative strategies, and customer satisfaction in an



## PATHFINDING VISUALIZER

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**Abstract:** A Pathfinding visualizer is a type of front-end visualization for the user to help them understand the different types of Pathfinding algorithms. This algorithm is used to find the shortest path of the algorithm between two different points using different techniques. A visual Pathfinding Program helps you to create your own mazes and obstacles and then run different algorithms on them. We can create our own mazes and our own type of puzzle and generate different types of outcomes with it. Most of the students often try to study these concepts from the provided notes from the college or online notes. But to do this, a lot of time is utilized and it's not time-saving. due to the computing power of the recent hardware, even very entangled visualization involving 3D could be successfully implemented using interpreted graphic script languages like JavaScript that are available to every web user without any installation. The Languages used in this project are HTML, CSS, and JavaScript. The Different types of algorithms used in this representation are Dijkstra's Algorithm (weighted), Greedy Best-firstSearch (weighted), SwarmAlgorithm(weighted), BidirectionalSwarmAlgorithm (weighted), Depth-first Search (unweighted).

**Keywords:** visualization, animation, algorithm, Invariant, Pathfinding visualizer, SwarmAlgorithm, Dijkstra's Algorithm.

## I. INTRODUCTION

Algorithm visualization (often called algorithm animation) uses dynamic graphics to visualize computation of a given algorithm. First attempts to animate algorithms date to mid-80's (Brown, 1988;

Brown and Sedgewick, 1985), and the golden age of algorithm visualization was around the year 2000, when magnificent software tools for an energetic algorithm visualization (e.g., the language Java and its graphic libraries) and plenty of

## SMART SHOPPING TROLLEY USING RFID AND IOT

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**Abstract:** A supermarket or a hypermarket is a form where wide variety of product items is available. These product items can be food, beverages or any household product. The main purpose of supermarkets is to provide availability of all the products and save the time of the customers but sometimes customer gets frustrated while waiting in the queue at billing counter and sometimes they get confused while comparing the total price of all the products with the budget in the pocket before billing. To overcome these problems, we have designed a smart trolley using Arduino. With this system, there is no need for customer to wait in the queue for the scanning for the product items for billing purpose. Supermarkets or Hypermarkets provide this faculty to only those customers which having membership cards. When the customer inserts the membership card in the basket or trolley only then it will work as a smart trolley. Otherwise, it will work as a normal trolley. Supermarkets and hypermarkets use this technique as a strategy to increase the number of customers. In this project we are using NodemcuESP8266 Board, lcd display and rf-id module. When the person wants any item must and should show the item to reader. Rfid reader will read that number and compares that number in to the internal database and display the amount on to the lcd display. We can continuously add the item in to the trolley. Otherwise, if we are not interested any item, we can show the same item to the reader. Rfid reader will detect particular card and erase the money. lcd display will show the amount and item in trolley.

### I. INTRODUCTION

The Internet of Things (IoT) is a rapidly expanding sector that has introduced exciting new developments and opened the door to novel applications of technology in many different industries.

The combination of wireless communication with radio and frequency sensing opens up whole new possibilities for human interaction with and usage of technological objects. Supermarkets and other shopping centres are so widespread





## SECURE FILE STORAGE WITH HYBRID CRYPTO GRAPHICAL AND FRAGMENTATION SYSTEM

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**ABSTRACT:** When you are storing our data in a public cloud, securing your data becomes a big challenge. Our data will be stored in remote cloud servers. In this case we have obeyed the provider license agreements. We need to trust providers blindly. So, it is very important to secure our data with encryption. We are implementing a secure cloud storage system with AES, Triple DES and Blowfish algorithms by applying fragmentation. The secret agencies can use our systems to share information. In our project we have the modules named Administrator, Data owner, Data User and Cloud server. The data owner will upload the files into the system and double encryption is used on the file. The generated cipher text is going to be divided into seven fragments. These fragments will upload into the firebase cloud. The user can download the files by requesting the file key. The user will receive the key via email after a request processed by the data owner. If the key is valid the file will download. while downloading the seven fragments will combine as a single fragment and double description will apply on the file. The plain text will be downloaded as a text file. The cloud can track the upload and downloads, the cloud can view data owners and data user's details.

**Keywords:** Hybrid cryptography, AES, cloud computing, DES, Cloud security

### I. INTRODUCTION

Cloud storage services are widely used by individuals and organizations due to the inherent benefits offered by them. For

example, affordability, availability, mobility, Globalization and outsourcing in modern organizations and the increasing adoption of the social web in individual's life have increased the needs of sharing data in a



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## AI BASED OBJECT RECOGNIZATION AND TRACKING SYSTEM

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**Abstract:** Object detection is a well-known computer technology connected with computer vision and image processing that focuses on detecting objects or its instances of a certain class (such as humans, flowers, animals) in digital images and videos. There are various applications of object detection that have been well researched including face detection, character recognition, and vehicle calculator. Object detection can be used for various purposes including retrieval and surveillance. In this study, various basic concepts used in object detection while making use of OpenCV library of python3, improving the efficiency and accuracy of object detection are presented. Deep learning has gained a tremendous influence on how the world is adapting to Artificial Intelligence since past few years. Some of the popular object detection algorithms are Region-based Convolutional Neural Networks (RCNN), FasterRCNN, Single Shot Detector (SSD) and You Only Look Once (YOLO). Amongst these, Faster-RCNN and SSD have better accuracy, while YOLO performs better when speed is given preference over accuracy. Deep learning combines SSD and Mobile Nets to perform efficient implementation of detection and tracking. This algorithm performs efficient object detection while not compromising on the performance.

**Keywords:** Object tracking, OpenCV, computer vision, Webcam, NumPy

### I. INTRODUCTION

Since AlexNet has stormed the research world in 2012 ImageNet on a large-scale



## QR CODE BASED ATTENDANCE SYSTEM

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**Abstract:** This project is designed to take down employees' attendance using QR code. Every employee will be having a unique QR code. Each QR code represents a unique id for all employees. They just have to scan their QR code in front of the webcam on arriving and the system notes down their attendance as per date and time. System then stores all the employees' attendance records. It generates an overall report in excel sheet for admin and even allows him to search for particular employee's attendance. The Employee Attendance Management System is used to track how much time the workers spend working and how much time they spend off. It also lessens the use of paper, spreadsheets, or punching time cards, but with attendance software online.

**Keywords:** QR Code Based attendance system, Employee management system

### I. INTRODUCTION

Integrity and sincerity are the pillars of a successful workspace. But these factors do not come complimentary with the office space. They need to be developed and inculcated by forming a disciplined and regulated work environment.

To achieve this discipline, it is essential to monitor employees and keep a track of their devotion to their work. Attendance Management is one such method that allows the admin and the HR to keep an eye on the presence, absence and overtime

contribution of an employee for their job and the company as a whole.

Attendance Management keeps track of your employee hours. It is the system you use to document the time your employees work and the time they take off. Attendance Management can be done by recording employee hours on paper, using spreadsheets, punching time cards, or using online attendance software for your company [2]. The most common method of tracking employee attendance systems is by manually taking a list of





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## FLOOD AND FIRE MONITORING USING IOT

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### ABSTRACT:

This paper demonstrates the design process, implementation and experimental verification of a Flood Level Monitoring system. The main objective of the proposed system is to be able to read the water level at every second, display it to the supervisor and alert the affected populace and relevant authorities by means of an alarm and short message system (SMS) when the level of water surpasses a user defined threshold. Global System for Mobile Communications (GSM) network has been used for sending the mobile messages. Fire outbreak is a major concern at forest and homes, offices, industries etc. It is dangerous and requires high security and control to avoid destruction of lives and property. One of the preventive measures to avoid the danger is to install an automatic fire alarm detector at vulnerable locations, hence the Abased fire alarm detection and control system was proposed. It is capable of automatically detecting heat in a given environment, sound an alarm, switch off mains of the building and also spray water to reduce the intensity of fire. The system uses a buzzer, 5v DC (Direct Current) motor, a GSM (Global System for Mobile) to send SMS (Short Message Service) and MSP430 Microcontroller.

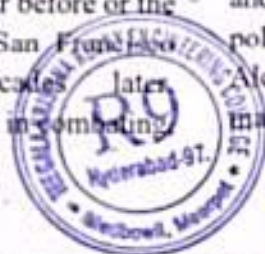
Keywords - MSP430 microcontroller, power supply, MQ2 sensor, flame detector, rain sensor, water level sensor, GSM, LED, Buzzer, relay.

### INTRODUCTION:

Fire monitoring and alerting system - Ever since mankind first began building structures out of wood rather than stone, fire has been a part of the learning process. In fact, so common have these infernos been throughout history that nearly every major city in the world has been largely burnt to the ground at one time or another in its history. An example of such fire outbreak was in Boston 1872. While not as large a fire as the one in Chicago the year before or the fire that was to ravage San Francisco just over three decades later, firefighting requires skills in combating

extinguishing, and preventing fires, responding to emergency calls, operating and maintaining fire department equipment and quarters, and extensive training in performing firefighting activities.

The earliest known firefighters were in the city of Rome. In 60 A.D., emperor Nero established a Corps of Vigils (Vigils) to protect Rome after a disastrous fire. It consisted of 7,000 people equipped with buckets and axes, and they fought fires and served as police. In the 4th century B.C., an Alexandrian Greek named Ctesibius made a double force pump called a



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## EFFICIENT SECURE DATA RETRIEVAL ON CLOUD USING MULTI-STAGE AUTHENTICATION AND OPTIMIZED BLOWFISH ALGORITHM

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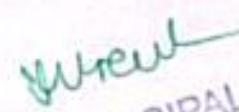
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**Abstract-** Cloud computing is currently playing an important role in the information technology industry because of its improved efficiency, wide access, low cost, and many benefits. It also provides more space for storing data and transmitting data from one location to another faster for different users on the Internet. Due to large storage, cloud customers can save huge capital investment on IT infrastructure and focus on their own core business. Therefore, many companies or organizations are moving their business to the cloud. However, many customers are reluctant to use the cloud due to security and privacy concerns. To tackle this problem, in this paper, efficient secure data retrieval is developed with the help of multi-stage authentication (MSA) and optimized blowfish algorithm (OBA). The proposed system consists of three modules namely, MSA, data security, and data retrieval. Initially, the cloud users register their information on cloud based on a multi-authentication procedure. After the registration process, the data are encrypted with the help of OBA. To increase the security of the system, the key value is optimally selected with the help of a binary crow search algorithm. After the encryption process, MSA based data retrieval process is performed. This will avoid, un-authorized person to attack the data. The performance of the proposed methodology is implemented in Python and



  
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## SUSPICIOUS ACTIVITY RECOGNITION IN VIDEO SURVILLANCE SYSTEM

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**ABSTRACT:** With the adding in the number fount-social conditioning that have been taking position, screen has been given away utmost significance recently. numerous Associations have instated CCTV's for constant Monitoring of people and their relations. For a developed Country with a population of 64 million, every person is obtained by a camera 30 moments a day. A lot of videotape data generated and stored for a certain time duration. A 704x576 conclusion image recorded at 25 fps will induce roughly 20 GB per day. Constant Monitoring of data by humans to judge if the events are anomalous is a near insolvable task as it requires a pool and their constant concentration. This creates a want to automate the same. Also, there is want to show off in which frame and which portion of it contain the unusual exertion which aid the briskly judgment of the unusual exertion being anomalous. This is done by converting videotape into frames and analyzing the persons and their activities from the reused frame. Engine literacy and Deep literacy Algorithms and ways support us in a wide accept to make it practicabale.

### I. INTRODUCTION

Preface colorful aids are employed to minimize or control the situation. videotape surveillance is the ideal result because it can be utilized in both private and exertion, it is said to be effective. The maturity of surveillance systems are operated by humans. As a result, they bear constant mortal observation to describe any anomalous geste. As the human is involved, the system's effectiveness declines with time due to the fatigue element of the mortal. This issue can be handled by automating videotape surveillance. The automated system's function is to give an announcement in the form of an alarm or other form when the destined abnormal exertion occurs. A semantic- based system is utilized in certain papers to define and decry suspicious



## EYE BALL CURSOR MOVEMENT USING OPENCV

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**ABSTRACT:** There are several situations in which a virtual keyboard or other kind of artificial movement may be useful. The sum of persons who, for medical reasons, must need assistive devices just to go about their home. In addition, establishing a controlling

They can go about without needing anybody else's aid because to the built-in propulsion system. The concept of eye controls has significant potential not just for the development of future natural input but also for the benefit of the physically impaired. Eye movement is being recorded by the camera. Locate the eye's central pupil first. Then, the virtual keyboard's command set adapts to the user's eye location. The impulses are sent via the motor driver and into the virtual keyboard. The pace and direction of the virtual keyboard's movement will be controlled by the motor driver.

### I. INTRODUCTION

There are several situations in which a virtual keyboard or other kind of artificial movement may be useful. The sum of persons who, for medical reasons, need the use of a wheelchair or other assistive device. Incorporating a controlling mechanism that allows them to move without human assistance is a huge plus. The notion of eye

controls is very helpful for those with disabilities and the future of natural input. The camera is recording the subject's eye movements. Locate the eye's central pupil first. Then, the virtual keyboard's command set adapts to the user's eye location. The motor driver acts as an intermediary between the signals and the software keyboard. The pace and direction of the





## Utilizing NLP in a Machine Learning Pipeline for Automated Classification of Clinical Documents

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### ABSTRACT :

In the healthcare domain, various subdomains such as neurology, cardiology, and general medicine generate a large volume of clinical documents. The classification of these medical documents offers numerous benefits, including easier maintenance, tracking, reuse, knowledge sharing, and data analytics. Unlike traditional approaches, the emergence of Machine Learning (ML) allows us to leverage historical knowledge or ground truth in the learning process, leading to more accurate classification of clinical documents. Natural Language Processing (NLP) techniques are also employed to handle the complexities of language. This paper presents a framework called the Clinical Document Classification Framework (CDCF) that combines NLP and ML techniques. A pipeline is constructed, incorporating both NLP and ML methods. We propose an algorithm called the Learning-based Clinical Document Classifier (LbCDC) that utilizes this pipeline to achieve precise classification of clinical documents. Through empirical studies conducted on two datasets, namely IDASH and MGH, we demonstrate the significance of our proposed system. Our LbCDC algorithm outperforms its predecessors in terms of performance and accuracy.

**Key Words:** Machine Learning, Deep Learning, Clinical Document Classification, Healthcare, Artificial Intelligence, Natural Language Processing.

### 1. Introduction

In the healthcare domain, the generation of clinical documents across various subdomains such as neurology, cardiology, and general medicine is a continuous and essential process. Efficiently classifying these medical documents offers numerous advantages, including ease of maintenance, tracking, reuse, knowledge sharing, and data analytics. With the advent of Machine Learning (ML), there is an opportunity to leverage historical knowledge or ground truth in the learning process, leading to more accurate classification of clinical documents. Additionally, the application of Natural Language Processing (NLP) techniques enables handling the intricacies of language dynamics within these documents. This paper introduces a framework called the Clinical Document Classification Framework (CDCF), which combines NLP and ML techniques to automate the classification of clinical documents. A comprehensive pipeline is constructed, incorporating both NLP and ML methodologies, to facilitate the classification process. Within this framework, we propose an algorithm known as the Learning-based Clinical Document Classifier (LbCDC) that effectively exploits the pipeline to achieve precise and reliable classification results.

To evaluate the effectiveness of the proposed system, empirical studies are conducted using two datasets: IDASH and MGH. Through rigorous analysis, we demonstrate the significance of our approach, highlighting the superior performance and accuracy achieved by the LbCDC algorithm in comparison to its predecessors. The results obtained reinforce the potential of leveraging NLP and ML in the automated classification of clinical documents, thereby contributing to improved healthcare data management and decision-making processes.

### 2. Literature Survey

The classification of clinical documents plays a vital role in the healthcare domain, enabling efficient organization, retrieval, and analysis of medical data. With the advancements in Natural Language Processing (NLP) and Machine Learning (ML) techniques, researchers have explored the potential of utilizing these technologies to automate the classification process, leading to improved accuracy and efficiency.

In recent studies, several approaches have been proposed for the automated classification of clinical documents. Traditional methods relied heavily on manual feature engineering, where domain-specific features were manually extracted and used in classification algorithms. However, these approaches were often limited by the time-consuming and subjective nature of feature engineering, as well as difficulties in adapting to evolving language dynamics within clinical documents.

The integration of NLP techniques in the classification process has shown promising results. NLP enables the processing and understanding of unstructured clinical text, capturing semantic and contextual information. Techniques such as tokenization, part-of-speech tagging, named entity



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## AUTOMATING E-GOVERNMENT SERVICES USING AI

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**ABSTRACT:** Artificial Intelligence (AI) has recently advanced the state-of-art results in an ever-growing number of domains. We address the challenges of e-government systems and propose a framework that utilizes them. Specifically, we first outline a framework for the management of e-government information resources. Second, we develop a set of deep learning models that aim to automate several e-government services. Third, we propose a smart e-government platform architecture that supports the development and implementation of AI applications for e-government.

**Keywords:** Artificial Intelligence, e-government services, machine learning.

### I. INTRODUCTION

It can make it easier for citizens to access services. Citizens can simply log in to a website or mobile app and complete their transactions without having to visit a government office. This is especially beneficial for citizens who live in remote areas or who have disabilities that make it difficult to travel. AI can process transactions much faster than humans, and it can also identify and correct errors. This can help to reduce the time it takes for citizens to receive the services they need.

This can help to improve the quality of services and increase citizen satisfaction.

The scope of the project automating e-govt services in AI is to use artificial intelligence (AI) to automate a wide range of e-government services. This includes services such as: Citizen registration, Tax collection, Social welfare, Education and Healthcare.

The purpose of the project is to improve the efficiency, accuracy, accessibility, and transparency of e-government services. AI has the potential to automate many of the





## VIRTUAL MOUSE OPERATION USING WEBCAM

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**Abstract:** *The idea of eye controls of great use to not only the future of natural input but more importantly the handicapped and disabled. It is more helpful to handicapped peoples. In this Web camera is capturing the image of face and detect the position of eye. Then the different variation on face position gets different movement of cursor. These face movements are then graphed to a computer screen to position a mouse cursor accordingly. Controlling of mouse cursor is obtained by face movement and mouse events are controlled through eye blinks. To perform these operations different algorithms like HAAR CASCADE algorithm, Template Matching and Hough transformation are used.*

**Keywords:** *Human Computer Interface, Web cam, HAAR CASCADE algorithm, open CV.*

### I. INTRODUCTION

Nowadays personal computer systems are carrying a huge part in our everyday lives as they are used in areas such as work, education and enjoyment. What all these applications have in common is that the use of personal computers is mostly based on the input method via keyboard and

mouse. While this is not a problem for a healthy individual, this may be an insurmountable bound for people with limited freedom of movement of their limbs. In these cases, it would be preferable to use input methods which are based on more abilities of the region such as eye movements. To enable such

## ONLINE MEDICINE DONATOR

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**Abstract:** In this Project is about the collection of unused and who want to donate medicine which is unused by the patient who recovers completely and medicine becomes waste that medicine can be collected and used further. User friendly and more interactive. Future scope may also be conducted to design and develop a mobile application of this portal and assess the performance comparing with this web portal. The aim and object of this project are to prepare an online portal for the collection of unused medicines so that they can be given to the people who are in need. What this project will do is, collect the unused medicines from the people who have completely recovered from the illness and do not require the tablets anymore. After the collection of these medicines, they would be handed over to the NGO's which would check the medicines and then if approved will be given to the people directly or to the hospitals who will be giving out these medicines for free. There must be a log in for the Donor & NGO. Donor can see all details of user hand out medicine. The most critical section of the project plan is a listing of high-level product requirements, also referred to as goals. All about only helps poor people and reduce the number of deaths of the poor people. All of the software product requirements to be developed during the requirements definition stage flow from one or more of these goals.

**Keywords:** Online medicine donate, NGO,

### I. INTRODUCTION

Even if well organized and monitored, tablets donation can save lives and alleviate suffering. Actual donation practices can provide economic savings in

optimizing investment budgets so that these centres can be used for other purposes. The Online Drug Donation System acts as a bridge between a massive community of drug donors and NGOs an



## DETECTION AND CLASSIFICATION OF PCB DEFECTS USING DEEP LEARNING METHODS

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### ABSTRACT:

*Printed Circuit boards (PCBs) are one of the most important stages in making electronic products. A small defect in PCBs can cause significant flaws in the final product. Hence, detecting all defects in PCBs and locating them is essential. In this paper, we propose an approach based on denoising convolutional autoencoders for detecting defective PCBs and to locate the defects. Denoising autoencoders take a corrupted image and try to recover the intact image. We trained our model with defective PCBs and forced it to repair the defective parts. Our model not only detects all kinds of defects and locates them, but it can also repair them as well. By subtracting the repaired output from the input, the defective parts are located. The experimental results indicate that our model detects defective PCBs with high accuracy (97.5%) compare to state of the art works. Index Terms—PCB, defect detection, autoencoder, denoising convolutional autoencoders. We describe the complete model architecture and compare with the current state-of-the-art using the same PCB defect dataset. These benchmark methods include the Faster Region Based Convolutional Neural Network (FRCNN) with ResNet50, RetinaNet, and You-Only-Look-Once (YOLO) for defect detection and identification. Results show that our method achieves a 98.1% mean average precision (mAP [IoU = 0.5]) on the test samples using low-resolution images. This is 3.2% better than the state-of-the-art using low-resolution images (YOLO V5m) and 1.4% better than the state-of-the-art using high-resolution images (FRCNN-ResNet FPN). While achieving better accuracies, our model also requires roughly 3× fewer model parameters (7.02M) compared with the state-of-the-art FRCNN-ResNet FPN (23.59M) and YOLO V5m (20.08M). In most cases, the major bottleneck of the PCB manufacturing chain is quality control, reliability testing and manual rework of defective PCBs. Based on the initial results, we firmly believe that implementing this model on a PCB manufacturing line could significantly increase the production yield and throughput, while dramatically reducing manufacturing costs."*

# IMAGE CLASSIFICATION OF ABNORMAL RED BLOOD CELLS USING DEEP LEARNING

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## ABSTRACT

In the medical field, the analysis of the blood sample of the patient is a critical task. Abnormalities in blood cells are accountable for various health issues. Red blood cells (RBCs) are one of the major components of blood. Classifying the RBC can allow us to diagnose different diseases. The traditional, time-consuming technique of visualizing RBC manually under the microscope, is a tedious task and may lead to wrong interpretation because of the human error. The various health conditions can change the shape, texture, and size of normal RBCs. The proposed method has involved the use of image processing to classify the RBCs with the help of convolution neural networks. The algorithm can extract the feature of each segmented cell image and classify it into 9 various types. Images of blood slides were collected from the hospital. The overall accuracy was 94.04%. The system has been developed to provide accurate and fast results that can save patients' lives.

## INTRODUCTION

### 1.1 MOTIVATION

This methodology somehow is difficult and prone to human error. The classifying the abnormal red blood cells using image

processing is created using the high technologies.

### 1.2 PROBLEM DEFINITION

Mohammad Syahputra Et. Al (2017) said that morphological examination of peripheral blood smears done manually is less efficient and the shapes of the abnormal red blood cells found is not always the same for every analyst because of precision factor, concentration, and lack of knowledge.

### 1.3 OBJECTIVE OF PROJECT

The objective of this study is to create a system that can classify 10 abnormal red blood cells and to know the reliability rate of classification of each abnormal red blood cells. Previous studies are usually limited to two to four abnormal red blood cell. Thus, the proponents aimed to create a maximized system.

### 1.4 LIMITATIONS OF PROJECT

Moreover, a blood is made up of many parts, mostly the red blood cells, white blood cells, platelets and plasma. Abnormalities of red blood cells vary through size or anisocytosis, through shape or poikilocytosis, in color and even through the presence of inclusion bodies



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# INTELLIGENT ALERT SYSTEM FOR DRIVER FATIGUE MONITORING

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**Abstract:** The "Intelligent Alert System for Driver Fatigue Monitoring" project addresses the critical issue of driver fatigue and its impact on road safety. By leveraging computer vision techniques, the system continuously monitors the driver's facial features, with a specific focus on eye behavior, to detect signs of drowsiness. Through real-time analysis and the application of Euclidean distance calculations, the system accurately identifies instances of prolonged eye closure, indicative of driver fatigue. Prompt alerts, in the form of audible sounds, are then triggered to notify the driver and prompt immediate corrective actions. By combining computer vision algorithms and real-time monitoring, this project aims to proactively mitigate the risks associated with driver fatigue, thereby enhancing road safety and reducing the occurrence of accidents caused by drowsy driving.

**Keywords:** Drowsy driving, OpenCV, Haar cascades, transfer learning, Deep learning.

## I. INTRODUCTION

The "Intelligent Alert System for Driver Fatigue Monitoring" is a project aimed at enhancing road safety by detecting and alerting drivers about their drowsiness levels. Driver fatigue is a significant contributing factor to road accidents, leading to injuries, fatalities, and property damage. The project utilizes computer vision techniques, specifically facial feature detection and analysis, to monitor the driver's state and issue timely alerts

when signs of drowsiness are detected. Fatigue-related accidents are a global concern, affecting individuals across various industries and driving contexts. Long-haul truck drivers, shift workers, and individuals traveling for extended periods are particularly susceptible to fatigue-induced impairments in alertness and attention. Traditional methods of combating driver fatigue, such as breaks and caffeinated beverages, are often inadequate, making technological



## CROP PROTECTION USING FACIAL RECOGNITION ALGORITHM

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**Abstract:** *Agricultural loss caused by thieves presents a huge blow to the farmers as well as the country's economy. Even though the farmers strive hard to protect their yield, somehow the yield is stolen. These happen to be a continuous problem in the society frequently. Currently farmers are staying at the fields day and night to protect. This may not be always possible to a farmer each and every second to protect the yield. The aim of the project is to build a device called "Harvest Guard" in which facial recognition algorithm is used to detect the thieves. The device allows the farmer to monitor his field all the time and protect the yield from being stolen by the thieves. When the thief tries to steal the crop, this device detects and immediately notifies to the farmer so that the farmer can take immediate actions. With this invention we aim to reduce loss which the farmers get by the thieves.*

**Keywords:** *Agricultural loss, crop protection, face recognition system, OpenCV.*

### I. INTRODUCTION

Facial Reputation is a biometric software application that can uniquely identify or verify a person's identity by evaluating and analysing patterns based entirely on the facial features of a man or woman. Facial popularity is often used for security purposes, although there may be increased popularity in other areas. The facial popularity era has garnered a lot of

attention as it accommodates a wide range of applications related to law enforcement and other businesses [1].

Face recognition is a sophisticated technology that helps to recognize and identify human faces from a photo or video. A contracted device that implements facial recognition and uses biometrics to map facial capabilities from a photo or video. Compare this to our large



## Coding Assessment Portal

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*Abstract: We're building an experiment to see what happens when an automated grading system is combined with the university's LMS in a massively-enrolling introductory programming course. In the beginning, we used an independent automatic grading system and a Canvas assignment submission site. In order to give timely, objective feedback on student work, we ultimately settled on connecting the assignment submission site with an auto grader system. A substantial 20.5% increase in the class average of assignment scores was seen after integrating the assignment submission site with the auto grader system, and this was the case despite the fact that most of the test cases were kept secret. We mandated that students provide us access to their webcams during exams to prevent cheating and other forms of malpractice. In the event of any suspicious behaviour during the test, the webcam would close the exam and alert the instructor. In addition, using the auto grader system helped improve the quality of the pupils' code. The technology helped students fix bugs and improve their programming since it provided instant feedback and objective assessment. This created an atmosphere where students were encouraged to develop their coding abilities and turn in better work.*

*Our project's overarching goal is to investigate the feasibility of implementing an automated grading system inside the university's learning management system for a massively open online course introducing students to programming. The integration not only helped teachers save time throughout the grading process, but also gave students instantaneous, objective feedback. We were able to guarantee fairness in the classroom by using webcams to keep an eye on students during tests. The auto grader system also gave students the tools they needed to improve the quality of their code, leading to higher scores and a more rewarding educational experience.*



## Volume and Brightness Control Using Hand Gestures

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**Abstract:** We are developing a volume and brightness controller in which we are using hand gestures as the input to control the system, Opencv module is basically used in this implementation to control the gesture. Hand gesture recognition system has developed excessively in the recent years, reason being its ability to cooperate with machine successfully. Gestures are considered as the most natural way for communication among human and PCs in virtual framework. We often use hand gestures to convey something as it is non-verbal communication which is free of expression. In our system, we used background subtraction to extract hand region. In this application, our PC's camera records a live video, from which a preview is taken with the assistance of its functionalities or activities. This system basically uses the web camera to record or capture the images /videos and accordingly on the basis of the input, the volume and brightness of the system is controlled by this application. The main function is to increase and decrease the volume and brightness of the system. The project is implemented using Python, OpenCV.

**Keywords:** Human Computer Interaction, Structuring Elements, Hand gesture, Region of Interest.

### 1. INTRODUCTION

Hand gestures are unprompted and also robust transmission mode for Human Computer Interaction (HCI). Keyboard, mouse, joystick or touch screen are some input devices for connection with the

computer but they don't provide appropriate interface whereas, the current system will contain either desktop or laptop interface in which hand gesture can be done by wearing data gloves or web camera used for snapping hand image. The





## DETECTION OF PLAGIARISM USING ARTIFICIAL INTELLIGENCE

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**Abstract:** *Plagiarism is the process of stealing and passing off ideas or words of another as one's own. When someone uses the work of another artist without properly citing the source or giving credit, then that will be an instance of plagiarism. Plagiarism is a punishable offense, and it is a form of intellectual theft. The internet has changed virtually every aspect of our lives. Plagiarism is no different. However, the impact of the internet on plagiarism has been widely misunderstood. A plagiarized document can be made by copying content from set of source files. Suspicious files are those which may be copied by source files. We need to determine how much it is plagiarized from each of the Source files. This can be implemented using LCS. Compute LCS of each suspicious file to each source file and threshold values. If maximum of LCS of suspicious file greater than threshold value then the suspicious file can be declared as Plagiarized otherwise it is not plagiarized. Image plagiarism is stealing of another's work and passing it off as their own work without crediting the source. Image plagiarism is based on image processing, which helps to manipulate and perform operations on image to detect plagiarism. Previously lot of work is done to detect plagiarism on text, but there is no much work done in this area. In this paper an attempt is made to detect difference between the images using image subtraction. The system is also overcoming the vulnerability of re- sizing, compression and color differentiation. The similarity and the difference between the images are displayed using histogram.*

**Keywords:** *k-nearest neighbor, machine learning, plagiarism detection, text matching.*

## I. INTRODUCTION



# ATTENDANCE CAPTURE SYSTEM USING FACE RECOGNITION

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*Abstract: Keeping up with regular activities while also keeping track of everyone's attendance might be difficult. Traditional roll call requires time and effort and may easily be circumvented by a proxy student. The following method uses facial recognition to keep track of students' attendance. The administrator already has a record of the students' daily attendance broken down by course. Students who are recognised by the system's face detection and recognition technology at the designated time and for the designated topic are automatically tagged as present, and their attendance records are updated to reflect the new information. To create this system, we relied on deep learning methods, namely the histogram of oriented gradient approach for detecting faces in photos and the aforementioned deep learning method for computing and comparing feature facial of students to recognise them. Multiple faces may be recognised simultaneously by our technology in real time.*

## I. INTRODUCTION

A reliable attendance tracking system is a need for any institution that has to keep track of its pupils. Some use a piece of paper and a pen, calling out names during class time, while others have embraced biometrics systems like fingerprint readers, RFID card readers, or iris scanners to register attendance. The time-consuming process of manually calling pupils names is the norm. Students in the RFID card system are given individual cards that

include their unique identifiers, however these cards may be misplaced or stolen and used to take phoney attendance. Fingerprint, iris, and voice recognition biometrics, on the other hand, each have their own set of limitations and aren't fool proof. Smart attendance management systems make use of facial recognition for this reason. Compared to other methods, face recognition is both more precise and quicker, and it also decreases the possibility of proxy attendance. Face





## ROBUST INTELLIGENT MALWARE DETECTION USING DEEP LEARNING

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**Abstract-** Malicious software or malware continues to pose a major security concern in this digital age as computer users, corporations, and governments witness an exponential growth in malware attacks. Current malware detection solutions adopt Static and Dynamic analysis of malware signatures and behavior patterns that are time consuming and ineffective in identifying unknown malwares. Recent malwares use polymorphic, metamorphic and other evasive techniques to change the malware behaviors quickly and to generate large number of malwares. By using the advanced MLAs such as deep learning, the feature engineering phase can be completely avoided. The train and test splits of public and private datasets used in the experimental analysis are disjoint to each other's and collected in different timescales. In addition, we propose a novel image processing technique with optimal parameters for MLAs and deep learning architectures.

**KEYWORDS:** Malware, Machine Learning, Deep Learning, CNN, LSTM, Robust.



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## NUMBER PLATE AND HELMET DETECTION USING CNN AND DEEP LEARNING

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**Abstract-** Nowadays, avenue injuries are many of the large motives that bring about human loss of life. Among them, a motor bike crash is common and also triggers crucial accidents. Safety helmet is one of the primary defense gadgets for a motor bicyclist. Nonetheless, numerous forestall strolling to comply the law of sporting safety helmet. Right here, to discover the motorcyclists who are breaking the headgear rules, a machine utilizing picture managing and convolution neural network is finished. The device encompass bike discovery, headgear vs. no headgear class similarly to motorcycle license plate acknowledgment. The motorcycles are detected utilizing the characteristic vector HOG. When the motorcycle is located, with the aid of convolution semantic community, it's far recognized whether or not or not the motorcyclist is setting on a protection helmet or in any other case. If the motorcyclist is recognized without helmet, after that the certificate plate of the motorcycle is detected the usage of tesseract Optical Character Recognition.

**KEYWORDS:** Deep Learning, Machine learning, Optical Character Recognition.



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## SMART TRAFFIC CONTROL SYSTEM BASED ON DENSITY USING EDGE DETECTION ALGORITHM

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### Abstract

In this paper author is describing concept to control or automate green traffic signal allotment time based on congestion available at road side using Canny Edge Detection Algorithm. To implement this technique we are uploading current traffic image to the application and application will extract edges from images and if there is more traffic then there will be more number of edges with white color and if uploaded image contains less traffic then it will have less number of white color edges. Empty edges will have black color with value 0. By counting number of non-zeroes white pixels we will have complete idea of available traffic and based on that we will allocate time to green signal. If less traffic is there then green signal time will be less otherwise green signal allocation time will be more.

### 1 INTRODUCTION

Traffic congestion is one of the major modern-day crisis in every big city in the world. Recent study of World Bank has shown that average vehicle speed has been reduced from 21 km to 7 km per hour in the last 10 years in Dhaka . Inter metropolitan area studies suggest that traffic congestion reduces regional competitiveness and redistributes economic activity by slowing growth in county gross output or slowing metropolitan area employment growth .As more and more vehicles are commissioning in an already congested traffic system, there is an urgent need for a whole new traffic control system using advanced technologies to utilize the already existent infrastructures to its full extent. Since building new roads, flyovers, elevated expressway etc. needs extensive planning, huge capital and lots of time; focus should be directed



## ECOSYSTEM FOR UTILIZING THE BLOCKCHAIN TECHNOLOGY IN AGRICULTURE SECTOR

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### Abstract

The blockchain is a ledger of accounts and transactions that are written and stored by all participants. It promises a reliable source of truth about the state of farms, inventories and contracts in agriculture, where the collection of such information is often incredibly costly. The blockchain technology can track the provenance of food and thus helps create trustworthy food supply chains and build trust between producers and consumers. As a trusted way of storing data, it facilitates the use of data-driven technologies to make farming smarter. In addition, jointly used with smart contracts, it allows timely payments between stakeholders that can be triggered by data changes appearing in the block chain. This article examines the applications of blockchain technology in food supply chains, agricultural insurance, smart farming, transactions of agricultural products for both theoretical and practical perspectives. We also discuss the challenges of recording transactions made by smallholder farmers and creating the ecosystem for utilizing the blockchain technology in the food and agriculture sector.

### 1. INTRODUCTION

Current agricultural development and reform are calling for new techniques and innovations to create a more transparent and accountable environment in the agriculture sector. One of the emerging tools is block chain technology. Unlike conventional centralized and monopolistic agricultural management systems, block chain provides a decentralized data structure to store and retrieve data that are shared with multiple untrusted parties. In this way, it could potentially resolve a number of serious problems in current systems caused by the following reasons:

- (i) hackers can easily attack the centralized system to tamper data integrity;
- (ii) insider manipulation of the centralized database could compromise data integrity;





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## DIABETIC RISK LEVEL OF A PATIENT WITH A BETTER ACCURACY BY USING PAC AND ANN

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### Abstract

The diabetes is one of lethal diseases in the world. It is additional an inventor of various varieties of disorders foe example: coronary failure, blindness, urinary organ diseases etc. In such case the patient is required to visit a diagnostic center, to get their reports after consultation. Due to this they have to invest their time and currency. But with the growth of Machine Learning methods, we have got the flexibility to search out an answer to the current issue, we have got advanced system mistreatment information processing that has the ability to forecast whether the patient has polygenic illness or not. Furthermore, forecasting the sickness initially ends up in providing the patients before it begins vital. Information withdrawal has the flexibility to remove unseen data from a large quantity of diabetes associated information. The aim of this analysis is to develop a system which might predict the diabetic risk level of a patient with a better accuracy. Model development is based on categorization methods as Passive Aggressive Classifier algorithm (), Artificial Neural Network (ANN), and Support Vector Machine algorithm (SVM). For PAC, the models give precisions of 78%, 87% for Support Vector Machine and for ANN 89.5% which is highest among three algorithms. Outcomes show a significant accuracy of the methods.

### 1.INTRODUCTION

Diabetes is a situation which causes deficiency due to less amount of insulin in the blood. Warning sign of high blood sugar results in frequent urination, feeling thirsty, increased hunger. If it is not medicated, it will lead to many difficulties. When there is a rise within the sugar level within the blood, it is referred to as prior diabetes. Various information mining algorithms presents different decision support systems for assisting health specialists. The effectiveness of the decision support system is recognized by its accuracy. Therefore, the

aim is to build a decision support system to predict and diagnose a certain disease with extreme amount of precision. The AI consists of ML which is its subfield that resolves the real-world difficulties by "providing learning capability to workstation without supplementary program writing.

Diabetes is a most common disease caused by a group of metabolic disorders. It is also known as Diabetic mellitus. It affects the organs of the human body. It can be controlled by predicting this disease earlier.



## FINDING THE RESTAURANT SCORING WITH RECOGNIZING FACIAL EXPRESSION

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### Abstract

Recently, the popularity of automated and unmanned restaurants has increased. Due to the absence of staff, there is no direct perception of the customers' impressions in order to find out what their experiences with the restaurant concept are like. For this purpose, this paper presents a rating system based on facial expression recognition with pre-trained convolution neural network (CNN) models. For interactive human and computer interface (HCI) it is important that the computer understand facial expressions of human. With HCI the gap between computers and humans will reduce. The computers can interact in more appropriate way with humans by judging their expressions. There are various techniques for facial expression recognition which focuses on getting good results of human expressions and then the food is supposed to be rated. Currently, three expressions (satisfied, neutral and disappointed) are provided by the scoring system.

### 1. INTRODUCTION

Facial expression is one of the most powerful, natural and universal signals for human beings to convey their emotional states and intentions. Numerous studies have been conducted on automatic facial expression analysis because of its practical

importance in sociable robotics, medical treatment, driver fatigue surveillance, and many other human-computer interaction systems. In the field of computer vision and machine learning, various facial expression recognition (FER) systems have been explored to encode expression information



## TO PREDICT THE FLOOD DURING A HEAVY DOWNPOUR WITH THE HIGHEST ACCURACY USING LR FLOOD PREDICTION MODEL.

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### Abstract

Flood is one of the unfavorable natural disasters. This advancement of the flood prediction system provides cost-effective solutions and better performance. In this project, a prediction model is constructed using rainfall data to predict the occurrence of floods due to rainfall. The model predicts whether "flood may happen or not" based on the rainfall range for particular locations. Indian district rainfall data is used to build the prediction model. Machine learning methods are widely used in building an efficient prediction model for weather forecasting. This advancement of the prediction system provides cost-effective solutions and better performance. The dataset is trained with various algorithms like Random Forest Regression, Linear Regression, Lasso Regression, Support Vector Machine and Multilayer Perceptron. Among this, Lasso Regression algorithm performed efficiently with the highest accuracy of 89.40%. The LR flood prediction model can be useful for the climate scientist to predict the flood during a heavy downpour with the highest accuracy.

### 1. INTRODUCTION

The environment includes other factors such as pollutants. When the ratio of the pollutants become higher it becomes harder for the human to determine the type of weather. Environmental monitoring is important as it helps us to monitor the weather conditions. Thus, we need a model which can predict climate change and can monitor the climate. For this reason, we

need to create flood level sensing devices which will detect the water level. This system is integrated to the microcontroller board which will help to send the data each time the water reaches the threshold value. Ultrasonic sensor is used to detect the water level. In India the flood prone areas cover almost 12.5% of the country. Therefore, we need a model or a prototype that can predict the flood that might occur.

## FLOWER IDENTIFICATION AND CLASSIFICATION DIFFERENT SPECIES OF FLOWERS FROM IMAGES USING CNN

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### Abstract

This Paper aims to classify the type of flowers using convolutional neural networks (CNNs). We will start by gathering a dataset of flower images, resizing and normalizing them as part of data preprocessing. We will then divide the dataset into three subsets, namely training, validation, and test sets. We will design a CNN architecture with multiple convolutional layers, pooling layers, and fully connected layers. Techniques like dropout and batch normalization will be applied to improve the model's generalization ability and prevent overfitting. The training set will be used to train the model, and the validation set will be used to prevent overfitting by using techniques like early stopping and learning rate scheduling. Finally, we will evaluate the performance of the model on the test set and report the classification accuracy. Our approach will be compared to other classification algorithms such as logistic regression and decision trees, to demonstrate the effectiveness of CNNs in solving classification problems. In addition, we will explore techniques like data augmentation and transfer learning to further enhance the model's performance. Data augmentation involves creating new training examples by transforming the original images through techniques like rotation, scaling, and flipping. Meanwhile, transfer learning involves using pre-trained models as a starting point and fine-tuning them for a specific task.

## MEDICAL PRICE REGRESSION USING MACHINE LEARNING

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### Abstract

The health care costs constitute a significant fraction of the U.S. economy. Nearly 20% of the Gross Domestic Product (GDP) is spent on health care. The health spending in the US is the highest among all developed nations in absolute numbers as well as a percentage of the economy. The U.S. government bears a large portion of seniors' health expenditure through its Medicare program. The growing health related expenses combined with the fact that the baby boomer generation is retiring, and hence they will be eligible for Medicare, puts a great burden on the U.S. exchequer. Therefore, it is essential to contain health related payments through all means possible. In this work, we will develop a medical price prediction system using machine learning algorithms which will aid in steering patients to cost effective providers and thereby curb health spending. The policymakers can also use the tool to better understand which providers are relatively expensive and take punitive actions if necessary. The prediction of the medical price will be done using implementing Random Forest Regression algorithm in machine learning. Additionally, we plan to include the experiments on the same data with other machine learning models such as Gradient Boosted Trees and Linear Regression and compare results. The findings from these experiments will also be included. Key terms- Health care, GDP, medical price prediction system, Random Forest Regression, machine learning, Gradient Boosted Trees, Linear Regression.



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# A MACHINE LEARNING MODEL FOR AIR CRAFT TICKET PRICES

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## Abstract

Flight ticket fare is the most fluctuating data which varies every day. Depending on various factors that affect it directly or indirectly, we cannot say that price of the ticket stays the same or not. It is quite a tough task to predict the flight ticket fare. It may change throughout the week, month or sometimes days, but it can be predicted nearly accurate to actual flight ticket fare. The prime objective of our project "Flight fare prediction system" is to make a prediction of the flight ticket fare for the future flights. We build a machine learning model using a dataset of aircraft ticket prices for different carriers and different routes at different times of the year. The regression model which we have selected for our prediction is "Extreme Gradient Boosting".

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time and utilisation of data. Models are built using training data and predictions or choices are made using this model without being trained to do so using machine learning algorithms. There are

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## BLOCK CHAIN WITH SECURITY ANALYSIS PERFORMANCE IMPROVEMENTS IN LIGHTWEIGHT ACCESS CONTROL FOR EHRs SHARING

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### Abstract

Recent years have witnessed a paradigm shift in storage of Electronic Health Records (EHRs) on mobile cloud environments where mobile devices are integrated with cloud computing to facilitate medical data exchanges among patients and healthcare providers. This advanced model enables healthcare services with low operational cost, high flexibility and EHRs availability. However, this new paradigm also raises concerns about data privacy and network security for e-health systems. In this paper, we propose a novel EHRs sharing framework that combines blockchain and the decentralized interplanetary file system (IPFS) on a mobile cloud platform. Particularly, we design a trustworthy access control mechanism using smart contracts to achieve secure EHRs sharing among different patients and medical providers. We present a prototype implementation using Ethereum block chain in a real data sharing scenario on a mobile app with Amazon cloud computing. Empirical results show that our proposal provides an effective solution for reliable data exchanges on mobile clouds while preserving sensitive health information against potential threats. The system evaluation and security analysis also demonstrate performance improvements in lightweight access control design, minimum network latency with high security and data privacy levels, compared to existing data sharing models.

### 1. INTRODUCTION

Recently, there has been a growing interest in employing the blockchain technology to promote medical and e-health Services. Blockchain with its decentralized and trustworthy nature has demonstrated



## HCI WITH HAND GESTURE RECOGNITION USING MACHINE LEARNING ALGORITHMS

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### Abstract

Hand Gesture Recognition is a project that shows a novel way to control mouse movement with a real-time camera/web camera. Our idea is to employ a camera and computer vision technologies to manage mouse tasks (clicking and scrolling), and we demonstrate how it can do all that existing mouse devices can. In this project, we implement an interactive computer system that can function without the usage of a keyboard or a mouse. Hand Gesture Recognition plays a key role in human-computer interactions. To implement this project, all we need a working webcam and three main algorithms that are, mediapipe, OpenCV and autopsy. Media pipe is employed for hand tracking, OpenCV for image processing and drawing and last Autopy for controlling the mouse movement and its functioning

### 1. INTRODUCTION

A Computer Mouse is an input device that helps to point and to interact with whatever that is being pointed. There are so many types of mouse in the current trend, there's the mechanical mouse that consists of a single rubber ball which can rotate in any direction and the movement of the pointer is determined by the motion of that rubber ball. Later the mechanical mouse is replaced by the Optical Mouse. Optical Mouse consists of a led sensor to detect the movement of the pointer. Years Later the laser mouse was introduced to improve the accuracy and to overcome the drawbacks of the Optical Mouse.

Later as the Technology has been increased drastically wireless mouse was introduced so as to enable hassle free movement of the mouse and to improve the accuracy. No Matter how much the accuracy of the mouse increases but there will always be limitations of the mouse as the mouse is a hardware input

device and there can be some problems like mouse click not functioning properly ad etc., as the mouse is a hardware device like any other physical object even the mouse will have a durability time within which is functional and after its durability time we have to change the mouse.

As the technology increase everything becomes virtualized such as speech recognition. Speech Recognition is used for recognition and translation of the spoken language into text. Thus, Speech Recognition can replace keyboards in the future, Similarly Eye Tracking which is used to control the mouse pointer with the help of our eye. Eye Tracking can replace mouse in the future. The paper highlights a brief study on speech recognition technology, describing the various processing stages and results.

Hand Gesture Recognition plays a key role in human-computer interactions Python programming language is used for developing



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## EVALUATE THE HEIGHT WEIGHT AND BMI FROM FACE

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### Abstract

Body height, weight, and body mass index (BMI) are important because they can be used for healthcare. A person's weight in proportion to their height is gauged by their BMI. Because it is frequently used to evaluate health issues. Our chances of living a longer, healthier life is said to be increased by having a healthy body mass index (BMI). The BMI range may be identified and classified using picture analysis, which can help to manage their BMI, and lead healthier lives. Being overweight has been linked to obesity, diabetes, and cardiovascular disease. Using the methods Linear Regression, Ridge Linear Regression, Random Forest Regressor, and Kernel Ridge Regression. We test the feasibility of estimating height, weight, and BMI from single-shot face photos. In order to estimate height, weight, and BMI, we will evaluate these regression models and select the one with the highest test score.

### 1.INTRODUCTION

The body mass index or BMI processes the ratio between height and weight. The body mass index is the most basic tool which we use to define overweight and obesity. BMI is commonly regarded as a vital indicator of health. A normal BMI is between 18 and 25 and obesity starts at 30. With the gradual

increase of body mass index, we notice a higher probability of cardiovascular diseases such as high blood pressure, diabetes, etc. A number in higher ranges leaves an individual at an exponential risk in health that the person has in addition to their BMI being raised, a waist circumference more than 40 inches. Therefore, classifies them into a

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## PREDICTION T THE RED SOIL FROM OTHER SOILS USING CONVOLUTIONAL NEURAL NETWORKS

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### Abstract

Soil is a crucial component in agriculture. There are several types of soil. Wide variety of crops grow on different types of soils, and each type of soil has its own set of characteristics. To identify which crops grow best in which soil types, we need to grasp the traits and characteristics of distinct soil types. In this instance, machine learning approaches may be useful. It has made significant development in recent years. In agricultural data analysis, machine learning is still a new and hard study topic. The traditional methods for soil classification in the laboratory require time, man power and expensive. In this we proposed a model using Convolutional Neural Networks that predict the red soil type from other soils. Our approach is to develop a model to identify whether the given image is red soil or not when user provides the input image. The Process of detecting and identifying the red soil consists of several stages that include image pre-processing, feature extraction and classification.

### 1. INTRODUCTION

Soil classification is viewed as the technique of organizing soil into different groups based on particular criteria or qualities. The

primary objective of soil classification is to divide the soil into various categories such all the soil during a specific category has similar characteristics and nature. The soil is assessed into different groups in order that







**PERSONALIZED ITINERARY PLANNING FOR TRAVELERS USING AN  
ADAPTIVE GENETIC ALGORITHM**

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**Abstract**

Traveling as a very popular leisure activity enjoyed by many people all over the world. Typically, tourists have different kinds of preferences about their itineraries, limited time budgets, unfamiliar with the wide range of Points-of-Interest (POIs) in a city, so that planning an itinerary is quite tedious, time-consuming, and challenging for them. In this paper, we propose an adaptive genetic algorithm for personalized itinerary planning for travelers to plan their itineraries better. Firstly, desired starting POIs (e.g., POIs that are close to their hotels) and destination POIs (e.g., POIs that are near train stations or airports) are considered in our approach. Secondly, we also take some general factors into account that travelers would consider in their preferences of an itinerary, which are the total number of POIs, the overall POI popularity, the overall cost, and the overall rating.

**I. INTRODUCTION**

The travelling salesman problem (TSP) is the most well-known combinatorial optimization problem. TSP is used to find a routing of a salesman who starts from a home location, visits a prescribed set of cities and returns to the original location in such a way that the total distance travelled is minimized and each city is visited exactly once. This problem is known to be NP-hard, and cannot be solved exactly in polynomial time. Many exact and heuristic algorithms have been developed in the field of operations research (OR) to solve this problem. TSP is solved very easily when there is less number of cities, but as the number of cities increases it is very hard to solve, as large amount of computation time is required. The numbers of fields where TSP can be used very effectively are military and traffic. Another approach is to use genetic algorithm to solve TSP because of its robustness and flexibility. Some typical applications of TSP

vehicle routing, computer wiring, cutting wallpaper and job sequencing. The main application in statistics is combinatorial data analysis, e.g., reordering rows and columns of data matrices or identifying clusters.

**II. LITERATURE SURVEY**

Various Approaches Used FOR SOLVING TSP  
In 1997, Rong Yang introduce several knowledge-augmented genetic operators which guide the genetic algorithm more directly towards better quality of the population but are not trapped in local optima prematurely. The algorithm applies a greedy crossover and two advanced mutation operations based on the 2-opt and 3-opt heuristics. In 2001, Chiung Moon introduces the concept of topological sort (TS), which is defined as an ordering of vertices in a directed graph. Also, a new crossover operation is developed for the proposed GA. In 2004, new knowledge based multiple inversion operators and a neighborhood swapping operator is proposed by Shubhra Sankar Ray. In 2005,



## PREDICTION OF CROP HARVESTS BASED ON WEATHER DATA USING ML

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### Abstract

Although agriculture remains the dominant economic activity in many countries around the world, in recent years this sector has continued to be negatively impacted by climate change leading to food insecurities. This is so because extreme weather conditions induced by climate change are detrimental to most crops and affect the expected quantity of agricultural production. Although there is no way to fully mitigate these natural phenomena, it could be much better if there is information known earlier about the future so that farmers can plan accordingly. Early information sharing about expected crop production may support food insecurity risk reduction. The study applies machine learning techniques to predict crop harvests based on weather data and communicate the information about production trends. The collected data were analyzed through Random Forest, Polynomial Regression, and Support Vector Regressor. Rainfall and temperature were used as predictors. The models were trained and tested.

### 1.INTRODUCTION

Agriculture is an economic activity that has a high dependency on weather conditions. This means that seasonal agriculture is dependent on natural weather conditions,

also known as rainfed agriculture. Rainfed agriculture constitutes 80% of the cropland worldwide and generates good yields when crops have favorable weather conditions. In many lands where rainfall is scarce, rainfed



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## OBJECT DETECTION FOR VISUALLY IMPAIRED USING ANDROID TEXT TO SPEECH API

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### ABSTRACT

Vision is one of the most important senses that help people interact with the real world. There are nearly 200 million blind people all over the world, and being visually impaired hinders a lot of day to day activities. Thus it is very necessary for blind people to understand their surroundings, and to know what objects they interact with. This project proposes an android application to help blind people see through handheld device like mobile phone. It integrates various techniques to build a rich android application that will not only recognize objects around visually impaired people in real time but also give an audio output to assist them as quickly as possible. SSD (Single Shot Detector) Algorithm is used for the object recognition as well as detection. Also this algorithm gives nearly accurate results for real time object detection and is proven to be faster than other relative algorithms. The application further uses android tensor flow APIs and android TextToSpeech API to give audio output.

### 1. INTRODUCTION

It is easier for vision enabled people to carry out their everyday activities since they can clearly see all the objects in their

surroundings, any obstacles they come across, other people and hence is easy to interact with these objects. Whereas, visually impaired people have to struggle a lot to deal with real world due to their



## LIVE TRACKING IN DETECTION OF WEAPONS IN SURVEILLANCE VIDEOS USING DEEP LEARNING

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### Abstract

Closed circuit television systems (CCTV) play a vital role in evidence collection against crimes and criminals. The existing systems does not classify normal and abnormal events leading the police to become more reluctant to attend the crime scenes unless there was a visual verification, either by manned patrols or by electronic images from the surveillance cameras. The Proposed work is being used for surveillance, monitoring and classifications of weapons, live tracking and many more purposes. Operations of proposed project has three processing modules, first processing module is for object detection using Convolutional Neural Networks(CNN) and second processing module will handle the classification of weapons, monitoring and alarm operations will be carried out by the third processing module.

### 1. INTRODUCTION

The use of weapons in public places has become a major problem in our society. These situations are more frequent in countries where weapons are legally purchased or their use is not controlled. Crowded places are specially vulnerable. Unfortunately, mass shootings have become one of the most dramatic problems we face nowadays. Video surveillance systems, typically based on classic closed-circuit television (CCTV) are especially useful for intruder detection and remote alarm verification. However, these systems need to be continuously supervised by a human operator. In this respect, it is estimated that the concentration of a security guard watching a camera panel decreases catastrophically after 20 minutes. Security can be increased applying artificial vision algorithms on images obtained from video surveillance systems. Another advantage of these algorithms is the possibility of

monitoring larger spaces using fewer devices thus requiring less dependence on the human factor. Machine learning techniques have been widely used in the field of video surveillance. The prevalent paradigm of deep learning has but increased the potential of machine learning in automatic video surveillance. The objective of this work is the development of two novel weapon detectors, for guns and knives, applying deep learning techniques and assess their performance.

#### 1.1 PROBLEM STATEMENT

Design a system for recognising and detecting of weapons automatically in image or from the video and also real time through webcam or CCTV. Because it is real time and computer based human operator is not required and also human supervision is not required. This system can be public or private facility to restrict the weapons access.

#### 1.2 OBJECTIVE

The terms "deep learning" and "machine learning" are frequently used interchangeably.





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## DISEASE PREDICTION USING MACHINE LEARNING ALGORITHMS

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### Abstract

The Disease Prediction System based on various prediction models that help to predict the disease of the user on the basis of the symptoms that user enters as an input to the system. Predictive models with the help of machine learning classification algorithms analyzes the symptoms provided by the user as input and gives the name and probability of the disease as an output. Disease Prediction is done by implementing the Naive Bayes Classifier, Decision tree and Random Forest Algorithm. The Naive Bayes helps to calculate the probability of the disease which is predicted. Average prediction accuracy probability 87% is obtained. The model uses a dataset with the count of 132 symptoms from which the user can select their symptoms. The user does not need to have a medical report to use this system as the prediction is based on the symptoms which will save the money. The system also has a very easy to use user interface so all the users can use it to predict the generic diseases. People are currently suffering from a variety of diseases. Many people are unsure if the symptoms they are experiencing are indicative of a certain disease, and hence they are unable to take the required safeguards. People will not be able to visit a doctor every time they experience a symptom. It may sometimes become a serious ailment if not treated. A model is suggested that uses a variety of symptoms as input to predict the illness. For disease prediction, the suggested method utilizes Decision trees, Naive Bayes, and Random forest classifiers. The ultimate result will be the mode of all these machine learning models. Users will be given a graphical user interface (GUI) to choose their symptoms. The final result will be shown on the interface using all three machine learning techniques, and feature extraction will be done depending on their symptoms. Four modules make up the proposed methodology. Preprocessing will be done on the dataset in the first module. The decision tree classifier is used to generate a prediction model in the second module. The Random forest method is used for forecast the illness in the third module, and the Naive Bayes technique is utilized in the fourth model, with the mode of the outputs from all the three models taken into account.

### 1. INTRODUCTION

There are times when we need a doctor all of a sudden but sometimes they are not

available due to some reason and we are left in trouble. The system we have proposed is user friendly to get help and advice on



# ENERGY EFFICIENT NODE COOPERATION IN UNDERWATER DATA COLLECTION NETWORK

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## ABSTRACT

Under water acoustic sensor network with one mobile surface node to collect data from multiple underwater nodes, where the mobile destination requests retransmission from each under water node individually employing traditional automatic-repeat-request (arq) protocol. Then, proposed a practical node cooperation (nc) protocol to enhance the collection efficiency, utilizing the fact that underwater nodes can overhear the transmission of others. To reduce the source level of underwater nodes, the underwater data collection area is divided into several sub-zones, and in each sub-zone, the mobile surface node adopting the nc protocol could switch adaptively between selective relay cooperation (src) and dynamic network coded cooperation (dnc). The difference of src and dnc lies in whether or not the selected relay node combines the local data and the data overheard from undecided node(s) to form network coded packets in the retransmission phase. The nc protocol could also be applied across the sub-zones due to the wiretap property. In addition, investigate the effects of different mobile collection paths, collection area division and cooperative zone design for energy saving. The numerical results show that the proposed nc protocol can effectively save energy compared with the traditional arq scheme.

## I. INTRODUCTION

Underwater acoustic sensor networks (UWASNs) have end up a promising research region because of their huge applications consisting of underwater environment monitoring and tactical surveillance. One research trouble is to format effective techniques for one big sensor node to build up the records from more than one underwater sensors. For the UW-ASNs, the under-water nodes are commonly batterypowered; as a result, it isn't always clearly the power, but the strength consumption that topics specifically for long-term observation. To deal with this challenge, numerous protocols had been proposed to shop strength for the UW-ASNs, consisting of adaptive modulation and coding, optimizing MAC protocol, cross-layer routing format and MIMO-OFDM, which can be classified into kinds for strength saving: developing the transmitting bit fee and minimizing the amount of retransmissions. Transmitter-cooperation strategies adopting coding had been proposed to enhance the device universal overall performance in underwater channels. The adaptive network coded cooperation and the generalized adaptive network coded



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## A NOVEL APPROACH FOR CLASSIFICATION OF MELANOMA SKIN LESION USING DEEP CONVOLUTIONAL NEURAL NETWORK

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### Abstract

Skin cancer is one of the main health issues facing modern civilization. This illness develops when the skin-coloring pigments become cancerous. Dermatologists find it difficult to diagnose skin cancer since numerous skin cancer colours might seem identical. Thus, it is important and helpful to identify lesions early in order to totally treat skin cancer patients. Lesions are what cause skin cancer. Development of automated skin cancer diagnostic systems to support dermatologists has advanced significantly. The use of the vast library of pictures of lesions and benign sores authorized by histology has been made possible by the widespread adoption of instruments backed by artificial intelligence. This study uses the HAM10000 dataset to carry out a comparative examination of six alternative transfer learning networks for multi-class skin cancer classification. To correct the dataset's imbalance, we replicated photos of classes with low frequencies. VGG19, InceptionV3, InceptionResNetV2, ResNet50, Xception, and MobileNet were the transfer learning networks that were used in the study. Replication succeeds at this job with high classification accuracies and F-measures and decreased false negative rates, according to the results. With an accuracy of 90.48, it can be concluded that Xception Net beats the other transfer learning nets utilized in the research. Additionally, it has the greatest F-Measure, recall, and accuracy scores.

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# A Novel CNN-TLSTM Approach for Dengue Disease Identification and Prevention using IoT-Fog Cloud Architecture

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## Abstract

One of the mosquito-borne pandemic viral infections is Dengue which is mostly transmitted to humans by the *Aedes aegypti* or female *Aedes albopictis* mosquitoes. The dengue disease expansion is mainly due to the different factors such as climate change, socioeconomic factors, viral evolution, globalization, etc. The unavailability of certain antiviral therapy and specific vaccine increases the risk of the dengue disease spreading even further. This arises the need for a novel technique that overcomes the complexities associated with dengue disease prediction such as low reporting level, misclassification, and incompatible disease monitoring framework. This paper mainly overcomes the above-mentioned problems by integrating the Internet of Things (IoT), fog-cloud, and deep learning techniques for efficient dengue monitoring. A compatible disease monitoring framework is formed via the IoT devices and the reports are effectively created and transferred to the healthcare facilities via the fog-cloud model. The misdiagnosis error is overcome in this paper using the novel Hybrid Convolutional Neural Network (CNN) with Tanh Long and Short Term Memory (TLSTM) based Adaptive Teaching Learning Based Optimization (ATLBO) algorithm. The ATLBO optimized CNN-TLSTM architecture mainly analyzes the dengue-related parameters such as Soft Bleeding, Muscle Pain, Joint Pain, Skin rash, Fever, Water Site, Carbon Dioxide, Water Site Humidity, Water Site Temperature, etc. for an efficient clinical decision making and timely disease diagnosis. The experimental results are conducted using a real-time dataset and its performance is validated using various performance metrics. When compared in terms of different statistical parameters such as accuracy, f-measure, mean square error, and reliability, the proposed method offers superior results in the case of dengue disease detection than other existing methods. The ATLBO optimized hybrid CNN-TLSTM shows an accuracy of 96.9%, a precision of 95.7%, recall of 96.8%, and F-measure of 96.2% which is relatively high when compared to the existing techniques. The proposed model is capable of identifying the patients in a certain geographical region and preventing the disease emergency

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# CONTENT BASED IMAGE RETRIEVAL USING CONVOLUTIONAL NEURAL NETWORK AND EXTREME LEARNING MACHINE IN COREL DATASET

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## Abstract

The evolution of multimedia technology and rapidly increasing image collections on the Internet has attracted significant research efforts in image retrieval. Difficulties faced by text-based image retrieval motivated the researchers to develop new solutions for representation and indexing of visual information. This paper proposes a content-based image retrieval using the significant use of Convolutional Neural Network (CNN) and Extreme Learning Machine (ELM) This proposed approach extracts various features and forms as feature vectors. Apart from these extracted features, CNN is used to extract the additional features and the ELM classifies the intermediate results. The proposed approach is experimented on COREL dataset and its performance is calculated using statistical parameters such as, the precision and recall. The statistical results show that the accuracy of the proposed system is 93.58%. The experiments result shows that the proposed method outperforms the existing methods by exhibiting significant performance improvement in terms of accuracy and efficiency.

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**Keywords:** Content Based Image Retrieval, Corel Dataset, Convolutional Neural Network (CNN), Extreme Learning Machine (ELM), Hybrid Classification Structure.

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## Introduction

Nowadays images are broadly utilized because of its visual representation advantage. Due to the rapid advancement of computers and networks, the transmission and storage capacity of ample number of images have become possible. In older days, the image

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retrieval was widely required instead of text retrieval. Content-Based Image Retrieval (CBIR) is a standout amongst the best methods for getting into visual information [1]. CBIR deals with image content, such as colour, shape and structure instead of annotated text. In order to implement CBIR, the framework needs to

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# COMPARATIVE STUDY OF CYBER ATTACKS

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## Abstract

Cyber-attacks provide a potential risk to data protection. As levels of data use and internet use start to increase, cyber consciousness turned to be increasingly critical. Early identification of the threat intelligence and efficient ways of the threat progress is the base for the effective and timely related to cyber threats. Distributed Denial of Service (DDoS) attacks pose an interesting obstacle for cloud environment as they enter the attacker and fully uninstall Cloud platform in order to support the right customer while at the same period against goals that trigger system and system loss of access on infected computers. SQL injection attack is by far the most vulnerable but common danger that can reach an entity's database management system, either confidential or public, through specified format inside a search engine. This directory-crossing approach is also used for web browsers or programs powered by data. A Database table could be amended in a really manner as to limit often valid. It paper discusses the analytical assessment of security risks.

Keywords: **Cyber security, internet, SQL injection attack, DDoS attack, phishing attack.**

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## 1. Introduction

The intruder system plays a major role in the roles of the attacker modeling, modeling, and Risk evaluation. Existing approaches consider various assaulter features when modeling threats. Any of them use high level targets of the miscreant attackers, agents, jihadists, industrial raiders, skilled criminals, looters, and perverts. Others methods investigate the position of the hacker explicit or implicit and the sophistication of the bugs they target professional developers, hackers, and botnet operators. In the grouping of attackers based on multiple characteristics is suggested [1]. The studied criteria have included amount of the fraudsters, their motivations, and their targets, which helps writers to identify three categories of assailants, coordinated organizations, and intelligence service.

A Cyber attack refers against any offence where such computers have played and may not have

done a part of in illegal act including a PC as well as a server. Computer offences involve a wide range of activities that may be illegal. That said though, this can in turn be grouped into one of several types of activities: database or machine-direct crime and software support or operating system theft, the listed as a schedule of both would be outside the software application or computer [2]. Tech crimes involve fraud, ransom ware, computer hackers and spoofing, for instance. Phishing is an internet scam that a scam artist utilizes to unlawfully gain confidentiality via an e-mail, or via official site content.

Somebody could use phishing for somebody in political coercion in many ways. An instance, they might modify your web link to make it look like some sort of legitimate website if you actually went to a criminal's official site. The phishing approach involves basic stages: planning, execution, attack, theft of identity and

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## COMPARITIVE STUDY OF BINARY LIQUID MIXTURES CONTAINING P-METHOXY BENZOATE ACID AND AMIDES

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### ABSTRACT

The Speed of sound, density and viscosity values of binary mixtures containing P-methoxy benzoic acid (P-MBA) with Amides -Formamide, Di methyl formamide(DMF) and N-Methyl formamide (NMF) are measured from 303.15 K to 313.15K (5K interval) temperatures using standard techniques. Several thermo acoustic parameters like molar volume ( $V_m$ ), isentropic compressibility ( $K_s$ ), intermolecular free length ( $L_f$ ), acoustic impedance ( $Z$ ), surface tension ( $\gamma$ ) and their excess parameters have been calculated from the measured values. These excess parameters have been fitted to Redlich-Kister type polynomial equation using the least square method. The determined values of partial and excess partial molar volumes ( $\bar{v}_{m,1}$ ,  $\bar{v}_{m,2}$ ) and ( $\bar{v}_{m,1}^E$ ,  $\bar{v}_{m,2}^E$ ) are drawn from  $V_m^E$ . Finally, FT-IR spectra of these mixtures at different mole fractions were carried out to analyze the hydrogen bonding formation between the molecules in terms of intra or intermolecular relations.

**Keywords:** Binary liquid mixtures, redlich-kister polynomial, FTIR spectroscopy, excess parameters, measured values

### INTRODUCTION

Pure fluids and fluid blends used in this study are effective preservatives in many varieties like antimicrobial food preservative, antifungal as well as antiseptic agents, solvents as cosmetic and perfumery industries and also acts as metabolites in pharmaceutical industries. P-Methoxy benzoic acid ( $C_8H_8O_3$ ) has antiseptic property and it is soluble in water, alcohols, and ethyl acetate because it is available in powder form. It is also known as P-anisic acid and draconic acid. P-Methoxy benzoic acid has a boiling of about 280 °C and a melting of 184 °C.





# Spectroscopic and Textural Analysis of Glucose Dispersed Fundamental Nematic Liquid Crystals

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## Abstract

Glucose dispersed 4-cyano-4'-pentylbiphenyl (5CB) was studied and the presence of glucose molecules was confirmed through UV-visible spectroscopy and image analysis. The slight increment in the absorbance in 5CBG is attributed to the presence of carbon atoms of glucose and made the 5CB lattice to activate for the radiation. The statistical parameters computed using textural images of the 5CB and 5CBG were compared to draw the conclusions for bio-sensor applications of the 5CB nematic liquid crystal. The parameters computed namely, contrast, correlation, energy, homogeneity and standard deviation, helped to state that 5CB was a strong nematic liquid crystal having high stability in terms of incident radiation and sensitive to bio-molecules. The refractive index and direct band gap of samples are computed using UV-Vis spectra. These values are in support of the conclusions drawn from image analysis technique.

**Keywords** Glucose molecules · UV-visible absorbance · Contrast · Correlation · Energy · 5CB and 5CBG

## 1 Introduction

The first discovered materials having nematic phase with high chemical and photochemical stability in the region of room temperature are cyanobiphenyl family of liquid crystals. These liquid crystal compound possess white colour, low relative viscosity and high positive dielectric anisotropy [1–4], and these features made them to have an advantage in field-effect displays. Liquid crystal (LC) state of matter is the combined phase of molecular properties of crystal and flow properties of liquid. The chemical diversities and various phases of LC materials signify revolutionary applications in low-power consumption and flat panel display technology. The applications of LC

phases are wide ranging from structural materials to neural interface found in biomedical devices [5–9]. The recent addition to the ever expanding field of liquid crystals is ionic liquid crystals which form columnar, smectic and bi-continuous cubic phases and provide well-organized one-dimensional, two-dimensional and three-dimensional channels for transporting electrons and ions [10–12].

The recent advances in liquid crystals up to this year 2021 reveal the authors to take the chain length, optical texture into more consideration for deciding various interesting properties of the liquid crystals and making them to participate in diverse applications [13–15]. The H-bonded supramolecular complexes formed with azophenyl nicotinate derivatives exhibit non-linear geometry in V-shaped and chair-shaped models. Long-range mesomorphism is attributed to chair shape complexes than that formed in V-shaped complexes [16]. The geometric parameters of these supramolecular complexes are dependent on the flexible chain lengths and on the electronic nature of the molecular shape [17]. The synthesis procedure followed by the researcher also plays important role in tailoring the textural, optical, electrical and thermal properties of the liquid crystal [18–23].

The current article is focused on generating novel parameters of fundamental nematic liquid crystal and observed the attractive properties tailored through dispersion of glucose in the matrix of the liquid crystal. The optical textures

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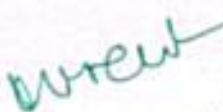
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# Some Sub-Classes of Harmonic Univalent functions

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**ABSTRACT:**

Complex Analysis is branch of Geometric function theory. Geometric function theory concerned with interplay between the geometric properties of the image domain and analytic properties of the mapping functions. Some properties of analytic functions are exclusive and do not extend to more general harmonic mappings. In this paper we study the some subclasses of univalent harmonic functions like Coefficient Bounds, Distortion results and Convolution of Two functions.

**Keywords - Analytic functions, univalent function, harmonic functions, convex functions.**

**Introduction:**

The most exciting element of complex function theory is probably how geometry and analysis interact. In the theory of univalent functions, these connections between geometric behavior and analytic structure are the main topics of discussion. A single valued function  $f(z)$  is said to be analytic at a point  $Z_0$ , it is differentiable at every point in some neighbourhood of  $Z_0$ . It is also known as regular or Holomorphic function. A function  $f(z)$  is said to univalent in domain  $D$  the condition  $f(z_1) = f(z_2)$  implies  $z_1 = z_2$  where  $z_1, z_2 \in D$

**Definition 1.1: Class A:**

Let  $A$  be the class of all analytic normalized functions  $f$  in the open unit disk  $E = \{z: |z| < 1\}$  with normalized conditions  $f(0) = 0$  and  $f'(0) = 1$ , having a Taylor's series expansion of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n$$

**Definition 1.2: Class S**

The subfamily of  $A$  denoted by  $S$  consists of all simple functions like  $z, z/1-z, \dots$  are some of familiar functions of the class  $S$ . The class  $s$  is well known to be closed under several operations like rotation, conjugation, dilation, range transformation, disc automorphism, square root transformation etc.

**Definition 1.3: Class  $S_H$  :**

The continuous function  $f = u + iv$  defined in a domain  $\Omega \subseteq \mathbb{C}$  is harmonic in  $\Omega$ , if  $u$  and  $v$  are real harmonic in  $\Omega$ . In any simply connected domain  $\Omega$ , we can write

$$f = h + \bar{g}$$
$$h(z) = z + \sum_{n=0}^{\infty} a_n z^n$$

and

$$g(z) = \sum_{n=0}^{\infty} a_n z^n$$



**A GENERAL INTRODUCTION TO THE NEW SUBCLASS OF HARMONIC UNIVALENT FUNCTIONS ASSOCIATED WITH SUBORDINATION****N Sri Lakshmi Sudha Rani**Assistant Professor, Department of Mathematics  
Teegala Krishna Reddy Engineering College  
Meer Pet, Hyderabad, Telangana, India**ABSTRACT**

In this article, we study the q-analogue of a novel subclass of harmonic univalent functions that is defined via subordination. This subclass was introduced earlier in the article. In the first step of this process, a coefficient characterisation of these functions is obtained. For this particular subclass of harmonic univalent functions with negative coefficients, we provide constraints for compactness and extreme points, distortion limitations, as well as conditions that are both required and sufficient for convolution. This study sheds insight on future research with its presentation of the symmetry qualities and other aspects of the q-analogue subclass of functions.

**Keywords:** Harmonic Functions; Univalent Functions; Star-Like Functions; Q-Analogue; Subordination.

**INTRODUCTION**

Since the late 1800s and the early 1900s, the study of geometric functions, which is a subfield of mathematical science, has been going strong, and it continues to be one of the most researched areas of mathematics today. We might state that the theory of geometric functions is a multidisciplinary area that consists of a mix of the sciences of geometry and analysis. The beginnings of the geometric function theory may be traced back to the references [1-3], which can be used as citations. Research in this field certainly does not stop with the publications that have been cited here. We know that this topic is significant in engineering and disciplines that are closely connected to it [4], since it was studied a long time ago. This theory, which is also employed in other topics such as electricity and magnetism [5,] has a vast application area in the field of mathematical physics [6]. In point of fact, new developments in the productive process to linear and nonlinear boundary-value and initial-value problems utilising spectral analysis [7] are likely to lead to a role for geometric function theory in solving a wide range of partial differential equations. This is due to the fact that these new developments have the potential to lead to a role for geometric function theory (PDEs). Additionally, the theory of geometric functions is used extensively in fluid mechanics, which is a prominent field in engineering [8]. It is imperative that the theory of geometric functions, which has a broad variety of applications in all of these well-known scientific fields, be kept current in the present day. To this day, a great number of papers have been published in this topic.

Within the context of geometric function theory, this investigation focuses on harmonic univalent functions. In this lesson, we are going to investigate the q-analogue subclass of the harmonic univalent function class. The q-gamma and q-beta functions serve as the cornerstones upon which q-analogue functions are constructed. The first research on these functions were conducted in the early 1980s (for example, [9-11]), and since then, they have been implemented and expanded upon in a wide variety of academic fields. In more recent research, the symmetric features of functions in subclasses of the theory of geometric functions have also been investigated. Studies of subclasses are also considered one of the most important subjects that are investigated at this time [12-16].

The class of continuous harmonic functions with complex values that are harmonic in the space defined by  $U \rightarrow \mathbb{C}$  and  $\|1$  is denoted by the letter H. (the open unit disk). The subclasses of H that consist of functions that are analytic in U will be denoted by the letter A in this discussion. Harmonic functions may be expressed in U using the form where analytic functions are expressed in U. The component of that analyses functions is referred to as the analytic part, while the other part is referred to as the co-analytic part. It is a necessary and sufficient condition for it to be the case that in order for there to be a locally univalent and sense-preserving representation of in U. Therefore, without sacrificing the overarching point, we may write


$$f(\zeta) = \zeta + \sum_{q=2}^{\infty} a_q \zeta^q, \quad g(\zeta) = \sum_{q=1}^{\infty} b_q \zeta^q. \quad (1)$$

Let us designate the subclass of  $\mathcal{H}^*$  that is univalent, harmonic, and maintains the sense in U, and for which  $f(0) = 0$  ( $0 < |1| < 1$ ) with SH. We will refer to this subclass as U. The mean value property characteristic unambiguously indicates that  $|b_1|$  is less than 1. Clunie and Sheil-Small [17] explored the class SH and its geometric subclasses. They discovered some constraints for the coefficients. After then, a great number of studies were written by a variety of scholars and published on the SH and its subclasses. In this section,



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# Viscous holographic dark energy cosmological model in general relativity

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**Abstract:** In this article, we analyze Marder-type space-time in the framework of general relativity theory, with viscous holographic dark energy. To solve the field equations, we use the shear scalar ( $\sigma$ ) is proportional to the expansion scalar ( $\theta$ ) which leads to a relation between metric potentials and hybrid expansion law (HEL) proposed by Akarsu et al. (J Cosmol Astropart Phys 01:022, 2014). Also, we determine the cosmological parameters, namely the deceleration parameter( $q$ ), jerk parameter ( $j$ ), statefinder parameters ( $r - s$ ), equation of state parameter ( $\omega_{de}$ ) and  $\omega_{de} - \omega'_{de}$  plane for the obtained model. The derived model supports the accelerating behavior of the Universe along with the null, weak and dominant energy conditions that are obeyed by violating strong energy condition as per the present accelerated expansion.

**Keywords:** Marder-type space-time; Dark energy model; Viscous holographic dark energy; Cosmology

## 1. Introduction

Researchers are always keen to study the early evolution of the Universe. Current cosmological observations have revealed that our current Universe is experiencing rapid expansion. The main reason for this cosmic acceleration is an exotic force with tremendous negative pressure called 'dark energy'(DE). Dark energy which is defined as the exotic negative pressure causing the accelerated expansion of the Universe [1, 2] is attracting the attention of several researchers in recent years. The cosmological analysis of these observations suggests that the Universe consists of about 70% DE, 30% dust matter (cold dark matter plus baryons), and negligible radiation. It is a widely accepted idea that dark energy leads to the ultimate-rapid expansion of the Universe. However, the nature of such a DE is still a source of debate. Several theoretical models have been proposed to explain this late-time acceleration of the Universe. The most obvious theoretical candidate for DE is the cosmological constant [3], which has the equation of

state (EoS)  $\omega_{de} = -1$ . However, it suffers from a cosmological constant (CC) problem (fine-tuning problem) and a cosmic coincidence problem [4–6]. Both of these problems are related to DE density. Two ways have been suggested to explain this mysterious concept. One way is to construct dark energy models, and the other one is to modify the geometrical part of Einstein's field equations which is known as modified gravity theory to study the corresponding anisotropic dark energy cosmological models. In the literature, various kinds of research on DE patterns have appeared to explain this mysterious concept of DE. In particular, Arun et al. [7] have discussed reviews of the different possible candidates for DM including exotic candidates and their possible detection and, also, cover the different models for DE and the possibility of unified models for DM and DE. Significant dynamical DE models among them are scalar field models such as quintessence [8], Phantom [9], tachyon field [10], quintom [11], Chaplygin gas [12],  $k$ -essence [13, 14], agegraphic dark energy [15, 16] and holographic DE model [17] have been proposed to explain the nature of DE phenomenon.

Among the various dynamic dark energy models, in particular, the HDE model has become a convenient technique in recent times to study the dark energy mystery.

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# Tungsten trioxide-modified zeolite-based catalysts in the esterification of lactic acid: the effect of Si/Al ratio and WO<sub>3</sub> loadings

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## Abstract

Zeolite-supported tungsten oxide catalysts were studied in the gas phase esterification of lactic acid with alcohols in different reaction conditions. Two different types of commercial zeolites pore topology and acidity strength were investigated. The Y & mordenite zeolite-supported catalysts were prepared by wet impregnation method by varying the Si/Al ratios in Y-zeolites (Si/Al = 60) and mordenite (CBV-20A). The X-ray diffraction and FT-IR spectroscopy examined the phase analysis with a degree of crystallinity, and modes of different chemical bonds and compounds existed in the zeolites. The textural and total support acidity properties were evaluated by the N<sub>2</sub> sorption isotherms and ammonia temperature-programmed desorption (NH<sub>3</sub>-TPD) techniques. The type of alcohol reactant, WO<sub>3</sub> loadings, and the SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> ratio had a profound effect on the esterification reaction performance. The Y zeolites with different SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> ratios exhibited varied total acidity and activities. Over 10 wt.% WO<sub>3</sub>-loaded Y-zeolite with SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> = 60 was found to be the most promising catalyst in terms of high activity and selectivity in lactic acid esterification by butanol reactant. The optimized reaction conditions were determined over the most selective 10W-760 catalyst and at 175 °C temperature with feed molar ratio of 1:3 (lactic acid to butyl alcohol ratio), and flow rate of 1.0 mL/h; a highest butyl lactate yield and selectivity was obtained. Over 10 wt.% WO<sub>3</sub> Y-zeolite catalysts exhibited both optimal amount of weak and moderate acid sites, which play an important role in the selective formation of butyl lactate. However, the strong acid sites enhance the selectivity of the secondary reactions, which led to the byproduct's formation and thus decrease the selectivity of butyl lactate.

**Keywords** Esterification · Lactic acid · Y-zeolite · Tungsten oxide

## 1 Introduction

Sustainability development goals (SDGs) are important initiatives proposed by UN to achieving better world for the future and current living entities by combating the earth's

serious problems that today we are facing such as climate change, energy security, air, and water pollution. For chemicals and intermediates manufacturing, more environmentally friendly production methods are critical. Although fossil-based raw materials are predominantly used since 70 s, the

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# Studies on lanthanum-doped nickel ferrites for improved structural, magnetic and optical properties

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## ABSTRACT

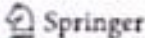
Lanthanum-doped Nickel ferrites, Ni La<sub>x</sub> Fe<sub>2-x</sub> O<sub>4</sub> (x = 0.00 to 0.05 in steps of 0.01) were prepared using Citrate gel auto combustion method. The XRD patterns confirm the formation of well-defined single phase cubic spinel structure without any evidence of secondary peaks crystallite size is found to decrease from 37 to 26 nm with the addition of La<sup>3+</sup> ions. SEM images reveal the formation of homogeneous, spherical, nanoparticles. A rise in M<sub>s</sub> from 9 emu/g to 124 emu/g is witnessed with increase in x from VSM studies. Relatively larger values of M<sub>s</sub> of 124 emu/g is found for x = 0.4. Non-linear variation of M<sub>s</sub> is corroborated to the nature of dopant atom, Y-K angles and Crystallite size. Coercivity is found to vary from 256 to 291Oe with the addition of dopant atom. on the enhanced magnetic parameters of the present ferrite samples, it can be proposed that the synthesized Ni-La Ferrite (x = 0.4) sample can be applied in magnetic field applications such as permanent magnets and permanent data storage tapes and also for biomedical applications. The UV absorption range is observed to be in the visible region varying from 534 to 546 nm and the energy bandgap values are found to decrease from 2.06 eV to 1.76 eV. Observed absorption range in the visible region coupled with relatively lower values of E<sub>g</sub> make these materials usable for optical applications.

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## Acoustic and viscosity studies of the binary mixtures of Parabens with alcohols at T= (298.15-323.15) K

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### ABSTRACT

Volumetric and viscometry studies of mixtures containing benzene with 0.01m (molality) of butyl/pentyl paraben in the isopropanol solution were measured in the temperature range 298.15K to 323.15K. The experimental data have been utilized to calculate the acoustic parameters such as ultrasonic attenuation, relative strength, surface tension, relaxation time and Gibb's free energy. There is a linear decrease in the relative strength of the mixture, surface tension increases in the concentration of benzene in both the systems. The linear variation indicates that the molecules are not very proximal together, so the interaction is diminishing and reveals a weak correlation between them. As temperature increases, there is waning in the values of surface tension suggesting the weak interactions among the constituent molecules. The decrease in relaxation time and Gibb's free energy indicates the reduction in the molecules degree of collaboration and relaxation. The results are discussed in terms of molecular interactions in the mixtures.

**Keywords:** Ultrasonic attenuation, relative strength, surface tension, relaxation time, Gibb's free energy.

### 1. INTRODUCTION

Ultrasonic method is one of the most reliable techniques to apprehend the physico-chemical idiosyncrasy of liquid mixtures. The molecular bonding and the nature of intermolecular interactions can be vividly deciphered by the thorough Study of thermoacoustic parameters [1,2]. Recent studies [3,4] enunciated that the analysis of ultrasonic velocity and their derived parameters with a variation of composition and temperature divulges vital information regarding interactions at an intermolecular level in the mixture. Jouyban *et al* [5] applied Jouyban-Acree model to calculate absolute viscosity against temperature and mixture concentrations of binary liquid mixtures. Acoustic speed (U), and viscosity ( $\eta$ ) of

pure tetrahydrofuran (THF), benzene, toluene, o-xylene, m-xylene, p-xylene, mesitylene as well as binary solutions with THF throughout the composition range and temperatures at 288.15, 298.15, 308.15 and 318.15 K were carried out. Further, deviations in the acoustic parameters were calculated. The THF-aromatic hydrocarbon synergy was compared and the dependence of the number and positioning of the methyl groups was reported [6]. At 308.15 K, Nayeem *et al.* [7] examined the density and acoustic velocity of binary liquid solutions of cyclohexanone with butanol isomers (n-butanol, sec-butanol, and tert-butanol) over the whole composition range. From the experimental data, thermoacoustic parameters and their excess parameters were calculated and the results were attributed to intermolecular



# STUDY THE ACOUSTIC PROPERTIES OF BENZYL BENZOATE LIQUID BLENDS

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## ABSTRACT

The viscosities( $\eta$ ), speed of sounds ( $U$ ) and densities( $\rho$ ) for the two fold mix of benzyl benzoate and mole fractions of alkanols have been measured with the standard techniques from  $[T = 303.15$  to  $313.15K]$  with  $5K$  interval. Several thermoacoustic properties such as isentropic compressibility ( $\kappa_s$ ), molar volume ( $V_m$ ), surface tension ( $\gamma$ ), specific acoustical impedance ( $Z$ ) and their excess quantities were deliberated from these measured data. The excess quantities have been fitted to the Redlich-Kister type polynomial equation to assess the ideality behaviour of the twofold mix. Finally, Lennard Jones potential repulsive term exponent( $n$ ), available volume( $V_a$ ) and relative associations( $R_s$ ) are also deliberated for the twofold mix to study the various transport and structural assets present in this benzoate mix.

Keywords: Structural properties, surface tension, hydrogen bond, redlich-kister polynomial, standard techniques, excess quantities.

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## 1. INTRODUCTION

Benzyl benzoate will getting by transesterification of methyl benzoate and benzyl alcohol. Benzyl benzoatesample consists small amount of toxic, it causes hyper excitation and respiratory issues when given in large doses to animals. It utilizes in pharmaceutical industries for various treatments like vasoconstriction, antispasmodic effect, various cough drugs, hypogonadism, and human scabies. (Chaithanya et al 2019). It also utilized as solvent of dye carrier, cellulose derivatives, plasticizers and perfume industry. Alkanols are amalgams of hydroxyl group (-OH) consist of one -OH group then call it as monohydric alkanols. The alkanols are colourless, volatile liquids with analcoholic smell and burning taste whereas higher alkanols are odour less and tasteless. 1-propanol/2-propanol is a colorless fluid is floated in less amounts during numerous ebullition processes and is used as solvent in the pharmaceutical industry for resins

and cellulose esters. Butanol is a four-carbon alcohol is utilized as solvent as an intermediate in chemical synthesis also in fuel. Biologically when petro-butanol is produced from petroleum then butanol is sometimes called as bio-butanol. For coating CDs and DVDs 1-Pentanol can exploit as solvent. Pentanol is required to restore gasoline as an internal combustion fuel then it can be conceived by fractional distillation of fusel oil. 1-Hexanol is a colorless fluid dissolved in water mixable with ethanol and ether. Various isomers of hexanol which varying by region of -OH group are utilized in the perfume industry. The measured results of viscosities( $\eta$ ), speed of sounds( $U$ ) and densities( $\rho$ ) are utilizes to deliberate various excess parameters than those are fitted to R-K Polynomial equation and FTIR analysis explains abundant stretching between molecules and also formation of H bonding in benzyl benzoate with alkanols (2-propanol/1-propanol/1-butanol/1-pentanol/1-hexanol) mixture at whole

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## SUSTAINABLE ENGLISH LANGUAGE INSTRUCTION

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### ABSTRACT

*This paper continues by comparing: English for sustainability (ESD) to English language teaching (ELT), arguing that these connections give us an exciting role to play in this newly developing paradigm of education and larger societal changes—the reason we teach. I end by offering recommendations for enhancing this relationship. The objective of this ESD with ELT is to bring empathy among both teachers and learners.*

**Key words:** English for sustainability (ESD) English language teaching (ELT)

### INTRODUCTION

The sustainability debate began when people realised how many of our commonly used behaviours and the underlying presumptions were not sustainable. These problems are interrelated, according to an ecological point of view, and are a part of a larger system "whose stability depends on the balance of its components" (Sachs, 1997 p. 27). According to this worldview, sustainability is the process through which these interdependent systems care for one another and themselves. The definition of sustainability in this worldview entails the process of these intertwined systems sustaining themselves and each other. This approach demands that we look at connections and the whole of a system rather than individuals and elements, for in a system, components are deeply integrated into the whole, which contains "properties that none of them possess" (CEL, 2009). The way we think about ourselves and the world around us is fundamental to achieving greater sustainability. We must examine and

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# Employee Satisfaction and Quality of Work Life among Employees of Manufacturing Companies in India

2023-2025

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**Abstract:** The scenario for work-life balance has become more complex due to the growing challenges of both the personal and professional spheres of life. In today's business, employee engagement and retention have become crucial components. Therefore, organisations should create rules that better manage any work-related stress, tensions, or conflict that arises at the workplace in order to preserve a balance between personal and professional life. A conceptual framework has been constructed to illustrate the cause of the work-life imbalance, and the study is based on a literature review and secondary data gathered from carefully chosen articles that have been examined. This study looks into what influences work-life balance and what the difficulties are in the manufacturing industry. It was proposed that employers should take into account work-life balance programmes based on the policies, benefits, and services they develop. Furthermore, policies and strategies need to be designed so that they can change how employees view their employers and encourage them to stay with the company for a longer period of time. It gives academics, policymakers, and other researchers in this subject a path for the future.

**Keywords-** Work life balance, Job Satisfaction, Employee Retention, Job stress, Role overload, Role interference, Manufacturing etc.

## I. INTRODUCTION

The amount of time allotted to a worker to balance his or her obligations to his or her family and job is known as the work-life balance. An individual is supposed to maintain equilibrium between the two quite distinct responsibilities. Any imbalance in either of these positions causes a number of problems that interfere with a person's personal and professional lives. Work-life harmony leads to a happy, healthy, and successful life, while work-life imbalance causes poorer productivity, subpar performance at work, extreme stress, and occasionally even burnout. A healthy and ideal balance between work and family improves employee performance, keeps them engaged, and keeps them stress-free, which lowers the cost to the organisation.

## WORK LIFE BALANCE IN MANUFACTURING SECTOR

In a manufacturing industry where the work process is rigorous and monotonous, a constant effort has been made to improve the quality of work life ever since the industrial revolution. The Labor union in the 1930's and 1940's brought about a radical change in the working conditions and work environment through collective bargaining in this sector. According to IBEF (2018) "India has become one of the most attractive destinations for investments in the Manufacturing sector". This indicates it provides employment opportunities to lakhs of people.

### Factors Affecting Quality of Work Life

key factors affect the quality of work life. These factors are:

Fair and reasonable pay compared to others doing similar work.
Concern over losing one's job in the next months and years.
Sexual harassment or discrimination at the workplace.
Interesting and satisfying work.
Trust in senior management.
People at the workplace wish to get on together.
Recognition of efforts by intermediate manager/supervisor
Career prospects
Amount of control over the way in which work is done.
Health and safety standards at work.
Balance between the time spent at work and the time spent with family and friends.
Intermediate manager/supervisor's treatment of staff.
Amount of work to be done.
Level of stress experienced at work.

A happy and healthy employee will give better performance, make good decisions and positively contribute to the organizational goal. An assured good quality of work life will attract and retain existing and new talent but also retain the existing experienced talent.

However, jobs in the manufacturing sector are less creative and challenging in nature, the jobs are simple and do not require involvement of high mental efforts. This leads to several problems like weak enforcement of rules and regulations, poor corporate cultures. Such problems lead to various issues affecting the work life balance of employees.



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# Green Technology Management in Commercial banks in India: Issues and Challenges

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**Abstract:** The Indian government is putting up rather strict laws to combat climate change, and this regime also covers the financial services industry. The vast quantities of pollutants and carbon emissions are fatal to humanity, so nations are working to establish a carbon-free economy. One of the buzzwords in the banking business is "green banking" to promote environmentally friendly goods and services.

The findings showed a high degree of knowledge of the idea of green banking, and it was discovered that plastic money (debit and credit cards) was the most extensively used green product. The findings showed that there is no difference in how often customers use green banking services based on their level of education. The research revealed three key perceived advantages of green banking, including advantages for the environment, safe and secure transactions, and internet transactions. This article is a specialised attempt to reveal customer perceptions of the advantages of using green banking services, frequency of usage of green services, and awareness of green banking initiatives among customers of a sample of SBI, Hyderabad branches.

**Keywords:** Green Banking, greenproduct, Green Banking is an umbrella term encompassingeco-friendly products, services

## I. INTRODUCTION

Green Banking is an umbrella term encompassing eco-friendly products, services and processes being adopted by the banks. It may take the form of online banking, online bills, online account opening, Solar Powered ATMs, Energy-efficient branches, etc. The benefits of green banking are numerous like reduction of carbon footprint, efficient utilization of resources and cost cutting etc. Some of the newly invented green banking products, services and processes are explained below:

## II. REVIEW OF LITERATURE

Biswas (2011) green banking initiatives are adopted by various banks are and their determinations are useful for our emerging economy. The study emphasized on various aspects such as advantages, challenges, and Green Banking strategies. The study concluded that the green banking plays a proactive role for ecology, environment, green determinations etc.

Malhotra & Bhardwaj (2013) suggested that banking services are not a direct contributor in the pollution of environmental changes, but these are one of the channels for facilitating industrial and personal finances. Therefore, the banks must in corporate green services and help in establishing green industries in the near future. Banks can persuade their clients for improving their asset quality and wealth management.

Rajesh and Dilcep (2014) their study as sorted that banks can play a vital role in the sustainable development by adopting green banking practices. The banks must work in a planned manner for financing/investing in client's ideas/proposals directly or indirectly towards carbon footprints. Banks have a large client base therefore; they can spread awareness among their clients by adopting green initiatives for reducing pollution, emission and radiation.

Kanak and Singh (2014) in their study concerning various banking initiatives towards the protection of environment considered a different approach that the corporate had been shifting the inattention from the „single bottom line“ to the „triple bottom line“ for reaping the long terms hidden social, economic and environmental Payoffs. Modern world economy is attracting all the sectors towards sustainable development and environmentally friendly services. The Indian Banks like bank State Bank of India along with other commercial banks had been putting immense efforts in the area of green banking initiatives. Banks can improve their own quality standards and other business by adopting green practices, socially responsible behavior and environment responsive initiatives (Deka, 2015).

Bihari and Pandey (2015) proclaimed that there are various activities initiated by the banks must analyze a proposal before financing from in terms of environmental aspects and future implications. Green banking is dynamism for injecting banking objectives from "profit only" to "profit with responsibility".

### Green Products

1. Green Deposits: Deposits made through online channels of banking are termed as green deposits. Banks help to provide higher interest rates on commercial deposits, fixed deposits and saving accounts if customers choose to conduct their banking activities through online.
2. Green Mortgages and Loans: Loans and mortgages offered for energy efficient business are popularly known as green loans and mortgages. Some green mortgages allow homebuyers to enjoy 15 percent of the price of the house into loans for upgrades including energy-efficient windows, solar panels, geothermal heating or water heaters. The savings in monthly energy bills can also offset the higher monthly mortgage payments and save money in the long run.



# Financial Inclusion and Rural development in India: issues and Challenges

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**Abstract:** Financial inclusion is the idea that financial institutions should offer acceptable financial services to those in low-income and weaker socioeconomic groups in an appropriate manner and at a reasonable price. In the context of inclusive growth and sustainable development in emerging nations like India, it has emerged as one of the most crucial factors. Financial inclusion aims to provide low-income and disadvantaged populations with access to the full range of services provided by the organized financial system. The impoverished must be lifted from one level to another through inclusive credit in an effort to lift them out of poverty. It makes it easier to allocate resources economically, which will likely lower the cost of capital. An inclusive financial system supports the use of unregulated, frequently proven to be exploitative sources of credit, such as money lenders. The significance of an inclusive financial system is widely acknowledged in the policy community and has elevated to the top of the agenda in many nations, including India.

**Keywords:** Financial inclusion • financial institutions • socioeconomic development

## I. INTRODUCTION

Finance is very essential for every economic activity. Without sufficient finance no activity can be undertaken. Finance is also necessary by each segment of the society. But from the commencement of the evolution, only the financial desires of the superior sector of the society were catered. Access to finance by the poor and weaker groups is very complex. This is because of several reasons such as lack of banking amenities, lack of knowledge about the schemes accessible for them, lack of ordinary or significant income etc. Furthermore, banks also give more significance to meet their financial targets. So they can concentrate on larger accounts. It is not money-making for banks to supply small loans and make a profit.

Financial inclusion is a newly emerged perception that helps to bring about the sustainable progress of the country, through reachable financial services to the unriched people with the help of financial institutions. The committee on financial inclusion of government of India, has defined financial inclusion as the practice of ensuring judicious access to financial services and sufficient credit where required by susceptible groups such as the weaker sections and low income groups at a reasonable cost (Rangarajan Committee, 2008).

Financial inclusion intensifies the economy. In the modern era of running for economic power and independence, it is crucial for any regime to generate pleasant conditions for individuals, households and private institutions which included the availability of banking services. The accessibility of banking services and wide branch network are the

major factors of developmental and expansionary activities. A well established and well-built financial system is a central point of economic growth, development and advancement of an economy.

## STATEMENT OF PROBLEM

The banking system has experienced phenomenal growth in terms of geographical spread, deposit mobilization and technological advancement. However bank credit remains by and largely inaccessible to the poor. The people of rural areas do not have the necessary capabilities to approach and negotiate with formal financial institution. The drive of rural folks to help themselves through self – employment is ignored by the formal financial sector. The proportion of rural people obtaining credit from the banking system has been lower than their share in the total proportion. Moreover there is a wide spread belief that they are unbankable. In this context the present study attempts to evaluate the extend of financial inclusion in Kollam District.

## OBJECTIVES OF THE STUDY

1. To study financial inclusion in rural areas with special reference to Kollam District.
2. To find out the reasons for the low financial inclusion in Kollam District.
3. To assess the satisfaction level of rural people of Kollam District towards banking services being provided to them.

## SIGNIFICANCE OF THE STUDY

Financial exclusion is a serious concern among the low-income households as well as small business, mainly located in semi-urban and rural areas. The formal financial system has to recognize the business potential coming from the unmet demand for financial services from those who normally tend to be excluded. Banks need to understand the markets and develop products suited to the clientele. Financial inclusion has to be viewed as a subject for intensification and banks need to post themselves accordingly. It is imperative to make out that, in the policy structure development of the formal financial system in India, the necessity for financial inclusion covering more and more of the excluded population by the formal financial system has always been intentionally emphasized. In this background the present study titled "A STUDY OF FINANCIAL INCLUSION IN RURAL AREAS WITH SPECIAL REFERENCE IN KOLLAM DISTRICT" is highly relevant.



# Financial Analysis and Technology Innovations in Non-Banking companies in India

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**Abstract:** Non-Banking Financial Company, or NBFC for short, is the acronym for a business that has been registered with the Companies Act of 1956. These non-banking financial institutions were involved in the lending and advancing of money as well as the purchase of stocks, bonds, debentures, and other assets. The financial firms known as nonbank financial companies (NBFCs), also referred to as nonbank financial institutions (NBFIs), provide a range of banking services but lack a banking licence. These institutions typically aren't permitted to accept standard demand deposits from the general public, which are easily available funds like those in checking or savings accounts. Investopedia A company that is registered under the Companies Act of 1956 or the Companies Act of 2013 that engages in the lending, hire-purchase, leasing, insurance, and, in some situations, the receipt of deposits, chit funds, stock and share acquisition, etc. is referred to as a non-banking financial corporation. The Reserve Bank of India and the Ministry of Corporate Affairs jointly oversee the NBFCs' operations.

The Reserve Bank of India recently proposed a four-tier system with a progressive rise in the intensity of regulation in order to create a stricter regulatory environment for Non-Banking Financial Institutions. The linked page has comprehensive information about the Reserve Bank of India. It has also suggested moving base layer NBFCs' non-performing assets' classification from 180 to 90 days past due. Check out the linked page for more information about non-performing assets, or NPA. The RBI unveiled a slew of initiatives earlier in 2020 to boost NBFCs' liquidity needs.

**Keywords:** Non-Banking Financial Corporation, Banking Companies, services, Financial position

## I. INTRODUCTION

Development of accounting standards involves a process, and the implementation of any process requires a few guidelines. Taking this into perspective, the Accounting Standards Board (ASB) of Institute of Chartered Accountants of India (ICAI), which is the nation's most accomplished accounting body, came up with a framework which provides the fundamental basis for the development of new standards and appraisal of the existing ones. In this article, we review some of the fundamental concepts based on which financial statements are prepared and presented.

### Components of Financial Statements

**Balance Sheet**– A balance sheet depicts the value of economic resources controlled by an enterprise, as well as the liquidity and solvency of an enterprise. This is used to estimate the ability of the enterprise in meeting its financial commitments.

**Statement of Profit and Loss**– Portrays the outcome of the functioning of the organization.

**Cash Flow Statement**– Outlines the way of determination of income, as well as its usage.

**Notes and Schedules**– Provides supplementary information explaining different modules of financial statements. A few examples can be risks and uncertainties affecting an enterprise, accounting policies etc.

Firms are also obligated to provide their financial statements in the annual report that they share with their stakeholders. As financial statements are prepared in order to meet requirements, the second step in the process is to analyze them effectively so that future profitability and cash flows can be forecasted. Therefore, the main purpose of financial statement analysis is to utilize information about the past performance of the company in order to predict how it will fare in the future. Another important purpose of the analysis of financial statements is to identify potential problem areas and troubleshoot those.

### Need for the Study:

Financial Statement Analysis is a method of reviewing and analyzing a company's accounting reports (financial statements) in order to gauge its past, present or projected future performance. This process of reviewing the financial statements allows for better economic decision making. Globally, publicly listed companies are required by law to file their financial statements with the relevant authorities. For example, publicly listed firms in America are required to submit their financial statements to the Securities and Exchange Commission (SEC).

## II. REVIEW OF LITERATURE

Dr. Virender Koundal (2012) quantitatively analyzed the profitability of the Indian banks. He divided the banks into strata based on different variables and then conducted the research using various ratios. He found that new banks were more efficient, smaller banks had better global approach and larger ones had good local efficiency. Their research found negative relation between profitability and number of accounts payables days and that there was positive relation between profitability and number of accounts receivables days. They concluded that shorter cash cycle is better is the function of an institution.



# Financing to Entrepreneurship and Startups in India: Issues and Challenges

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**Abstract:** The main causes of this issue are a lack of capital and insufficient credit facility availability. In the end, every issue that entrepreneur faces—whether it be one involving raw materials, power, transportation, or marketing—turns out to be a financial one. Without discrimination, the government should offer seed financing to all entrepreneurs (NEEDS entrepreneurs should not simply be women and minorities; this is in line with the NEEDS programme). A separate policy initiative is urgently required for young entrepreneurs among young educated people to promote SSIs. The government should provide an adequate power tariff subsidy, capital subsidy, export development finance, and generator subsidy to overcome the financial problems to a greater extent. Climate and natural resources are hospitable, making it possible to launch and sustain small-scale companies. Despite this, the district's small business owners have primarily experienced financial difficulties due to a lack of government support. The financial issue is inextricably linked to the production, technical, administrative, and marketing issues. The underlying cause of the aforementioned issues has been the lack of timely financing.

**Keywords:** Financing to Entrepreneurship-Small business-Issues and Challenges

## I. INTRODUCTION

Finance is the life blood of any enterprise and no enterprise can function properly in the absence of adequate funds. The scarcity of capital and inadequate availability of credit facilities are the major causes of this problem. Every kind of problem whether of raw material, power, transport or marketing faced by an entrepreneur, in its ultimate analysis, turns out to be a problem of finance. These enterprises are still struggling with the problem of inadequate availability of high cost funds. These enterprises are promoting various social objectives and in order to facilitate their working adequate credit on easier terms and conditions must be provided to them.

### Scope of the Study

This study aims at analysing the financial problems faced by the entrepreneurs of small scale industries in the district. This study also aims at helping the government in formulating appropriate policy to promote small scale industries. The study covers both manufacturing and service enterprises of Small Scale Sector (SSS) in all the five taluks of Rangareddy District in Telangana. The study mainly focuses on major financial problems faced by the small scale entrepreneurs.

### Statement of the problem

Shortage of finance affects the viability of small units severely. Every kind of problem whether of raw material, power, transport or marketing faced by an entrepreneur, in its ultimate analysis, turns out to be a problem of finance. The small industry is elbowed out by the large and medium scale industries in the procurement of back finance and institutional credit. Commercial banks suspect the stability of small industries and are not interested in lending the small amounts which is required to these industries.

### Objectives of the Study

1. The following objectives are framed:
2. To describes the socio economic profile of the respondent.
3. To analyse the financial problems faced by entrepreneurs in developing SSIs of the district.

## II. RESEARCH METHODOLOGY

**Nature of the Study:** The aim of this study is to analyse the financial problems faced by entrepreneurs in developing small scale industries. Hence, the research design applied for this study is descriptive and analytical in nature.

### Select Variables

In this study 10 independent and dependent variables are selected for the present study namely gender, age, marital status, fathers' occupation, entrepreneurial generation, educational qualification, previous occupation, religion, community, sources of motivation, business experience and main activity.

**Nature of the Data:** The primary data were collected from entrepreneurs of small scale industries relating to manufacturing and service units in all five taluks of the Rangareddy district.

**Data collection Instrument:** The questions in the interview schedule were designed pertaining to the statement of the problem and objectives of the study. The variables identified from the review of literature were taken into account while drawing the interview schedule.



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# An Analysis of Work-Life Balance in IT Companies in India and Government Policies

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**Abstract:** The goal of the article is to assess the work-life balance and quality of work life (QWL) of employees in Hyderabad who work in various public and commercial sectors. Both industries are experiencing a tremendous increase in employment prospects, and for workers to be effective, their requirements must be met. The sector that is performing well and the areas that require improvement are identified in this report. 120 people make up the sample. T-test was used to analyse the data and determine how employees in both industries generally felt about the various elements affecting their quality of work life (QWL). It has also been noted that few studies have been conducted that take into account the various types of work in each industry. For the purpose of controlling the variable, 12 different work kinds were considered in this study, divided into two major categories: desk jobs and field jobs. The study's findings and conclusions demonstrate that employees in the public sector have much higher work-life quality than those in the private sector. The study's findings will serve as a reference for future research and are helpful to government managers, academics, and policymakers.

**Keywords:** quality of work life, work life balance public sector, private sector, t-test, chhattisgarh, desk job, field job.

## I. INTRODUCTION

India contains 10 of the world's top 30 fastest-growing urban areas, with 700 million people Expected to migrate to cities by 2050. (Goldman Sachs, 2003). In addition, India's GDP per capita is predicted to treble by 2043, surpassing the United States (Goldman Sachs, 2003). Even in the midst of a global recession, India's strong economic expansion has given rise to a booming urban middle class, which is predicted to grow from around 5% of the population (50 million) to 40% (580 million), making India the world's 5th largest consumer market (McKinsey Global Institute, 2007). In India, higher wages and urbanization are projected to have a major impact on family formations. The distribution of work and family roles along gender and class lines, in particular, is likely to change dramatically (De Silva, 2003). In light of this, it is vital that Indian businesses begin paying close attention to balancing employees' professional and personal lives.

People are the most important resource in the organization because they are trustworthy, responsible, and capable of making a useful contribution, and they should be treated with dignity and respect, according to QWL. Although much study has been done on job satisfaction, and there has recently been an interest in the ideas of strain and subjective well-being, the specific nature of said relationship between these concepts has yet to be investigated. Human resource managers and behavior scientists are interested in the QWL. They see QWL's attention and correct perception as a tool for bettering management performance. Well-defined policies and procedures, as well as reactive policies, are required for healthy employee relations and improved job efficiency.

The increase in information technology has made work-life balance one of the primary challenges of the new generation in the twenty-first century (scientific research, telecom, travel and internet at workplace). Work-life balance is a strategy for balancing work and family obligations. People nowadays spend far too much time in the office dealing with clients, and the stress of their jobs interferes with and impacts their home lives, making it impossible to fulfil household responsibilities. Many people are emphasizing the importance of striking a balance between their personal and professional lives.

While quality of life has been examined more extensively, it remains largely unknown and unexplained. Where the topic of working life quality has been discussed, authors have differing opinions on the key components. The better awareness of interrelationships between the many aspects of work-place QWL allows for even better analysis of the cause and effect in workplace. Rapid technology advancements and their application in business have led in the development of a situation in which employees have begun to feel powerless, normless, social isolation, and self-estrangement. As a result of this perception, production has increased at a slower rate than anticipated when a new technology was implemented. This prompted scholars and practitioners to consider workplace challenges from a new angle, namely, a social one, leading to the conclusion that employee productivity was influenced not just by the technology used, but also by the office atmosphere. This led to the development of the QWL idea in the 1970s, which tried to integrate people's socio-psychological demands into the workplace. The technological requirements, the structure and activities of the organization, and the socio-cultural setting. QWL's concept spread beyond the shop floor to other areas of the firm, including white-collar workers and even management.

## II. LITERATURE REVIEW

Purninder Walia, (2015) attempted to investigate the relationship between demographic variables such as gender and age, as well as the work-life balance of IT and ITES workers. According to the study, females view work to be more interfering with their personal lives than males. The findings also suggest that, while work-life balance may not be age-related, employees of any age may view it as such based on their own circumstances.

Mohan and Ashok (2011) assessed the role of QWL on employee's work performance in the context of textile mills and a



# Green Human Resource Management (GHRM) in IT Companies: Environmental Sustainable policies

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**Abstract:** Business communities are becoming more and more conscious of the value of becoming green and using different environmental management strategies. As the business world becomes increasingly globalised, there is a significant transition taking place from the traditional financial structure to the contemporary capacity-based economy, which is prepared to investigate the green economic aspects of business.

In organisations where human resource departments actively participate in making offices more environmentally friendly, green human resource management (GHRM) has grown to be a crucial key business strategy. The study paper explains the abbreviated definition of GHRM and focuses mostly on the numerous green human resource practices that organisations around the world are pursuing. By exploring the future direction of some GHRM functions, the research study would also contribute to the body of existing literature. Finally, the report offers some HR strategies for green organisations that could be very successful.

Consider how HRM could support environmental management in businesses if it did the following: (a) hired and selected individuals who care about the environment; (b) trained and evaluated employees' performance based on environmental standards; (c) implemented methods for rewarding both individual and group environmental performance; (d) encouraged ongoing education in environmental management; (e) treated environmental issues as values of a corporate culture.

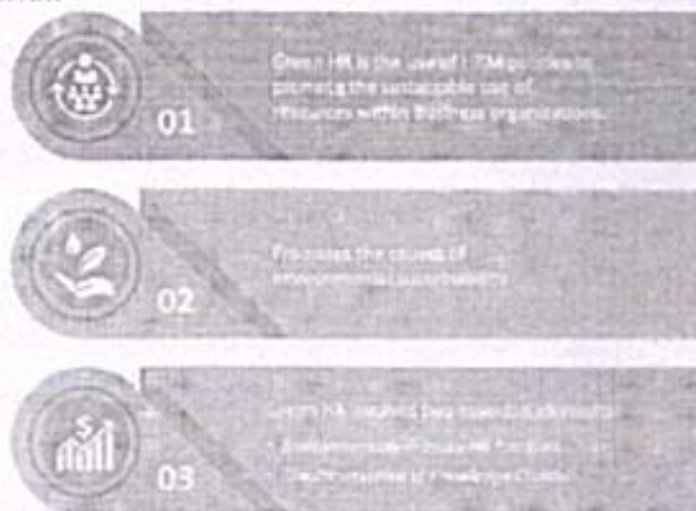
**Keywords:** Green Human Resource Management; environment management; green initiatives; paperless office; conservation; recycling

## I. INTRODUCTION

Now a days, the business world is about efficiency, power consumption and applying the green policies and practices for making a smart business decision making. Going green has been becoming an increasingly attractive for different companies among different business strategies. The green HR Practices would not only help for branding but also would increase the revenue of an organization reduction of costs incurred on different things. The main motive of our research study is to find out the importance of green HR management and the green HR practices in the IT industry at Hyderabad. This study would also help to identify awareness of employees and perception regarding the green HR practices.

## GREEN HUMAN RESOURCE MANAGEMENT (HRM)

What is Green HR?



Survey was conducted to collect the data from 100 employees of sample employees by a detailed structured questionnaire. The researcher has used simple random sampling method for selecting the companies and convenience sampling for selecting the employees.

Management should provide different online training programs for the employees regarding environmental issues. Recruit employees who are aware about the green HRM practices. Increases employee engagement, participation would reduce the employee turnover. It is found that the green HR practices would play a vital role in the employee involvement.



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# Knowledge Management Application in Health Care Companies in India

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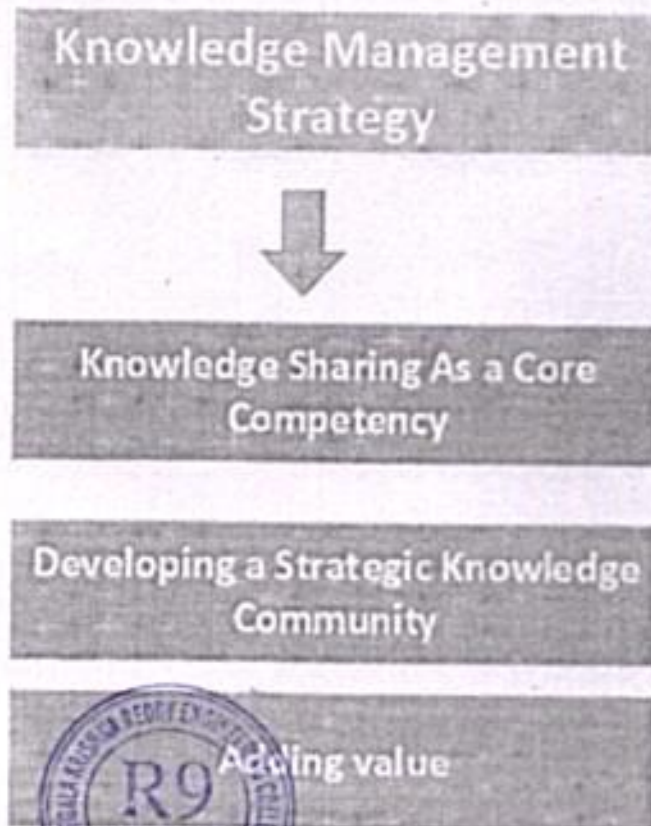
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**Abstract:** In this era of fast and growing technologies, there is a necessity to manage knowledge, its sources, transformation and retention. Knowledge management being a vast area for introspection therefore in this paper efforts are made to find out knowledge sharing strategy. The study was conducted in Indian hospitals with health administrators<sup>1</sup>. The primary data collected from these respondents were analysed to study the equations developed for empirical research. The results obtained from the factor analysis and correlation matrix explain that the Knowledge sharing system for people, Knowledge sharing system for organization are major factors from people point of view and Innovation & Technology Change, KM Technology and IT & knowledge management from technology point of view. The implications of this paper will help in strategic formulation for knowledge management processes with people and technology view point and resolving the issues of making knowledge management strategy.

**Keywords:** Information Technology, Knowledge Management, Knowledge Management strategy.

## I. INTRODUCTION

This paper focuses on the knowledge management strategies for sharing in hospitals and health care organizations. Knowledge management strategy for Indian health care sector is explored with two independent variables – people & technology. From the health sector point of view the knowledge management can be thought of ensuring the right information is available to the right people and practiced by the right people at the right time. A framework for selecting a knowledge management strategy that is appropriate to the organizational cultural. Knowledge strategy planning methodology, it emphasizes on improving organizational performance by identifying and leveraging knowledge directly related to business processes and performance. The debate that the requirement for knowledge management technology to manage knowledge attributes can be applied in designing effective knowledge management solutions, selecting knowledge management products, devising a proper knowledge management strategy, and controlling investments in knowledge management.



To find out that knowledge management strategies based on knowledge management source shows that an external oriented or internal oriented strategy implies synergistic effects of

# Employee Satisfaction and Quality of Work Life among Employees of Manufacturing Companies in India

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**Abstract:** The scenario for work-life balance has become more complex due to the growing challenges of both the personal and professional spheres of life. In today's business, employee engagement and retention have become crucial components. Therefore, organisations should create rules that better manage any work-related stress, tensions, or conflict that arises at the workplace in order to preserve a balance between personal and professional life. A conceptual framework has been constructed to illustrate the cause of the work-life imbalance, and the study is based on a literature review and secondary data gathered from carefully chosen articles that have been examined. This study looks into what influences work-life balance and what the difficulties are in the manufacturing industry. It was proposed that employers should take into account work-life balance programmes based on the policies, benefits, and services they develop. Furthermore, policies and strategies need to be designed so that they can change how employees view their employers and encourage them to stay with the company for a longer period of time. It gives academics, policymakers, and other researchers in this subject a path for the future.

**Keywords-** Work life balance, Job Satisfaction, Employee Retention, Job stress, Role overload, Role interference, Manufacturing etc.

## I. INTRODUCTION

The amount of time allotted to a worker to balance his or her obligations to his or her family and job is known as the work-life balance. An individual is supposed to maintain equilibrium between the two quite distinct responsibilities. Any imbalance in either of these positions causes a number of problems that interfere with a person's personal and professional lives. Work-life harmony leads to a happy, healthy, and successful life, while work-life imbalance causes poorer productivity, subpar performance at work, extreme stress, and occasionally even burnout. A healthy and ideal balance between work and family improves employee performance, keeps them engaged, and keeps them stress-free, which lowers the cost to the organisation.

## WORK LIFE BALANCE IN MANUFACTURING SECTOR

In a manufacturing industry where the work process is rigorous and monotonous, a constant effort has been made to improve the quality of work life ever since the industrial revolution. The Labor union in the 1930's and 1940's brought about a radical change in the working conditions and work environment through collective bargaining in this sector. According to IBEF (2018) "India has become one of the most attractive destinations for investments in the Manufacturing sector". This indicates it provides employment opportunities to lakhs of people.

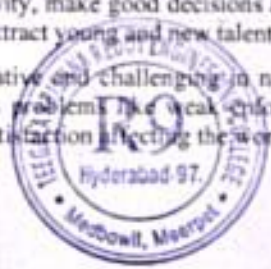
### Factors Affecting Quality of Work Life

key factors affect the quality of work life. These factors are:

Fair and reasonable pay compared to others doing similar work.
Concern over losing one's job in the next months and years.
Sexual harassment or discrimination at the workplace.
Interesting and satisfying work.
Trust in senior management.
People at the workplace wish to get on together.
Recognition of efforts by intermediate manager/supervisor
Career prospects
Amount of control over the way in which work is done.
Health and safety standards at work.
Balance between the time spent at work and the time spent with family and friends.
Intermediate manager/supervisor's treatment of staff.
Amount of work to be done.
Level of stress experienced at work.

A happy and healthy employee will give better productivity, make good decisions and positively contribute to the organizational goal. An assured good quality of work life will not only attract young and new talent but also retain the existing experienced talent.

However, jobs in the manufacturing sector are less creative and challenging in nature, the jobs are simple and do not require involvement of high mental efforts. This industry faces problems like weak enforcement of rules and regulations, absence of corporate cultures. Such problems lead to employee dissatisfaction affecting the work life balance of the employees.



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# Green Technology Management in Commercial banks in India: Issues and Challenges

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**Abstract:** The Indian government is putting up rather strict laws to combat climate change, and this regime also covers the financial services industry. The vast quantities of pollutants and carbon emissions are fatal to humanity, so nations are working to establish a carbon-free economy. One of the buzzwords in the banking business is "green banking" to promote environmentally friendly goods and services.

The findings showed a high degree of knowledge of the idea of green banking, and it was discovered that plastic money (debit and credit cards) was the most extensively used green product. The findings showed that there is no difference in how often customers use green banking services based on their level of education. The research revealed three key perceived advantages of green banking, including advantages for the environment, safe and secure transactions, and internet transactions. This article is a specialised attempt to reveal customer perceptions of the advantages of using green banking services, frequency of usage of green services, and awareness of green banking initiatives among customers of a sample of SBI, Hyderabad branches.

**Keywords:** Green Banking, greenproduct, Green Banking is an umbrella term encompassingeco-friendly products, services

## I. INTRODUCTION

Green Banking is an umbrella term encompassing eco-friendly products, services and processes being adopted by the banks. It may take the form of online banking, online bills, online account opening, Solar Powered ATMs, Energy-efficient branches, etc. The benefits of green banking are numerous like reduction of carbon footprint, efficient utilization of resources and cost cutting etc. Some of the newly invented green banking products, services and processes are explained below:

## II. REVIEW OF LITERATURE

Biswas (2011) green banking initiatives are adopted by various banks are and their determinations are useful for our emerging economy. The study emphasized on various aspects such as advantages, challenges, and Green Banking strategies. The study concluded that the green banking plays a proactive role for ecology, environment, green determinations etc.

Malhotra & Bhardwaj (2013) suggested that banking services are not a direct contributor in the pollution of environmental changes, but these are one of the channels for facilitating industrial and personal finances. Therefore, the banks must in corporate green services and help in establishing green industries in the near future. Banks can persuade their clients for improving their asset quality and wealth management.

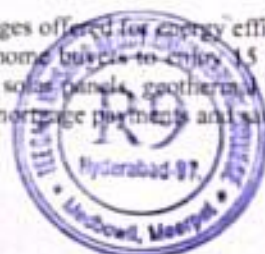
Rajesh and Dileep (2014) their study as sorted that banks can play a vital role in the sustainable development by adopting green banking practices. The banks must work in a planned manner for financing/investing in client's ideas/proposals directly or indirectly towards carbon footprints. Banks have a large client base therefore; they can spread awareness among their clients by adopting green initiatives for reducing pollution, emission and radiation.

Kanak and Singh (2014) in their study concerning various banking initiatives towards the protection of environment considered a different approach that the corporate had been shifting the inattention from the „single bottom line “to the „triple bottom line“ for reaping the long terms hidden social, economic and environmental Payoffs. Modern world economy is attracting all the sectors towards sustainable development and environmentally friendly services. The Indian Banks like bank State Bank of India along with other commercial banks had been putting immense efforts in the area of green banking initiatives. Banks can improve their own quality standards and other business by adopting green practices, socially responsible behavior and environment responsive initiatives (Deka, 2015).

Bihari and Pandey (2015) proclaimed that there are various activities initiated by the banks must analyze a proposal before financing from in terms of environmental aspects and future implications. Green banking is dynamism for injecting banking objectives from "profit only" to "profit with responsibility".

### Green Products

1. Green Deposits: Deposits made through online channel of banking are termed as green deposits. Banks help to provide higher interest rates on commercial deposits, fixed deposits and saving accounts if customers choose to conduct their banking activities through online.
2. Green Mortgages and Loans: Loans and mortgages offered for energy efficient business are popularly known as green loans and mortgages. Some green mortgages allow home buyers to enjoy 1.5 percent of the price of their house into loans for upgrades including energy- efficient windows, solar panels, geothermal heating or water heaters. The savings in monthly energy bills can also offset the higher monthly mortgage payments and save money in the long run.



# Financial Inclusion and Rural development in India: issues and Challenges

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**Abstract:** Financial inclusion is the idea that financial institutions should offer acceptable financial services to those in low-income and weaker socioeconomic groups in an appropriate manner and at a reasonable price. In the context of inclusive growth and sustainable development in emerging nations like India, it has emerged as one of the most crucial factors. Financial inclusion aims to provide low-income and disadvantaged populations with access to the full range of services provided by the organised financial system. The impoverished must be lifted from one level to another through inclusive credit in an effort to lift them out of poverty. It makes it easier to allocate resources economically, which will likely lower the cost of capital. An inclusive financial system supports the use of unregulated, frequently proven to be exploitative sources of credit, such as money lenders. The significance of an inclusive financial system is widely acknowledged in the policy community and has elevated to the top of the agenda in many nations, including India.

**Keywords:** Financial inclusion - financial institutions - socioeconomic development

## I. INTRODUCTION

Finance is very essential for every economic activity. Without sufficient finance no activity can be undertaken. Finance is also necessary by each segment of the society. But from the commencement of the evolution, only the financial desires of the superior sector of the society were catered. Access to finance by the poor and weaker groups is very complex. This is because of several reasons such as lack of banking amenities, lack of knowledge about the schemes accessible for them, lack of ordinary or significant income etc. Furthermore, banks also give more significance to meet their financial targets. So they can concentrate on larger accounts. It is not money-making for banks to supply small loans and make a profit.

Financial inclusion is a newly emerged perception that helps to bring about the sustainable progress of the country, through reachable financial services to the unreached people with the help of financial institutions. The committee on financial inclusion of government of India, has defined financial inclusion as the practice of ensuring judicious access to financial services and sufficient credit where required by susceptible groups such as the weaker sections and low income groups at a reasonable cost (Rangarajan Committee, 2008).

Financial inclusion intensifies the economy. In the modern era of running for economic power and independence, it is crucial for any regime to generate pleasant conditions for individuals, households and private institutions which included the availability of banking services. The accessibility of banking services and wide branch network are the

major factors of developmental and expansionary activities. A well established and well-built financial system is a central point of economic growth, development and advancement of an economy.

## STATEMENT OF PROBLEM

The banking system has experienced phenomenal growth in terms of geographical spread, deposit mobilization and technological advancement. However bank credit remains by and largely inaccessible to the poor. The people of rural areas do not have the necessary capabilities to approach and negotiate with formal financial institution. The drive of rural folks to help themselves through self - employment is ignored by the formal financial sector. The proportion of rural people obtaining credit from the banking system has been lower than their share in the total proportion. Moreover there is a wide spread belief that they are unbankable. In this context the present study attempts to evaluate the extend of financial inclusion in Kollam District.

## OBJECTIVES OF THE STUDY

1. To study financial inclusion in rural areas with special reference to Kollam District.
2. To find out the reasons for the low financial inclusion in Kollam District.
3. To assess the satisfaction level of rural people of Kollam District towards banking services being provided to them.

## SIGNIFICANCE OF THE STUDY

Financial exclusion is a serious concern among the low-income households as well as small business, mainly located in semi-urban and rural areas. The formal financial system has to recognize the huge business potential coming from the unmet demand for financial services from those who normally tend to be excluded. Banks need to understand the markets and develop products suited to the clientele. Financial inclusion has to be viewed as a business tactic for intensification and banks need to pose themselves accordingly. It is imperative to make out that, in the context of the present study, for development of the formal financial system in India, the necessity for financial inclusion covering more and more of the excluded population by the formal financial system has always been intentionally emphasized. In this background the present study titled "A STUDY OF FINANCIAL INCLUSION IN RURAL AREAS WITH SPECIAL REFERENCE IN KOLLAM DISTRICT" is highly relevant.





# Employees Perception about Organizational HR Practices and Culture in IT Companies in India

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**Abstract:** Employee organisational commitment is influenced by human resource management (HRM) practises and policies in Indian textile spinning mills. The current study used a descriptive and explanatory technique, and the data were gathered by distributing a closed-ended questionnaire to 100 employees of five well-known Indian IT organisations. Additionally, secondary sources including journals, newspapers, working papers, theses, etc. were used to gather the data.

To determine the relationship between HRM practises and organisational commitment, the data was analysed for frequency (descriptive analysis) and correlation. Out of the five HRM practises, training and development, welfare activities, and compensation & benefits have been found to have the greatest impact on organisational commitment. The study's findings suggest that in order to increase organisational commitment, pay should be increased, promotions should be implemented, and managers should promote staff training programme involvement.

**Keywords:** HRM Practices, Indian Textile Industry, Organizational Commitment

## I. INTRODUCTION

A lot of research has been done on the relationship of HR Practices and employee job satisfaction but the main focus and theme behind those research studies has been the developed countries. The purpose of this study is to observe the relationship between HR Practices i.e. HR Philosophy and Self Management, Recruitment and Selection, Performance Appraisal and Compensation, Training and Management Development, Welfare practices and Flexible work arrangements and the HR outcomes of selected IT organizations. Data has been collected from the employees of various IT companies and then regression and correlation have been applied to check the relationship between the dependent and independent variables. Recognition and training and development are a key source of employee job satisfaction in It companies but rewards do not have any significant impact upon employee job satisfaction.

The main theme of this particular research is to observe the relationship between HR Practices HR Philosophy and Self-Management, Recruitment and Selection, Performance Appraisal and Compensation, Training and Management Development, Welfare practices and Flexible work arrangements and HR outcomes. These HR Practices are also known as key drivers of employee performance. Training and development is one of the key elements of employee job satisfaction because it reduces the discrepancies in job tasks and enhances the job skills which in result motivates the employees and lead towards job satisfaction. Employees get extremely motivated through rewards and recognition and these two factors lead towards employee motivation and research shows that highly motivated employees are the most satisfied employees and also the high performers.

### Need for the Study:

This study is extremely significant as it is a big insight for the IT organizations normally managers don't focus upon the relationship of rewards and job satisfaction, recognition and job satisfaction or training and development and job satisfaction. So this study will enable them to make a better strategy in terms of employee job satisfaction and to focus upon those HR practices which actually are the source of job satisfaction for employees. Every individual employee wants satisfaction at job but organization is wasting its resources by focusing on wrong HR practices for employee job satisfaction. This study could be an eye opener for many organizations and may well prove to be a very productive one.

## II. REVIEW OF LITERATURE

Human resource management (HRM) includes all management decisions and practices that affect the employee of an organization (Bhatt and Reddy, 2011). There have been many definitions of human resource management used by different scholars. Daud (2006) defined HRM as a system, policy, and practices that can affect folks that work in an organization. In addition, Shah Nawaz and Juyal (2006) defined Human resources management (HRM) as all decisions and practice that influence worker within organizations. De Cieri, et al. (2008, p.5) explained HRM as "the policies, practices and systems that influence employees' behavior". While Hussain and Ahmad (2012) considered HRM to be a system that attempts to realize an active balance between the personal interests of people and their economic added value. Lastly, Burma (2014) viewed HRM is a strategic and clear approach for the organization's most valued assets behind on the employees.

### Objectives Of Study

1. To study the HR Policies of the company.
2. To study the HR Policies and Job roles of the company.
3. To incorporate the amendments in the base policy and prepare a special policy.
4. To design a HR Policy manual for the company in special emphasis on the "Managerial Service Conditions".



# Green Banking Practices and Its Implementation in Public and Private Banks in India

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**Abstract:** Green banking may help the environment by lowering both the carbon footprint of banks and consumers. A bank or a customer can reduce paper use and help the environment. A green banking initiative should ideally include both. One of the best examples of this is online banking. The environmental advantages accrue to both online users and banks. Green banking entails integrating technological advancements with operational changes and client behaviour modification. One of the well-liked ideas that has made a significant impact on the financial sector is green banking.

Overall, green banking is a great way to raise awareness about global warming; each business will do a lot to protect the environment and improve life on earth. Because of green banking. Most conventional banks did not actively pursue investment opportunities in environmentally friendly industries or firms until a few years ago, nor did they practise green banking. These tactics have just lately started to be used more frequently by insurance companies, diversified financial service providers, and smaller alternative and cooperative banks. This study looked at bankers' attitudes towards the adoption of green banking practises in India, including concerns and challenges, as well as the role of innovative intermediaries like green banking in driving the growth of environmental sustainability.

**Key words:** Bankers perception, Green banking in accelerating environmental sustainability, issues and challenges

## I. INTRODUCTION

Green Banking initiatives taken by central bank is to ascertain required measures to save the environment and reduce pollution while serving or financing customers and improve in-house environment management through efficient and effective use of resources in all the branch and head offices of banks. Bangladesh Bank is well aware of the environmental degradation situation and has already given time-to-time directions to all scheduled banks.

Although these companies may differ with regard to their stated motivations for increasing green products and services (e.g. to enhance long-term growth prospects, or sustainability principles on which a firm is based), the growth, variation and innovation behind such developments indicate that we are in the midst of a promising drive towards integrating green financial products into mainstream banking. This concept of Go - "Green Banking" will be mutually beneficial to the banks, industries and the economy. Not only it will ensure the greening of the industries but it will also facilitate in improving the asset quality of the banks in future.

## II. REVIEW OF LITERATURE

Dr.GobindaDeka, (2020) reports, the researcher stated that the major obstacle in Green Banking is the technical issues involved, followed by lack of education. The Paper concluded that green banking clearly has a direct and positive impact on sustainability. The common people are yet to come forward to adhere to these practices due to a lack of awareness. Therefore, banks must make their customers literate about the using procedures of green banking practices and adopt all strategies to save the Earth.

Girmakar&Sudharshan, (2018) reports, this study finds that there is more of a need to create awareness about green banking products acceptance amongst the middle and senior age groups individuals than young age people. Banks need to apply morality of sustainability and responsibility to their business model, strategy, and formulation for products and services, operations, and financing actions and become tougher. By adopting the environmental factors in their lending activities, banks can recover the return from their investments and make the polluting industries become environment friendly.

Raj &Rajan (2017) has stated that though banking sector do not have any direct role in environmental degradation but indirectly they are also involve in creating environmental problems. Because of rapid industrialization and urbanization worldwide the globe is facing environmental degradation; destruction of ecosystems, etc. over the past few decades. Most of the industrial sectors are mainly financed by banks. Hence banks should take major initiatives to ensure the wellbeing of the environment, ecology and society.

### Objectives of the study:

- To study Green Banking and its trends and developments in India
- To examine the banker's perception towards Green Banking products/services
- To study the issues and challenges of green banking initiatives

## III. RESEARCH METHODOLOGY

The primary and secondary data has been collected using a well-structured questionnaire covering with demographic profile of the respondents and bankers perception towards aspects of green banking like awareness of concept, awareness about various green banking products/services and usage of green banking products among customers and one likert scale question on benefits of green banking has been designed.



# E-Banking in Public and Private Sector Banks: Implementation of Green Banking in India

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**Abstract:** The purpose of this research is to qualitatively investigate the present situation, issues, and future prospects of E-banking in India using this country as a case study. One of India's best and most important service industries is banking. A strong and robust financial system is an essential restraint on economic expansion. The Indian financial system is currently at the centre of an information technology (IT) revolution. The banks have been rationalised as a result of the internet's implementation in banking organisations. The current situation relates to Kerala's banking sector, which is moving through an advanced stage called e-banking. E-banking is gradually displacing the usage of checks, pay-in slips, draughts, and—most significantly—customers walking into banks one by one. E-banking is a general phrase that includes mobile banking, online banking, and other forms of banking as well. A favourable environment has been created for successful E-Banking by the combination of high-tech advancements and significant improvements in the communication sector. Due to its significantly cheaper transaction and delivery costs, internet banking has the potential to completely transform the banking industry. This essay explains why dealing with money online is a very trustworthy practise. When it comes to convenience, customer intimacy, time savings, cost effectiveness, and consistency in banking, internet banking is quite valuable. Despite a few drawbacks, online banking is a highly regarded new skill.

**Keywords:**-Online Banking, Internet Banking, Commercial Banks, Consumers Prospects, Banking Services, Customers problems, E-Banking, Information Technology

## I. INTRODUCTION

Banking is the sustenance of a nation. The current and way forward of any economy depends upon the accomplishment and enlargement of banking. Indian banking is the backbone of the state and its individuals. Indian banking system, nowadays, is inside the core of an IT (Information Technology) revolution. The competition among the banks has light-emitting diode to the rise in total banking automation within the Indian banking system. Electronic banking is outlined as "Delivery of bank's services to a client at his workplace or home by exploitation of Electronic technology will be termed as Electronic Banking". Online Banking or web Banking or E-banking lets the purchasers of economic transactions on a protected web site managed by the establishment, which may be a retail bank, virtual bank, banking company or savings and loan. The privileged services covered beneath E-banking includes of:-

- Automated Teller Machines (ATM)
- Credit Cards
- Debit Cards
- Smart Cards
- Electronic Funds Transfer (EFT) System,
- Mobile Banking
- Internet Banking
- Telephone banking
- Electronic Clearing Services

The perception and scope of E-banking remains evolving. It facilitates an effectual payment and method of accounting thereby, enhancing the speed of delivery of banking services drastically. A flourishing E-banking offers:

- Checking with no monthly fee, free bill payment and rebates on ATM
- Surcharges Credit cards with low rates
- Easy on-line applications for all accounts, including personal loans and mortgages, 24-hour account access
- Quality client service with personal attention
- Advantages antecedently command by massive money establishments have contracted significantly

Thus, a bank's web existence renovates from 'brochure' category to 'Internet banking' position once the bank goes through a technology integration effort to facilitate the customer to access data regarding his or her precise account

## II. LITERATURE REVIEW

E-banking is an improvement while new data technologies merge into ancient banking services. In accordance with Nevens (1999), the bank dealing price plunges 80% or further once it is handled electronically. Operating expenditure minimization and returns maximization are the key drivers that boost e-banking services (Sannes, 2001; Reibstein, 2002). E-banking service is fundamentally a self-service by customers, therefore for banks, it entails less responsibility for business and



# Impact of Internet Banking System on the Banks Performance in India

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**Abstract:** Since the late 1990s, internet banking has caught the interest of banks, securities trading companies, brokerage houses, insurance companies, regulators, and legislators in emerging countries. It is certain that electronic (Internet) banking and payments will advance given the rapid and large rise in electronic commerce. Research indicates that Internet banking has a significant impact on industry cost savings, revenue growth, and higher customer satisfaction and may be a useful tool for developing a successful strategy. However, it has brought a number of public policy issues before governmental organisations and banking authorities. It's interesting to note that there is still a lack of systematic and trustworthy information about the reach of Internet banking in India, particularly about what it means for customers and bankers. The report closes important knowledge gaps regarding consumers' perceptions of online banking, traces its current progress, and predicts the most likely scenario. In the article, data from a study of Internet banking users and service providers (banks) that provide Internet banking are presented. A functional model is developed for maximising value for the users, and the banks may decide to strategically implement Internet banking in the future. The study outlines the shortcomings of traditional banking, investigates customer awareness of, usage patterns for, and preferences for Internet banking in comparison to traditional banking, and also emphasises potential influences on the bank's strategy for implementing Internet banking. Additionally, it covers the regulatory and oversight issues with online banking.

**Keywords:** Internet Banking, Benefits, Challenges And Opportunities, Information Technology, India, Customer's Awareness, Income Level.

## I. INTRODUCTION

The objective of this paper is to examine the consumer behavior with respect to Internet banking vis-à-vis conventional banking, and to explore the possibility of blending these banking systems. The paper also suggests strategies to banks to maximize the value of services to consumers. The primary data used in the research consists of survey conducted on a sample of 2000 consumers arrived at using relative precision technique (Taylor, 1997). The survey includes in major cities of India, instrument being questionnaires filled up from the consumers and personal interaction, discussions with the front line executives of online banking divisions of the major players, particularly their marketing and customer servicing departments and the banking experts, personal visits at Automated Teller Machine (ATMs), Point of Sale (POS) counters of major banks. The major assumptions in this research are – (a) online banking is synonymous to Internet banking (b) the behavior of the surveyed population viz. consumers and bankers confirms to a normal distribution.

The study limits itself to major cities given the fact that Internet Banking has no geographical boundaries. The banks have become an essential component of most of the economies as banking services are described as "engines for economic growth" or act as "conduits towards promoting economic growth" (Prema, 2011). In recent years the world economy has gone through a new phenomenon which is considered as one the most important changes since the industrial revolution, i.e. the birth of "Internet-based Economy" (Singh, 2013). Considering the benefits of using internet the banks have started to invest in this newly created market. At the initial level, banks mainly focus on developing the commercial web- sites, with the purpose of promoting their products and services using the internet (Karimzadeh and Alam, 2012). Gradually, it was realized by banks that the Internet can be an effective distribution channel too. Now with the changing times the traditional approach of banking is being changed and banks are trying to match up with the recent advancement in the field of technology.

Revolutionary developments in information and communication technology (ICT) in the past 20 years have changed the way how banks deal with their bank customers. With the rapid development of technology, internet plays a significant role in changing the banking scenario. It provides an online platform for various banking transactions through which it offers various services like online payment, online fund transfer, online stock trading and online shopping etc. The use of internet as a delivery channel for banking services is increasing widely in banking sector. Internet banking facilities enable financial institution and customers to access their accounts, transactions and getting information on financial products & services (Ingle and Pardeshi, 2012). Now a day's most of the commercial banks have launched various services through internet banking including latest service like opening online saving accounts and demand for these services is increasing rapidly. The concept of e-banking is fairly a new concept in India as compared to its developed counterparts. So the paper deals with defining the concept of Internet banking.

## II. RESEARCH METHODOLOGY

Prema C (2011), in this study majority of the respondents have computer and internet access and they are also mostly proficient in using them. The users of internet banking, tele banking and mobile banking are in general found to be spending more hours using computers and internet than non-users of these services. The hours of computer usage, the frequency of internet usage and hours of internet browsing were found to be significantly higher among users as compared to non-users of technology enabled

# Financial Performance of Commercial Banks in India

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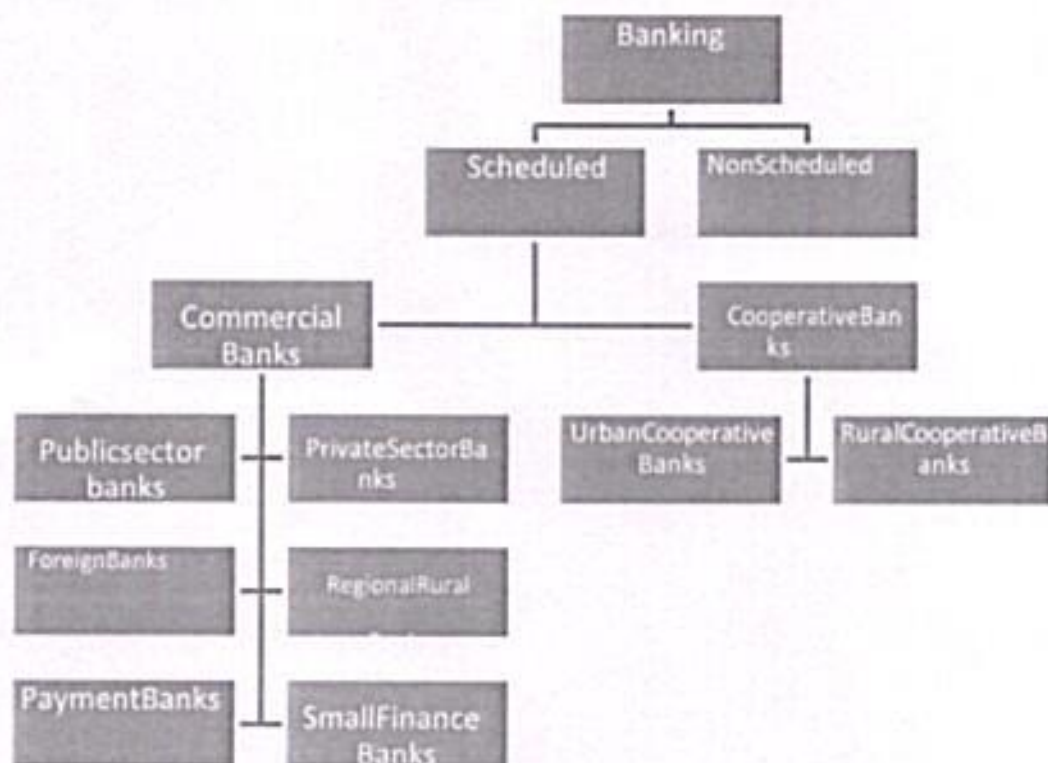
**Abstract:** One of the key elements of the nation's financial system that affects how money is distributed among the populace is banking. The stability and financial performance of the banking sector are key performance indicators. The only variable that determines the operational effectiveness and long-term viability of the banking industries is financial performance. Every banking sector makes an effort to keep its services current and financially strong. It has been found that a banking service that is financially stable may remain in business and provide consumers with services that are easy to use. In light of this, the current papers make an effort to evaluate the financial performance of commercial banks using income and expense data as well as a consolidated balance sheet for the 2019-20 fiscal year.

**Keywords:** Financial System, Banking Sector, Commercial Banks, Public Sector Banks, Financial Performance, Balance Sheet, Banking Regulation Act

## I. INTRODUCTION

Financial systems of the country decide the flow of money from one hand to another for productivity purpose. Banking is one of the fundamental components of financial systems. Banks are the nerve system of a nation's economy and provide an outline of how the country's economic growth and financial activities will perform. A well organised and regulated banking system helps to promote the economic activities in an advanced manner. Indian banking industry has recently observed the roll out of innovative banking models like payments and small finance banks. RBI's new measures may go a long way in helping the restructuring of the domestic banking industry. Therefore Indian banking sectors systematically structured with sufficient systems, like commercial banks, cooperative banks etc. Commercial banks are controlled under the Banking Regulation Act 1949 and empower a bank to carry out business operations of keeping money as deposits and grant loans to the public, corporate and the government itself. With this perspective, the present paper made and attempts to discuss the financial performance of commercial banks with the help of income and expenditures and consolidated balance sheet for the year 2019-20.

## PROFILE OF COMMERCIAL BANKS



Banking is one of the major components of financial system of the country which decide the money circulation among the people. The Indian banking system consists of 12 public sector banks, 22 private sector banks, 46 foreign banks, 56 regional rural banks, 10 small fiancé banks, 6 payment banks, 1485 urban cooperative banks and 96,000 rural cooperative banks in addition to cooperative credit institutions. As of November 2020, the total number of ATMs in India increased to 209,282. Indian banking sector is one of the fast-growing sectors in the world with huge account holder and investment. Banking infrastructure and facilitates have been increasing significantly due to the globalisation and information technology. In 2006, financial inclusion initiatives enlarge the banking penetration and reach to unbanked places and people. Commercial banks in India are the mainstay



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# Employee welfare measures in IT Companies in India: Productivity of companies

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**Abstract:** Welfare measures are ways to increase employee productivity. If there is a major problem, employee welfare refers to the comfort and improvement of the workers above and beyond the payment of salaries, which is not a requirement of the industry. Employee welfare's primary goal is to improve employee satisfaction and length of service. The study's main goals are to determine employee satisfaction levels with welfare services and to learn what the workforce expects from welfare initiatives. With the help of both primary and secondary data, the study's objective was assessed. 200 individuals completed a questionnaire to provide the data. Descriptive research design is the type of research methodology that was employed for this investigation. The term "descriptive research" refers to research that has been done to understand this study's circumstance. An organised questionnaire was used to gather the data. The study's sample strategy is stratified sampling. Utilising the percentage analysis method, the data was assessed. the initial According to the study's findings, the company offers its employees good welfare benefits and contributes to their motivation levels.

**Keywords:** Welfare measures, Satisfaction level of Employees

## I. INTRODUCTION

Welfare of employees is defined as "efforts to form life worth living for workmen". The efforts are having their origin which is thanks to some statute or some customary activity or by its thanks to employees initiative. Employee welfare could be a term including various services, benefits and facilities offered to employees by the employers. The welfare measures needn't be monetary but in any kind/forms. This includes items like allowances, housing, transportation, medical insurance and food. Employee welfare also includes monitoring of working conditions, creation of commercial harmony through infrastructure for health, industrial relations and insurance against disease, accident and unemployment for the workers and their families.

The International Employee Organization defined "Employee Welfare as such services, facilities and amenities as may be established in or in the vicinity of undertakings to enable the persons employed in them to perform their work in healthy, congenial surroundings and provided with amenities conducive to good health and high morale".

Types Of Employee Welfare:

There are 3 types of Employee Welfare. They are:

- Intra Mural Benefits
- Extra Mural Benefits
- Voluntary Benefits

Intra Mural Benefits:

It means the facilities that are provided inside the workplace is named as Intra Mural Benefits. It means the facilities that are provided inside the workplace is named as Intra Mural Benefits. It includes:

- Canteen Facility
- First Aid Appliances
- Pension
- Gratuity
- Drinking Water
- Maternity Benefits

Extra Mural Benefits:

It means the facilities that are provided outside the workplace is named as Extra Mural Benefits. It includes:

- Recreation facilities
- Housing accommodation
- Reading rooms
- Sports and Education Facilities.

Voluntary benefits:

It means the facilities that are provided voluntarily by the organization at the workplace to the workers is called as Voluntary benefits.

Benefits of Employee Welfare:



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# Cost Analysis in Food Processing Companies: Financial and Managerial Aspects of Fruit & Vegetable Processing Unit

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**Abstract:** Every organisation has predetermined aims and goals, but only with appropriate execution, planning, and economically predicting the plans can these goals be met.

Food Process Companies provide high-quality services in large quantities; the organisation needs strong management to guide it successfully. The management formulates plans, forecasts, and executes them by examining the firm's precise cost structure.

The organisation can reduce costs with the aid of cost analysis, which boosts profitability. The corporation uses ABC analysis, an efficient cost analysis technique, to separate the value of the inventories that are costing the organisation the most money. By making the best use of the resources at hand, this reduces the amount of money that is wasted and raises the company's profitability. In order to estimate the suitable factor models for quick cost estimation in food plant design and to identify the unique characteristics of the food industry, a comprehensive investigation of available cost data from the food industries is conducted.

**Keywords:** Food Process companies, Costanalysis, Quality of services

## I. INTRODUCTION

The project work aims to provide an opportunity of applying the theoretical aspects to practical in nature. It helps to develop the personality and capacity to handle and adapt to the situation on the real business field.

Through this project work the students can have a personal growth and acquire skills such as communication skills, interpersonal skills, technical skills, management skills, and problem solving skills.

There are various methods of preservation of food including thermal processing, fermentation, pickling, dehydration, freezing etc. The technology for preservation also varies with type of products and targeted market. Some of fast growing segments of food processing industries are given as under:

- Mango and other fruit pulps
- Pickles, chutney, sauces etc.
- Tomato products like paste, puree and ketchup
- Fruit jam, marmalade, crush, squashes, juices etc.
- Canned fruits and vegetables etc.
- Frozen products like frozen peas, cauliflower etc.

Fruit pulp is prepared from selected varieties of fruits. Fully matured fruit are harvested and quickly transported to the fruit processing plant. The fruits are ripened in controlled ripening chambers or natural ripening in open yard. Fully ripened fruits are washed, pulped, deseeded, centrifuged, homogenized, thermally processed and filled hot to maintain sterility. The preparation process includes cutting, de-stoning, refining packing, processing and cooling. Fruits are also canned in slices, rings and cubes etc. along with sugar syrup of desired brix.

### Cost control in Food Processing

Both fixed capital and annual operating cost estimates are also important in project evaluation, product pricing, process optimization and other techno-economic studies.

Based on process design principles, the raw materials and utilities costs are obtained from material and energy balances, while the purchased equipment cost can be based on equipment sizing procedures. On the other hand labor cost can be estimated from an intelligent study of the equipment flowsheet, paying attention to the kind of equipments.

Rapid fixed capital cost estimation can be based on the purchased equipment cost by using appropriate factors (factor methods). These factors are characteristics of the industrial sector considered, e.g., chemical, pharmaceutical, mineral, food industry.

It is the purpose of the present paper to estimate the corresponding factors for the food industry by fitting simplified factor models to published data retrieved from existing food factories. Furthermore, the present paper aims to reveal the basic characteristics of the food industry concerning the cost distribution to various resources.



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# Financing to Entrepreneurship and Startups in India: Issues and Challenges

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**Abstract:** The main causes of this issue are a lack of capital and insufficient credit facility availability. In the end, every issue that entrepreneur faces—whether it be one involving raw materials, power, transportation, or marketing—turns out to be a financial one. Without discrimination, the government should offer seed financing to all entrepreneurs (NEEDS entrepreneurs should not simply be women and minorities; this is in line with the NEEDS programme). A separate policy initiative is urgently required for young entrepreneurs among young educated people to promote SSIs. The government should provide an adequate power tariff subsidy, capital subsidy, export development finance, and generator subsidy to overcome the financial problems to a greater extent. Climate and natural resources are hospitable, making it possible to launch and sustain small-scale companies. Despite this, the district's small business owners have primarily experienced financial difficulties due to a lack of government support. The financial issue is inextricably linked to the production, technical, administrative, and marketing issues. The underlying cause of the aforementioned issues has been the lack of timely financing.

**Keywords:** Financing to Entrepreneurship-Small business-Issues and Challenges

## I. INTRODUCTION

Finance is the life blood of any enterprise and no enterprise can function properly in the absence of adequate funds. The scarcity of capital and inadequate availability of credit facilities are the major causes of this problem. Every kind of problem whether of raw material, power, transport or marketing faced by an entrepreneur, in its ultimate analysis, turns out to be a problem of finance. These enterprises are still struggling with the problem of inadequate availability of high cost funds. These enterprises are promoting various social objectives and in order to facilitate then working adequate credit on easier terms and conditions must be provided to them.

### Scope of the Study

This study aims at analysing the financial problems faced by the entrepreneurs of small scale industries in the district. This study also aims at helping the government in formulating appropriate policy to promote small scale industries. The study covers both manufacturing and service enterprises of Small Scale Sector (SSS) in all the five taluks of Rangareddy District in Telangana. The study mainly focuses on major financial problems faced by the small scale entrepreneurs.

### Statement of the problem

Shortage of finance affects the viability of small units severely. Every kind of problem whether of raw material, power, transport or marketing faced by an entrepreneur, in its ultimate analysis, turns out to be a problem of finance. The small industry is elbowed out by the large and medium scale industries in the procurement of bank finance and institutional credit. Commercial banks suspect the stability of small industries and are not interested in lending the small amounts which is required to these industries.

### Objectives of the Study

1. The following objectives are framed:
2. To describes the socio economic profile of the respondent.
3. To analyse the financial problems faced by entrepreneurs in developing SSIs of the district.

## II. RESEARCH METHODOLOGY

**Nature of the Study:** The aim of this study is to analyse the financial problems faced by entrepreneurs in developing small scale industries. Hence, the research design applied for this study is descriptive and analytical in nature.

### Select Variables

In this study 10 independent and dependent variables are selected for the present study namely gender, age, marital status, fathers' occupation, entrepreneurial generation, educational qualification, previous occupation, religion, community, sources of motivation, business experience and main activities.

**Nature of the Data:** The primary data were collected from entrepreneurs of small scale industries relating to manufacturing and service units in all five taluks of the Rangareddy district of Telangana state.

**Data collection Instrument:** The questions in the interview schedule were designed pertaining to the statement of the problem and objectives of the study. The variables identified from review of literature were taken into account while drafting the interview



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# An Analysis of Work-Life Balance in IT Companies in India and Government Policies

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**Abstract:** The goal of the article is to assess the work-life balance and quality of work life (QWL) of employees in Hyderabad who work in various public and commercial sectors. Both industries are experiencing a tremendous increase in employment prospects, and for workers to be effective, their requirements must be met. The sector that is performing well and the areas that require improvement are identified in this report. 120 people make up the sample. T-test was used to analyse the data and determine how employees in both industries generally felt about the various elements affecting their quality of work life (QWL). It has also been noted that few studies have been conducted that take into account the various types of work in each industry. For the purpose of controlling the variable, 12 different work kinds were considered in this study, divided into two major categories: desk jobs and field jobs. The study's findings and conclusions demonstrate that employees in the public sector have much higher work-life quality than those in the private sector. The study's findings will serve as a reference for future research and are helpful to government managers, academics, and policymakers.

**Keywords:** quality of work life, work life balance public sector, private sector, t-test, chhattisgarh, desk job, field job.

## I. INTRODUCTION

India contains 10 of the world's top 30 fastest-growing urban areas, with 700 million people Expected to migrate to cities by 2050. (Goldman Sachs, 2003). In addition, India's GDP per capita is predicted to treble by 2043, surpassing the United States (Goldman Sachs, 2003). Even in the midst of aglobal recession, India's strong economic expansion has given rise to a booming urban middle class, which is predicted to grow from around 5% of the population (50 million) to 40% (580 million), making India the world's 5th largest consumer market (McKinsey Global Institute, 2007). In India, higher wages and urbanization are projected to have a major impact on family formations. The distribution of work and family roles along gender and class lines, in particular, is likely to change dramatically (De Silva, 2003). In light of this, it is vital that Indian businesses begin paying close attention to balancing employees' professional and personal lives.

People are the most important resource in the organization because they are trustworthy, responsible, and capable of making a useful contribution, and they should be treated with dignity and respect, according to QWL. Although much study has been done on job satisfaction, and there has recently been an interest in the ideas of strain and subjective well-being, the specific nature of said relationship between these concepts has yet to be investigated. Human resource managers and behavior scientists are interested in the QWL. They see QWL's attention and correct perception as a tool for bettering management performance. Well-defined policies and procedures, as well as reactive policies, are required for healthy employee relations and improved job efficiency.

The increase in information technology has made work-life balance one of the primary challenges of the new generation in the twenty-first century (scientific research, telecom, travel and internet at workplace). Work-life balance is a strategy for balancing work and family obligations. People nowadays spend far too much time in the office dealing with clients, and the stress of their jobs interferes with and impacts their home lives, making it impossible to fulfil household responsibilities. Many people are emphasizing the importance of striking a balance between their personal and professional lives.

While quality of life has been examined more extensively, it remains largely unknown and unexplained. Where the topic of working life quality has been discussed, authors have differing opinions on the key components. The better awareness of interrelationships between the many aspects of work-place QWL allows for even better analysis of the cause and effect in workplace. Rapid technology advancements and their application in business have led in the development of a situation in which employees have begun to feel powerless, normless, social isolation, and self-estrangement. As a result of this perception, production has increased at a slower rate than anticipated when a new technology was implemented. This prompted scholars and practitioners to consider workplace challenges from a new angle, namely, a social one, leading to the conclusion that employee productivity was influenced not just by the technology used, but also by the office atmosphere. This led to the development of the QWL idea in the 1970s, which tried to integrate people's socio-psychological demands into the workplace. The technological requirements, the structure and activities of the organization, and the socio-cultural setting. QWL's concept spread beyond the shop floor to other areas of the firm, including white-collar workers and even management.

## II. LITERATURE REVIEW

Parminder Walia, (2015) attempted to investigate the relationship between demographic variables such as gender and age, as well as the work-life balance of IT and ITES workers. According to the findings, females view work to be more interfering with their personal lives than males. The findings also suggest that, while work-life balance may not be age-related, employees of any age may view it as such based on their own circumstances.

Mohan and Ashok (2011) assessed the role of QWL on employee work-performance in the context of textile mills and weaving



# Financial Performance of Banking and Non-Banking Companies in India: Role of ICT in Banks

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**Abstract:** An analysis of Indian banking and non-banking enterprises' financial performance. In the process of computerising institutions, finance plays an important strategic role. E-banking also aids NBFC and banks in gaining a competitive edge and cost leadership by lowering operational costs, enhancing operational effectiveness, and fostering corporate growth. The best strategy model is developed in the current study to increase bank efficiency, profitability, and customer service standards.

ICT transforms the globe into a global village, and since India is a part of it, it is necessary to counsel and inform the current and prospective financial institutions and banks on the value of investing in ICT infrastructure. The researcher suggests that banks be given advice on how much ICT spending will increase output. The significance of this must be brought to the attention of bank managers.

The study advises banks to focus on making investments in the most recent ICT assets, such as hardware, software, and connection. This will improve their services' efficiency, swiftness, and accuracy of delivery.

The study also advises banks and other financial institutions to seek to teach every member of their staff in ICT skills. Their ICT skills will improve, and productivity will increase. Additionally, it will help the personnel promote the banks' brand. The researcher also suggests that financial organisations hire skilled ICT workers to increase their staffing capacity.

**Keywords:** Banking and Non-banking companies-Performane-ICT developments-Customer perceptin

## I. INTRODUCTION

Non-Banking financial companies was play an important role in access to financial services enhancing competition and diversification of the financial sector. There are various types of institutions to be involved in financial services in India. This includes commercial banks financial institutions and Non-banking finance companies due to the financial sector reforms. Non banking financial companies have been emerged as an integral part of the Indian financial system. Non banking finance companies frequently act as suppliers of loans and credit facilities and accepting the deposits, operating various mutual funds and similar other functions. They are competitive and complementary to banks and financial institutions. This study is in focus to analyze the financial performance of NBFIs in India during 2020-2021.

The main purpose is to accelerate the competitiveness of the businesses in particular and sustainable Indian economy as a whole. The government is committed to improve access to the internet, telecommunication and an increase Information Technology literacy, to develop strategies to improve access to ICT by decreasing cost of internet to business, reducing the cost of communication, management and transaction of data, ensuring the availability of a minimum supply of ICT infrastructure and Electricity especially in the remote and rural areas with a special emphasis to the servicing of the small and medium enterprises

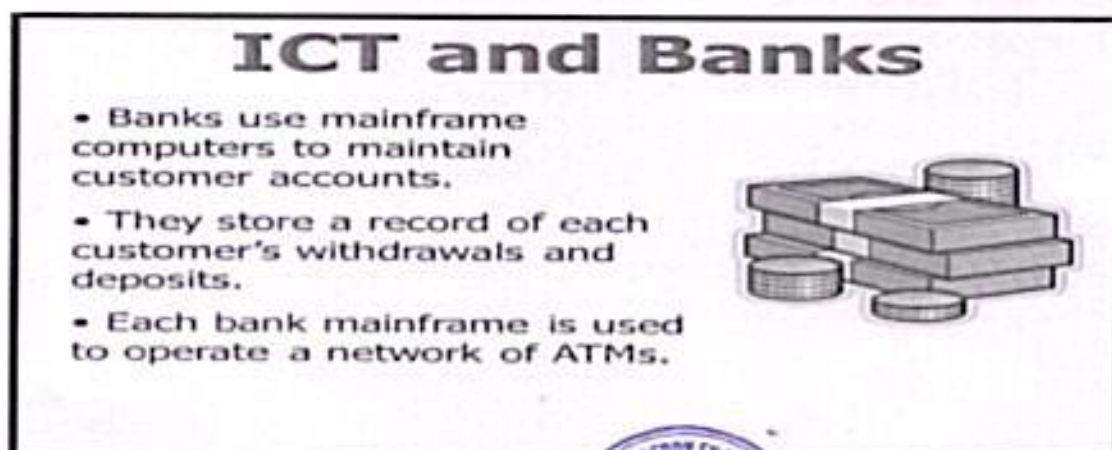


Figure: 1 ICT in Banking and Non-Banking Companies

### Need for the Study:

This research study is expected to bring value to the government and RBI, as they would understand how financial institutions use competitive strategies to gain competitive edge in the context of intense competition and globalization, influence from India

# Financial Issues of Micro, Small and Medium Enterprises in Telangana, India with reference to IT Sector

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**Abstract:** This little sector is unable to suggest the guarantee that the banking industry requires. Even though minor loans can be obtained through government organisations, the application process is so onerous that most business owners, who are either illiterate or semiliterate, are reluctant to use these services. We discovered from the study that entrepreneurs deal with a variety of financial issues. The main cause of entrepreneurs' financial problems is their lack of knowledge of the organisations in the financial sector that might help them with financing for the expansion of their businesses.

**Keywords:** Micro, Small and Medium Enterprises, financing problem to entrepreneurs

## I. INTRODUCTION

An empirical study on different financing issues in Micro, Small, and Medium Enterprises is The Study on the Financial issues of Micro, Small, and Medium Enterprises in Telangana, India. The study's main goals were to understand the socio-economic circumstances facing business owners in Telangana, India, as well as the key motivations behind starting businesses there as well as the sources of funding available at the time. It also looked at difficulties relating to finances. The study's goals encompass the fact that MSMEs encounter numerous financial issues when applying for financing from commercial banks and government organisations. These financial institutions request a great deal of data, and SFCs require several months to decide whether to offer term loans.

### Financing issues of MSMEs in India

All the industries require resources to meet they're fixed as well as variable costs, butmost of the MSME owners lack required capital to set up and manage the enterprise.Thus,theyarecompelledtoborrow.The dependenceondebtforinvestmentdependsgreatly onthesizeofthefirm.

Microenterprises depend on debt as aprimary source forboth early and growthstage while small and services primarily manage in cash and tend to keep negligiblerecords.Manufacturingenterprisesandtheservicestendtoneedmorefinancebecause of the longer working capital cycle and higher capital expenses. But banksare not the primary source of finance for most of the enterprises as owners find theapplication process burdensomeand tedious. Also, they do not qualify for loans duetolackofbothcollateralandpositivebalancesheets.AccordingtoIndustrialFinance

### OBJECTIVES OF THE STUDY

- To assess the performance and growth of MSME sector in India.
- To discuss the main sources of finance for MSME's & present financing schemes available for MSME's.
- To find out the awareness of various government policies and schemes among MSME's financial problems being faced by MSME's for accessing funds from financial institutions.
- To suggest appropriate measures to reduce financial problems faced by MSME's

### NEED OF THE STUDY

Finance is required by all businesses for their operations and growth. It plays a dominant role in every economic activity and without adequate financial facilities no sound industrial base can be built up or reconstructed. Sufficient availability of funds leads to an organization that can explore its option in all departments and have the best talent and resources available for its success. Funds are required to ensure that all activities in an organization are running smoothly. The significance of availability of funds in functioning of the unit has led the researcher to study the factors that affect the ability of units in MSME sector to have access to funds, when required.

This Research will prove helpful in understanding the financial problems faced by MSME's and identifying the areas which have been overlooked by Government & MSME's itself. This study is also helpful in understanding the various factors which are liable to create financial problem that affects MSME's ability to avail funds from formal sources of finance like banks and other financial institutions. the Study also examine the awareness of government financial schemes among MSME unit owner/promoter, which will help in better understanding of MSME's present situations and also stimulate the government and financial institutions specially banks to construct a favourable environment for development of MSME's. This study will be useful in interpreting detailed reasons for lack of optimal growth of MSME's and will empower MSME's to generate employment opportunities.

# E-HRM Practices in IT Companies: Need for Training & Development

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**Abstract:** The paper objective is to evaluate the work-life balance and quality of work life (QWL) of Hyderabad employees who work in a variety of public and private sectors. Both industries have a significant growth in employment opportunities, and for workers to be productive, their needs must be satisfied. This study identifies the sector that is performing well and the areas that need development. The sample consists of 120 persons. The results were analyzed using a T-test to ascertain how both industry employees felt about the key factors affecting their quality of work life (QWL). It has also been highlighted that there haven't been many studies done that account for the different kinds of work in each industry. In this study, 12 different employment types were taken into account for the aim of controlling the variable. These were classified into two main categories: desk jobs and field jobs. The study's findings and recommendations show that public sector workers have substantially better work-life balance than their private sector counterparts. The study's conclusions will be used as a guide for additional research and will be beneficial to academics, politicians, and administrators in government.

**Keywords:** Work-Life Balance-Ehrm Practices-Employee Job Satisfaction

## I. INTRODUCTION

The use of technology in HR is believed to be an opportunity for HR professionals to become strategic partners of the business. The assumption is that e-HR would allow HR to become more efficient and provide accurate information for decision making when and where they are needed. The association between e-HR and strategic partnering of the human resource function is that the e-HR system has the potential to allow HR department's time to focus on more strategic initiatives. If HR services can be delivered through the use of technology, HR has access to data of strategic importance so that HR can contribute towards developing and implementing strategies. It is believed that the adoption of this new technology has gradually evolved over the years and as a result will shape the typical HR job shifting the focus from administration to strategy development.

## II. REVIEW OF LITERATURE

From the HR manager perspective, factors like perceived ease of use and attitude are very important for the effective use of E-HRM. It indicates that training programs to increase the usefulness, clarity of E-HRM goals and user satisfaction builds a positive attitude towards E-HRM practice (Yusliza & Ramayah, 2012). In large German companies, use of automated system in recruitment process saved the time and cost involved in processing the application, however, this process does not ensure the quality of selected candidate (Eckhardt et al., 2012). On the other hand Shiri (2012) found that integration of E-HRM practice in multiple sectors like manufacturing and service sectors increased the efficiency of different HR function like identification of potential applications, recruitment process, planning of training modules, maintenance of employee records, improved payroll, etc. Digital HR practice was effective in replacing the manual processing and also reduced the cost of HR process.

### Objectives of the study

HRM is a way of thinking about and implementing HRM strategies, policies, and practices. Organizations attempt to achieve certain objectives by following a specific E-HRM direction.

- To offer an adequate, comprehensive and on-going information system about people and jobs at a reasonable cost.
- To facilitate monitoring of human resources and training and Development Process.
- To automate employee related information.
- To provide support for future planning and also for policy formulations.
- To enable faster response to employee related services and faster HR related decisions.
- To offer data security and personal privacy.

### Hypothesis:

Ho: There is no significant impact of E-HRM adoption in IT/ITES companies

H1: There is a significant impact of E-HRM adoption in IT/ITES companies

### THE RESEARCH DESIGN:

Every research study would always require a proper blueprint that would always enable the researcher to identify the process and approach for efficient collection and analysis of the desired information, which is called as the research design. The research design would combine the theoretical, methodological, and the ethical considerations relevant to any particular research study. This work has been adopted by a suitable descriptive research design for investigating the research problem in question.



# Green Human Resource Management (GHRM) in IT Companies: Environmental Sustainable policies

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**Abstract:** Business communities are becoming more and more conscious of the value of becoming green and using different environmental management strategies. As the business world becomes increasingly globalised, there is a significant transition taking place from the traditional financial structure to the contemporary capacity-based economy, which is prepared to investigate the green economic aspects of business.

In organisations where human resource departments actively participate in making offices more environmentally friendly, green human resource management (GHRM) has grown to be a crucial key business strategy. The study paper explains the abbreviated definition of GHRM and focuses mostly on the numerous green human resource practises that organisations around the world are pursuing. By exploring the future direction of some GHRM functions, the research study would also contribute to the body of existing literature. Finally, the report offers some HR strategies for green organisations that could be very successful.

Consider how HRM could support environmental management in businesses if it did the following: (a) hired and selected individuals who care about the environment; (b) trained and evaluated employees' performance based on environmental standards; (c) implemented methods for rewarding both individual and group environmental performance; (d) encouraged ongoing education in environmental management; (e) treated environmental issues as values of a corporate culture.

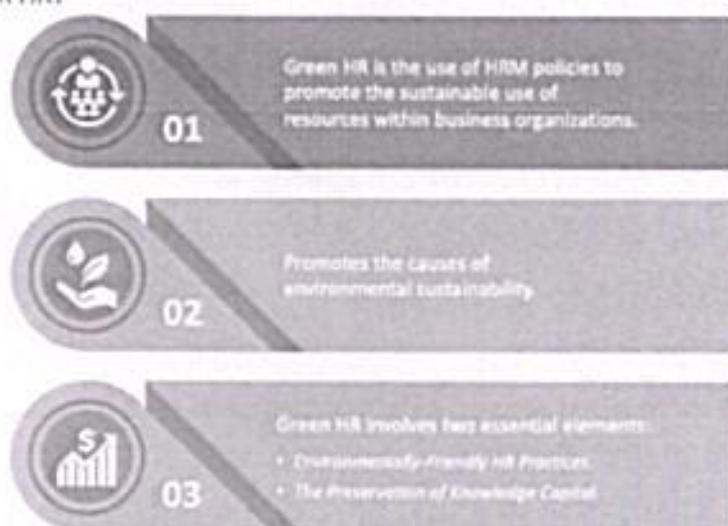
**Keywords:** Green Human Resource Management; environment management; green initiatives; paperless office; conservation; recycling.

## I. INTRODUCTION

Now a days, the business world is about efficiency, power consumption and applying the green policies and practices for making a smart business decision making. Going green has been becoming an increasingly attractive for different companies among different business strategies. The green HR Practices would not only help for branding but also would increase the revenue of an organization reduction of costs incurred on different things. The main motive of our research study is to find out the importance of green HR management and the green HR practices in the IT industry at Hyderabad. This study would also help to identify awareness of employees and perception regarding the green HR practices.

## GREEN HUMAN RESOURCE MANAGEMENT (HRM)

What is Green HR?



Survey was conducted to collect the data from the respondents of sample employees by a detailed structured questionnaire. The researcher has used simple random sampling method for selecting the companies and convenience sampling for selecting the employees.

Management should provide different online training programs for the employees regarding environmental issues. Recruit employees who are aware about the green HRM as it will increase employee engagement, participation and also reduce the employee turnover. It is found that the green HR practices would play a vital role in the employee involvement and participation in



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# Impact of GST in FMCG Sector with Special Reference to Hyderabad

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**Abstract:** Since India's independence in 1947, the Goods and Services Tax (GST), which went into effect on July 1, is regarded as the country's most significant taxation reform to date. GST is a single tax category that was developed by combining various indirect tax types levied by the federal and state governments under a single umbrella. Since customers' tax burden or duty has been significantly cut to more than 25%, GST is actually more advantageous for them. By focusing on the significant consumer durable market known as Fast Moving Consumer Goods (FMCG), this study seeks to understand consumer or customer attitudes about the implementation of GST. In order to help in the creation of policies and to help the average person comprehend the implications of GST, an effort has been made to create a SWOT analysis of GST and to learn about its advantages and cons.

**Keywords:** GST, FMCG, RetailSector.

## I. INTRODUCTION

Fast-moving consumer goods (FMCG) are the fourth-largest economic sector in India. The industry is divided into three primary segments: food and beverage, healthcare, and household and personal care, which together make up about half of the industry.

FMCG companies want to invest in energy-efficient facilities to help society and cut expenses over time. The three main factors influencing consumer market growth are increased awareness, greater availability, and shifting lifestyles. The government's emphasis on agriculture, MSMEs, education, healthcare, infrastructure, and employment programmes has an effect on the development of this industry.

On a macro level, the average tax and the final prices that the end customer pays have averaged out since the implementation of GST, with some products becoming more expensive (aerated beverages, shampoos, etc.) and others becoming cheaper (toothpaste, soaps, etc.). This is because different products are taxed at different rates under GST.

India has become one of the most sought-after shopping destinations in the world as the retail sector experiences unparalleled expansion. Modern trade is expanding at a rate of 15 to 20% annually, yet only 8% of it is in organised retail. There are still a number of infrastructure problems.

India presents a strong business case for multinational retailers considering an overseas debut because of its demographic trends and economic growth. High discretionary incomes, expanding middle-class influence, rising personal wealth, and the nation's sizable young population are all cited as reasons for the robust economic growth. There are several prospects for expansion in the underdeveloped Tier II and Tier III cities as well as the unexplored rural sector. Multinational retailers have expressed a great deal of interest in the liberalisation of FDI in single-brand retail and the anticipated opening-up of FDI in multi-brand retail.



The Goods and Service Tax (GST) is considered to be one of the great reformation implemented in India. It is a comprehensive, multi-stage, destination based tax that is levied on every value addition. Introduction of GST is an important restructuring in indirect taxation in India. It is an indirect tax, throughout India, to replace several different taxes levied by the central and state Governments. It will consolidate all state economies under one roof. The basic idea is to create a single, cooperative and undivided Indian market to make the country stronger and powerful.



# HR Analytics in IT Companies : HR Analytics and its Impact on Organizations Performance

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**Abstract:** In today's world managing employees in organization is not a one-man task. With the evolving business and advancement in technologies managing employees and tracking their performance can be performed online with the help of HR analytic tools. The use of HR analytics has improved employee performance and increased efficiency in business like, improvement of quality of recruitment, talent management, employee productivity and decreasing employee turnover. In this paper we are going to study about HR analytics, its tools, and its application in different organizations.

In this paper we study various use of HR Analytics in different organisations and the benefits of the use of HR Analytics. With the help of analytical tools the organisations can recognise the issues like performance, employee turnover and retention employee behaviour, etc by using the data available with the organisation. This research is conducted because of the lack of use of HR in many organisations. The use of HR is undermined in many organisations but in this modern technological world various analytical tools have been developed which are used by huge corporations. In this paper we are going to see such uses of HR Analytics in 5 different organisations and their how the use of HR Analytics helped the organisation as well as the employees in monetary ways and change the business strategy around people - centric way.

**Keywords:** HR Analytics, HR analytics tools, Data Metrics, Employee Attrition, Organizations

## I. INTRODUCTION

Human resource management is focused on the most effective use of people to achieve organizational as well as personal goals. It basically focuses on hiring, managing, exit related functions in the organization. To keep employees fueled and to keep the productivity rising HR's evaluate employee performance and develop new training programs for them. HR came into light as a specific field in the early 20<sup>th</sup> century, inspired by Frederick Winslow Taylor (1856-1915). John R. Commons, an American institutional economist, first used the term "human resource" in his book & "The Distribution of Wealth" that was published in 1893. However, it was not until the 20th century that HR departments were formerly developed to manage the relationships between employers and employees.

Performance Management is an important aspect in Human Resources as it is a continuous communication process between managers and employees to achieve organizational goals as well as develop personnel skills of employees. This entire communication process involves defining clear specific expectations, establishing goals, providing continuous feedback and examining results.

HR Analytics is the collection and application of talent data to improve critical talent. It is basically used for decision making using the available data, to predict employee turnover and identify better performers or predict skills that need to be improved. HR Analytics is also known as people analytics. It enables your organization to measure the impact of HR metrics on overall business performances and make decision based on the data.

## Analytic Value Escalator

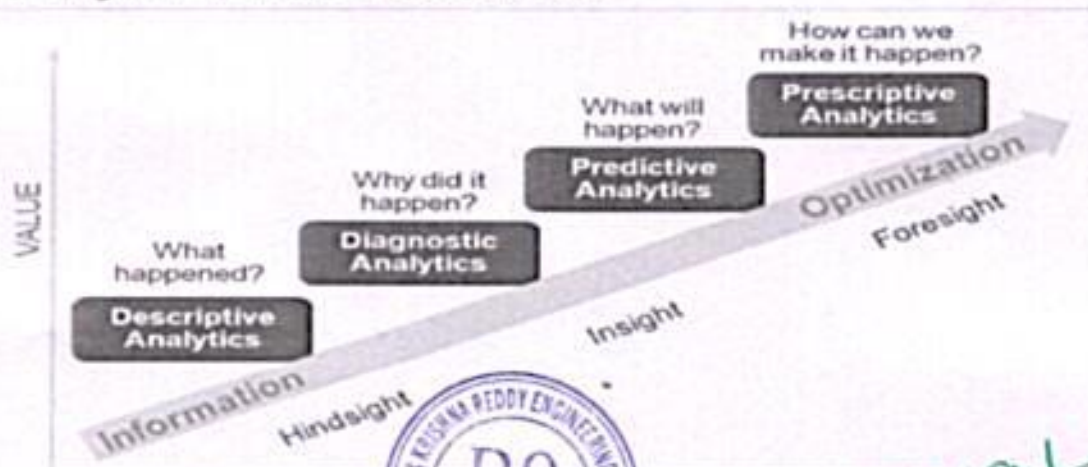


Figure 1.1 Type of HR Analytics



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# Role of Women in Top Management Positions and its Impact on Company Leadership

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*Abstract:* Globally, there are more women in the workforce as a result of several socioeconomic changes, including more female education and the effects of globalisation. Women make up 23% of all female CEOs in the United States alone, where they make up 46% of the workforce. At a study, women said that at a company, people are their top priority, but men said that task fulfilment is their top priority. Even while women now have access to higher educational opportunities than they did in the past, gender discrimination, employment challenges, local restrictions, and family obligations limit their potential. This essay presents information about the capacities of women in comparison to males, the limitations on their development, and the role of women in various industries.

## I. INTRODUCTION

### The Role of Women in the Top Management and its Impact on Leadership

When it comes to running businesses professionally, the subject of leadership frequently comes up in conversations. The majority of discussions on this subject have been from the viewpoint of men, leaving capable female leaders with less opportunity to demonstrate their skills. Before getting into the specifics, let's look at the trade-offs that great leader makes when working for his or her company.

There are undoubtedly a few fundamental traits that the majority of people connect with leadership. These traits may include taking risks, independence, dominance, etc. People who exhibit these qualities are therefore referred to as "leaders."

There are three approaches to explain how individuals develop into effective leaders, according to Bass' 1989 and 1990 theory of leadership. Which are:

1. Individuals have certain personality features that may naturally position them for leadership positions.
2. A crisis or event may inspire a person to rise to the occasion and take charge.
3. To become effective leaders, people must learn the necessary skills. This type of transformational leadership is very popular today

A good leader or an effective leader might be one who helps the team or group members achieve more than they otherwise would have without that leader's engagement, according to the first two ideas of the Bass theory of leadership. The team can achieve a goal more collectively than they ever could if each member had their own unique set of skills with frequent proper care and motivation. Because of this, one can argue that the ability to lead effectively is not gender-specific but rather depends on a set of traits that both male and female leaders must have.

## II. LITERATURE REVIEW

1. Smith et al. (2006) found a significantly positive effect of the proportion of women in top management on firm performance as measured by gross profits to sales. Moreover, they also found that the positive effects of women in top management strongly depended on the qualifications of female top managers.
2. Joy et al. (2007) analyzed the US firms during 1996-2000 and found a positive relationship between the proportion of women in top management and firm performance. Some evidence shows that there is no significant relationship in some cases.
3. Campbell and Mínguez-Vera (2008) used the data for nonfinancial firms listed on the continuous market in Madrid during the period from 1996 to 2000 and found that the relationship between the percentage of women on the board and firm value was not significant.
4. Carter et al. (2010) examined the sample of 641 US firms in the S&P 500 index, and they were unable to find any significant relationship between the number of women directors and Tobin's Q. Contrary to these findings, some scholars find that female-owned firms have lower level at firm size, survival rate and growth.
5. (Aterido and Hallward-Driemeier, 2011; Coleman, 2007; Zwan et al., 2012; Bardasi et al., 2011; Coleman and Robb, 2009), compared to male-owned firms. Using a sample of Kuwait small firms, Alowaihan (2004) found that female-led firms are worse than male-led firms at the level of performance.

### Women Improve Interpersonal Relationships

To be a successful professional or a successful leader in this age of science and information technology, communication skills are an absolute necessity. An organization functions smoothly if there is effective interpersonal, interdepartmental, and external communication system. Within the organization, both upward and downward communication needs to be operating to facilitate effective and timely communication among the employees and departments of the organization.

In matters of building relationships, female leaders are consistently rated higher than their male counterparts. Being selected as





# Technology Application for Project Management and Financial Performance of Manufacturing Companies in India

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**Abstract:** Technology has an impact on business operations, including project management practises. Technology tools are frequently used in project management for collaboration, communication, scheduling, budget management, risk and mitigation approaches. Project managers are using technology to run their businesses more efficiently and productively. The function of technology in project performance and life cycle is covered in this essay. Research examines how project managers and the project team use technology and tools inside the organisation. The results show that businesses were underusing technology in project management and execution. It is advised to use essential tools and technology for project execution success. It is discussed how important technology is in enhancing project members' decision-making.

**Keywords:** Information Technology, Team Communication, Project Management

## I. INTRODUCTION

A project is a specific activity or process carried out to achieve a specific output which can be a service, specific product, or the desired result. Project Management is the methodology that details the process, tools and techniques and defines the tasks and activities required to meet the project's deliverables and stakeholder's requirement (PMBOK, 2017).

Project management tools, and techniques are applicable to all types of industries. However, the selection and implementation of the required tools and techniques are specific to the industries and depend on the project manager executing the project (PMBOK, 2017).

For any project, people, processes, and technology are vital success factors. The project manager must integrate these factors and use them efficiently (SPSF) (Dutoit et al., 2006). In the globalized economy, organizations use various methods like outsourcing, remote engineering, and remote testing to optimize cost. Project management is becoming more complex, and managers are compelled to use advanced information technology tools. In addition to information technology tools, previous project lessons learned, historical reports, Know-how are emerging as the key supportive assets for project management (Anantamula & Kanungo, 2005).

Few major companies like Infosys, Wipro, L&T are widely using project management tools and templates. Organizations are investing heavily in IT infrastructure (Anantamula & Kanungo, 2005). From a project management perspective, tools are used in advanced schedule computer software and budget monitoring to complex organizational process designs, remote engineering technologies. Even after investing millions of dollars in IT, companies find it challenging to leverage the project's success compared to the investment. The productivity paradox (also the Solow computer paradox) is observed in business process analysis; worker productivity may go down as more investment is made in information technology (Dreyfuss et al., 2021). A research study involving information technology (IT) and knowledge management (KM) in project performance revealed that technology's role is restricted to the assistance of complicated problems and processes in the project. These findings were further supported by Nidiffer and Dolan (2005), both argue that project management should focus on people and processes, not on tools and technology. However, empirical study on modern project management technology reveals that technology and tools are still needed to properly manage teams and projects (Ermakov et al., 2020). With the assistance of the Project Management Information System, 75% of the projects performed are successful in the IT sector (Raymond & Bergeron, 2008).

In the era of the internet and digitalization, manufacturing industries and projects are driven by the fourth industry or industrial revolution 4.0 (Piccarozzi et al., 2018). Changes include process automation by using robotic automation (RPA), digitization, artificial intelligence (AI), Cloud, business intelligence analysis, the internet of stuff, internet of things (IoT), augmented reality, 3D printing, blockchain, digital twins, so on. (Schaefer, 2020; Brien, Resnick & Avery, 2018; Ramnarayan & Mehta, 2020). Society is evolving, and businesses are compelled to rethink their business models to adapt to a hyperconnected global economic environment with a commons collaborative economy.

## II. LITERATURE REVIEW

The project management body of knowledge (PMBOK project management institute) defines the Project Management (PM) as a temporary endeavor for the creation of a single or distinct product, service, or outcome (PMBOK, 2017). PM was described by Tengan, C, Thwala, W, Clinton, A. (2021) as a complicated task, which is intended to satisfy the client's requirements. Regarding the definition of this research, PM is a short-term undertaking, restricted by time, money and resources, and scope for the creation of a unique product or service in line with customer needs. Due to these reasons, information technology project management (IT PM) can be defined as a short, time, factory, resource undertaken to develop tools for processing information in the organization based on customer expectations, including software, hardware, and communication.

# Employee Welfare Schemes at FMCG companies in India: Employee Satisfaction

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**Abstract:** Because workers are the main resources for a factory's production, manufacturing, and services, employee satisfaction is crucial to the facility's ability to meet its goals. Therefore, gratifying them by offering a better way of living and working aids the factories in improving their profit by raising output.

The welfare measurements are the main emphasis of this study, which also examines how the factory is doing and the level of employee satisfaction. This 87-person sample size was used in a qualitative research investigation, and a structured questionnaire was used to collect the data.

As a result, this research aids the factory in understanding the level of employee satisfaction and aids in the development of new policies.

**Keywords:** Employee, welfare, factories, satisfaction, output

## I. INTRODUCTION

In this era of globalization and modernization we live with more sophisticated, comfortable and well-groomed ways. Every human in this world has the right to live the life a well-settled one, so as the employees. Well-being practice or making them to lead a well-groomed life is in the hands of factories/ corporates/ companies they were employed. This is "employee welfare measure" or "labour welfare measure".

*Employee welfare means anything done for the comfort and (intellectual or social) improvement of the employees, over and above the wages paid.*

*In simple words, it means "the efforts to make life worth living for workmen." It includes various services, facilities and amenities provided to employees for their betterment. These facilities may be provided voluntarily by progressive entrepreneurs, or statutory provisions may compel them to provide these amenities; or these may be undertaken by the government or trade unions, if they have the required funds.*



According to ILO, "Employee welfare should be understood as providing facilities and amenities which may be established in or in the vicinity of undertakings to enable the persons employed to perform their work in healthy and peaceful surroundings and to avail of facilities which improve their health and bring in high morale."



*What?*  
PRINCIPAL

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# Stress Management and Job Satisfaction in Telecom Companies in Hyderabad

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**Abstract:** The performance of people is mostly what determines whether an organisation succeeds or fails. Employee happiness is a gauge of how content employees are with their employment and workplace. Examining employee job satisfaction at telecom companies in Hyderabad is the goal of this study. The topic of this essay is what affects job happiness. The topic under study was for research purposes. With 125 respondents as the sample size, systematic random sampling was utilised for research purposes. Data for the study was collected using a self-structured questionnaire that was built utilising a 3-point Likert scale. The survey's collected data were examined (mean, standard deviation, and correlation).

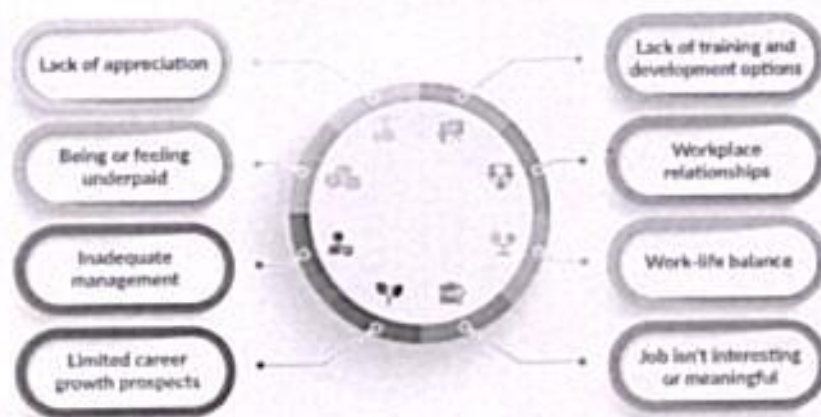
The study was only administered to Hyderabad-based telecom companies. It is based on research into the variables that affect job happiness and the connections between compensation and advancement and employee job satisfaction. Good career prospects and employee experience sharing to support one another were shown to be the most important determinants of employee work satisfaction, with higher mean scores of 2.68 and 2.65 in the organisation. Employee work satisfaction was positively correlated with compensation variables and promotion variables. And the theory was approved. Employees who do well are promoted to higher positions. The study's conclusions will be useful for raising employee satisfaction levels inside the company.

**Keywords:** Employee satisfaction, Factors Influencing, Telecommunication, Pay, Promotion

## I. INTRODUCTION

Employee satisfaction refers to whether or not workers are content, pleased, and getting what they want and need from their jobs. Numerous studies confirm that employee satisfaction has a role in employee motivation, goal attainment, and a positive work environment. Everyone joins an organisation, as is well known, for a variety of reasons, including the desire to fulfil their social and psychological requirements as well as their need to have a secure source of income and a job. Every individual has various needs that change over time. Management must acknowledge this fundamental fact and give employees the right chances and working conditions in order to meet their needs. In order to increase employee satisfaction with both individual and organisational requirements and objectives, human resource management has evolved into a specialised functional area of business.

## Causes of Job Dissatisfaction



AIHR

The mobile telecommunication industry is one of the thriving service industries of the today's complex and dynamic environment. With the importance of information in the everyday activities, this industry is also expanding instantaneously. With this instantaneous change, the mobile service providers are able to provide the customers with new advanced features and updated technology at reasonable prices with a view to attract new and retain existing customer for long term sustainable growth.

The nature of the competition today in the global telecommunication industry seems to be prime market activities that aim at attainment of competitive advantages through innovations and combinations of multiple service variables with a view to capturing it in particular geographical regions. The achievement of telecommunication industry relies on prudent efforts and practicable investments.

# The Effectiveness of Performance Appraisal in Managerial Employees of Banks in India

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**Abstract:** The true assets of an organisation are the talent and quality of the people who work there. The primary objective of an employee's performance evaluation is to identify those who are effective by praising them for their effort and turning ineffective people into effective workers by providing them with both positive and negative reinforcement as needed. An organisation with incompetent personnel will eventually fail, while an organisation with competent personnel can endure and perform admirably in challenging circumstances. The organisation will require good human resource management to be successful. Human resource management (HRM) encompasses all processes such as hiring, choosing an employee, onboarding, training, performance evaluation, and pay, as well as relationships with labour and trade unions and ensuring that employees' safety, welfare, and health are protected in accordance with local, state, and international labour laws. Each organization's management wants to employ qualified and capable workers to boost the company's marketability. The company views its people resources as the culmination of each individual's unique creative aptitudes, talents, knowledge, skills, attitudes, and beliefs. HRM aids in maximising individual development, fostering positive workplace interactions between coworkers and employers, and effectively modelling human resources in comparison to physical resources. The estimation of the necessary workforce for an organisation through HRM includes both quantitative and qualitative data. With time and continued investment in human resources, the job performance of employees is assessed using the proper performance evaluation methodologies, which enhance both the organisational and individual employee skills. The consequences of an employee's performance appraisal on organisational commitment are examined in this essay, along with the reasons why an employee might alter his or her attitude towards the organisation.

**Keywords:** Employee Development, Performance Appraisal, Organisational Commitment.

## I. INTRODUCTION

Performance Appraisal is the continuous and systematic evaluation of the performance of employees which gives the opportunity to organisation for recognizing the abilities and efficiencies of the employees for growth and development of the organisation. The employer measures the pay of employees and compare it with the targets inter-alia plans out about the future guidance required by the employee. The objectives of Performance Appraisal are:

1. To have sufficient records and maintaining them to determine the compensation packages, wage structure, and salaries raises etc.
2. To evaluate the performance of employee and take necessary corrective measure for further growth and development.
3. To place right men on right jobs by identifying their strength and weaknesses.
4. To assess the needs of the training programmes.
5. To provide a feedback to employees and determining the promotional programmes based on their performance.

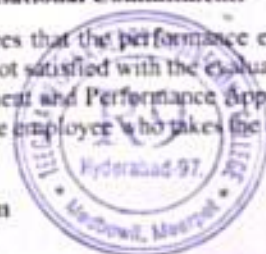
Organizational Commitment is the bond employees experience with their organization. Broadly speaking, employees who are committed to their organization generally feel a connection with their organization, feel that they fit in and, feel they understand the goals of the organization.

In simple words, it is the strength of the attachment an employee feels towards an organization. It may be measured by the degree to which an individual is ready to adopt organizational values and goals. Allen and Meyer proposed an analytic view of organizational commitment, splitting it into three definable components.

- a) **Affective Commitment:** Affective commitment or how much an employee actually likes or feels part of an organization has a tremendous effect on employee and organizational performance.
- b) **Continuance Commitment:** When continuance commitment is not completely driven by affective commitment, it usually boils down to the costs that an employee associates with leaving the organization. Continuance commitment is also driven to a great extent by organizational culture, and when an employee finds an organization to be positive and supportive, he/she will have a higher degree of continuance commitment.
- c) **Normative Commitment:** Normative commitment builds upon duties and values, and the degree to which an employee stays in an organization out of a sense of obligation.

### Performance Appraisal and Organisational Commitment:

It is often perceived by the employees that the performance evaluators are inaccurate and manipulated for the sake of political purposes and when the employee is not satisfied with the evaluation it may affect the employees attitude and behaviour towards the organisation. Organisation Commitment and Performance Appraisal concepts have received more attention in the field of human resource management because it is the employee who takes the organisation at a higher progressive growth rate with his dedication,



# HRIS Implementation Challenges and Solution in IT Companies: Information System for Project Management

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**Abstract:** The study examines the difficulties that organisations encounter when installing and administering HRIS. Due to factors like size, industry to which it belongs, type of workers employed, type of top management, current hierarchical structure, etc., each organisation has a distinct personality. Organisations create several HR strategies to manage and involve their personnel based on their distinctive characteristics. An organisation can combine all HR activities using an HRIS system to increase efficiency and keep up with the competition. However, the anticipated advantages of increased productivity and competitive advantage would not materialise without a proper implementation of the system. For organisations trying to justify future investments or recoup costs associated with investments already made, HRIS implementation success has emerged as a major problem.

## I. INTRODUCTION

Firms that want to succeed in today's competitive environment must use information technology to manage their human resources effectively. Human Resource Information System (HRIS) has been "One which is used to acquire, store, manipulate, analyze, retrieve and distribute information about an organization's human resources".

It's interesting to note how broadens the definition of HRIS to include people, policies and procedures and not just the technology itself. "HRIS can be briefly defined as integrated systems used to gather, store and analyze information regarding an organization's human resources. "HRIS is not limited to the computer hardware and software applications that comprise the technical part of the system: it also includes the people, policies, procedures and data required to manage the HR function".

Over the period of time, HRIS has evolved from simple record-keeping to complex analytical tools. HRIS vary widely with respect to both their specific details on individual employees and their work groups, and in their uses of data. Some simply collect basic employee data for administrative purposes. Others enable their users to undertake complex analysis of recruitment patterns and trends, evaluations of effectiveness of such processes and reports on the costs and benefits of different selection technique. As HR has transitioned to a more strategic role in contemporary organizations, the goal of the HRIS has changed dramatically.

Today with SAP, Oracle, and other latest software, the need to move the role of HR into its strategic realms has been exemplified (Budhwar, Bhatnagar, 2008). Contemporary HRIS is versatile enough to meet the needs of multiple organization stakeholders. HRIS is commonly used by HR professionals as well as by managers in functional areas. All have different needs for the information provided by a central data system. As organizations add self-service centers, employees use the HRIS for benefit selection and enrollment. Career planning and records of training and development can be maintained by the employee themselves thereby keeping the records up to date and saving labor, and therefore cost, for the HR department.

A study conducted in year 2012 concludes that scope of HRIS applications have broadened in India. Although operating HRIS applications like employee record and pay roll still remains the most popular applications but there is an increase in use of HRIS in sophisticated activities and decision making.

According to Hendrickson (2003) increased efficiency is a benefit of an HRIS. Both time and cost efficiency can be addressed with the ability to do more transactions with fewer fixed resources. Not only is work duplication eliminated, but also various processes are streamlined and become more efficient. HR staff can spend less time on day-to-day administrative issues, and more time on strategic decision making and planning. This has a direct impact on productivity and profitability of an organization (Targowski, Deshpande, 2001). HRIS supports a corporate mission that focuses on improvements in the capabilities, motivation, and continuing commitment of its most valuable human resources, whose skills and talents represent critical corporate assets (Berry, 1993).

Better knowledge management which leads to a firm's better competitive advantage in the marketplace and better stakeholders. In terms of accuracy, the HRIS helps in transactions. Additionally, the technology can be used to simplify processes (Hendrickson, 2003). Some information is only available through technology. Many types of computer-based training, internet access to the recruitment world, and the use of certain programs to assess employees in the hiring process are only available for those with technology-rich environments. A HRIS also facilitates communication processes and saves paper by providing an easily-accessible, centralized location for company policies, forms, equipments, and links to external URL's.

As every organization has different purposes, business context, organizational culture, resources, among others, the HRIS effectiveness and usage depends on the kind of criteria considered important for such organization. Organizations in order to cope with a number of issues such as increasing organizational demands, a more extensive use and need of information, continuous pressures to reduce costs, as well as making HR a more strategic business, are trying to work implement effective HRIS in consultation with vendors. IT organizations are using different standardized HRIS packages. These packages can be successfully adopted by small sized organizations but in large organizations standardized packages are difficult to implement.

# Camel Framework evaluation of India Banks

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**Abstract:** Performance evaluation of the banking sector is a trustworthy gauge and indication for identifying whether an economy's economic activities are solid. In the current study, the effectiveness and soundness of a select Indian public banks have been evaluated for the years 2018 through 2022. The CAMEL method has been used to assess the financial stability of the selected banks. Composite Rankings, mean ( $\bar{x}$ ), median (Med.), and standard deviation ( $\sigma$ ) have all been used to determine the result through the comparison and major evaluation of many CAMEL criteria. State Bank of India is ranked #1 by the CAMEL analysis, followed by Union Bank of India and Bank of Baroda, with Bank of Baroda taking third place. The final position was won by Bank of India, and Punjab National Bank is currently in fourth place.

One of the industries in India with the highest growth is the banking sector. The banking industry is getting more complicated today. Analysing the Indian banking industry is a difficult task. When separating reputable banks from poor ones, there are numerous considerations that must be made. An efficient metric and indicator to verify the health of an economy's economic activity is performance evaluation of the banking sector. With the help of the RBI and other policymakers, the banking sector has been subject to regulations like the BASEL III norms. In the last several years, the efficiency and performance of the Indian Scheduled Commercial Banks have significantly improved as a result of these regulatory adjustments. In the current study, the CAMEL technique as well as the one-way anova method were used to assess the performance and financial soundness of a few private sector banks, including ICICI, HDFC, and YES Bank. On average, ICICI was found to be at the highest place. Additionally, it was noted that Yes Bank's CAMEL ratios put them in last place overall.

**Keywords:** Public Sector Banks, CAMEL, Capital Adequacy

## I. INTRODUCTION

Banking is becoming an increasingly global industry, which knows no geographical boundaries. The Indian Banking Sector has witnessed phenomenal growth over the last five decades, especially after the nationalization of the Indian Banks in 1969. Looking at the last twenty-five years, the banking sector has definitely come a long way. The phase of development of the banking sector is a good reflection of the development of the economy. Evaluation of financial performance of the banking sector is an efficient measure and indicator to judge the soundness of economic activities of an economy. Industrial development, modernization of agriculture, expansion of internal trade and foreign trade are the factors which mainly determine the economic development of an economy. A robust financial system is essential for the growth of a strong and vibrant economy. In the globalized economic scenario for economic development of an economy, the role and importance of prudent banking system cannot be underestimated. The banking sector, being a fundamental component of financial system is the backbone of the modern economic system. Banks are one of the oldest financial institutions in the financial system, which play a crucial role in the mobilization of deposits and disbursement of credit among the various sectors of the economy. A sound banking system acts as fuel injection which stimulates economic efficiency by mobilizing savings and allocating them to high return investment. In the 1980s, CAMEL rating system was first introduced by U.S. supervisory authorities as a system of rating for on-site examinations of banking institutions. Under this system, each banking institution subject to onsite examination is evaluated on the basis of five (now six) critical dimensions relating to its operations and performance, which are referred to as the component factors. These are Capital, Asset Quality, Management, Earnings and Liquidity used to reflect the financial performance, financial condition, operating soundness and regulatory compliance of the banking institution. A sixth component relating to Sensitivity to market risk has been added to the CAMEL rating to make the rating system more risk-focused.

(Parvesh kumar Oct. 2016) Research studies emphasized the function of financial sector in economic development and expressed that there is a strong correlation between economic growth and development of financial system. (Sanjeev Oct 2016) Another study highlighted that financial sector performs as supply leading role in transferring of resources from traditional, low growth sector to high growth sector and stimulates an entrepreneurship response in the high growth sector. From the above discussion it is cleared that the role of banking system is vital and crucial for the capital formation in the country and it necessitates that banks must be more closely watched for their economic efficiency and performance. In the recent past the banking regulators and policy makers have recommended bank supervision by using CAMELS (capital adequacy, asset quality, management quality, earnings, liquidity and sensitivity) rating model to assess and examine the performance and financial soundness of the bank.

## II. REVIEW OF LITERATURE

The evaluation of financial performance of banking sector has been assessed by various researchers, academicians and policy makers in different time periods. A simplistic review of some of the important studies is presented here which fulfills the need for the present study. Narsimham Committee set up by the Government of India had recommended various financial and banking sector reforms which laid more emphasis on improvement in performance and profitability of banks.

Mous (2005) studied bankruptcy prediction models of banks using financial ratios of profitability, liquidity, leverage, turnover and total assets in decision tree models and multiple discriminant models, and found that the decision tree approach performed better.

Siva and Natarajan (2011) empirically tested the applicability of CAMEL norms and its consequential impact on the performance



# Employee Engagement Strategies and organisational excellence in Information Technology Companies

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**Abstract:** This study looks into several methods used to get people involved in the organisation. Since employee engagement has been a topic of discussion in academic writing and business reports for many years, it is important to look at the methods and results. In order to create interview questions, prior studies have been cited. Personnel from the human resources department and the employees were personally interviewed. Employees have complete freedom to share their opinions. The examination is divided into two parts centred on employee engagement strategies and human resource management ideologies. A description of the employee engagement program's effectiveness has also been provided. The study's drawback is that it only examines one IT entity. The validity of the interview questions has been supported by comparisons between the results of several studies.

**Keywords:** Employee engagement, Human resource management and Organization culture.

## I. INTRODUCTION

Employee engagement is a process of keeping employees engaged towards their organisations activities in order to achieve their loyalty and increase their belongingness towards organisation. Employees are perceived as a resource to be operated to their fullest, with little or no scope for co-decision making. Because of this stance on the employment relationship, the interests of the employee are subordinate to that of the employer, resulting in a lack of trust by employees towards the employer. This lack of trust will hinder the assistance of the engagement procedure. Employee engagement is a relatively new concept in the academic community but has been heavily promoted by consulting companies. Scholars and practitioners in the HRM field tend to agree that the required concept of engagement may help explain conduct at work, but they present different definitions of it. Understanding the pulls of engagement is a popular subject for organizations who wish to maximize employee performance and well-being at work. Employee Engagement is the buzz word term for employee communication. It is a positive attitude held by the employees towards the organization and its values. It is rapidly gaining popularity, use and importance in the workplace and impacts organizations in many ways. HR practitioners believe that the engagement challenge has a lot to do with how employee feels about the about work experience and how he or she is treated in the organization. Engagement differs from job in as it is concerned more with how the individual employees his/her self during the performance of his / her job.

The aim of this paper is to present the importance, effect of employee engagement in the manufacturing sector, examined from a mid size company's point of view, where they are manufacturing sheet metal press components. The study has found the satisfactory level of the employees regarding various factors related to their commitment towards their company. In general, there is a positive attitude has been found among employees and they are actively engaged towards their company.

## II. LITERATURE REVIEW

### A. Evolution of Employee Engagement

Most references relate employee engagement to assessment centers and consultancies. The concept is relatively new for HRM and appeared in the literatures for nearly two decades (Rafferty, Maben, West and Robinson, 2005; Melcrum Publishing, 2005; Ellis and Sorensen, 2007). Employee engagement originates mainly from two concepts that have won academic recognition and have been the subjects of empirical research-Commitment and Organizational Citizen Behaviour (OCB) (Robinson, Perryman and Hayday, 2004; Rafferty et al., 2005). Employee engagement has similarities to and overlaps with the above two concepts. Robinson et al. (2004).

## EMPLOYEE ENGAGEMENT

The determination of this section is to address the conceptual differences among different schools of thought on the definition of employee engagement to improve a conceptual footing for this study. Despite the high profile of employee engagement, there are many different views and definitions of the subject. Having an engaged workforce has become ever more important in recent years for organizations. Employee engagement is at the core of the employment relationship. It is a topic which employers clasp in high esteem because of the idea of having an engaged workforce.

According to Gennard and Judge (2014) Engagement which goes to the heart of the work place relationship is key to overcoming obstacles that employees find difficult to perform at their peak. Armstrong (2012) a skilled HR describes employee engagement as that readiness to go that extra mile. The employees giving more than they are asked to an organization by working harder and longer than they intentionally must. Employee engagement has been reported to have a strong link with satisfaction and it is regarded as one of the notions of the subject.

Satisfaction according to Abraham (2012) is when an individual's working environment fulfils their needs, which are personal characteristics. It should be noted that satisfaction is not the same as engagement. Engaged employees tend to provide greater customer service. An engaged employee therefore possesses the qualities that an organization needs to reach the next level giving the organization that edge in the market.

# Role of Fintech on Banking Performance: The Impact of Technological Innovation on the Performance of Banking Companies in India

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**Abstract:** An advancement in technology-based finance called financial technology seeks to boost efficiency for both users and banks. Fintech use is anticipated to enhance banking performance and value from the perspective of investors. This study aims to determine how the presence of financial technology affects banking performance as measured by return on assets (ROA), which in turn affects banking value as measured by Tobin's Q. Financial technology is assessed through four products: mobile payment, mobile banking, internet banking, and ATM. In this study, which use linear regression mediation analysis with a Causal Step Approach, 23 banks that are listed on the Indonesia Stock Exchange (IDX) and that launched financial technology products between the years of 2018 and 2019 are used. The findings demonstrated that while Mobile Payment had no significant impact on banking value and performance, Financial Technology products such as Internet Banking, Mobile Banking, and ATMs had a substantial impact.

**Keywords:** Mobilebanking, internetbanking, mobile payment, ROA, Tobin's Q

## I. INTRODUCTION

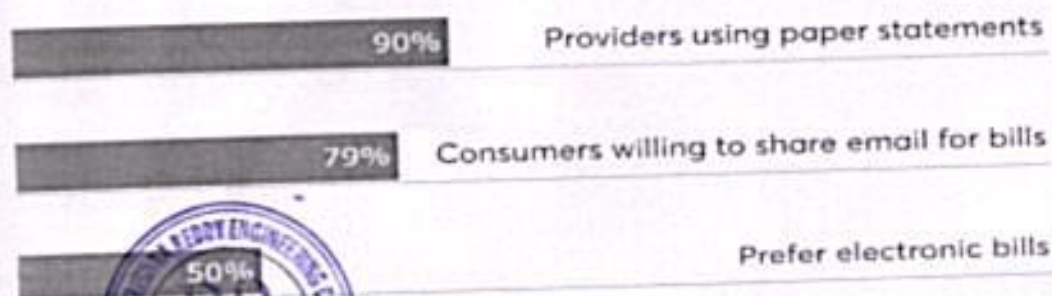
In the current digital and globalization era, all human activities cannot be separated from the use of technology. Almost all activities carried out in today's life take advantage of technological developments, including in the financial sector such as banking. Innovations and technology used in this sector are often referred to as Financial Technology. Financial Technology, which is often referred to as Fintech according to the Financial Services Authority (OJK), is defined as an innovation in the financial services industry that utilizes the use of technology. Fintech products are usually in the form of a system built to carry out specific financial transaction mechanisms. Fintech is a system and innovation in the financial or financial sector with a touch of modern technology (Lee and Shin, 2016).

Financial technology (better known as fintech) is used to describe new technology that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners, and consumers better manage their financial operations, processes, and lives. It is composed of specialized software and algorithms that are used on computers and smartphones. Fintech, the word, is a shortened combination of "financial technology."

When fintech emerged in the 21st century, the term was initially applied to the technology employed at the backend systems of established financial institutions, such as banks. From 2018 or so to 2022, there was a shift to consumer-oriented services. Fintech now includes different sectors and industries such as education, retail banking, fundraising and nonprofit, and investment management, to name a few.

## An injection of fintech

Research suggests consumers are open to paying health care bills electronically



Source:





# Financial Performance and Development of Non-banking Financial Companies in India

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**Abstract:** Everyone agrees that NBFCs have been crucial in directing the limited financial resources into capital formation. By filling credit gaps, such as supporting the growing corporate sector's financial demands and providing credit to the unorganised sector and small local borrowers, NBFCs have been assisting the organised banking industry in its duty. In the organised sector, NBFCs have benefited from a more adaptable structure than banks. The Central Government and Reserve Bank of India have occasionally worked towards regulating these NBFCs. These NBFC regulation and supervision operations have been carried out by the Department of Non-Banking Supervision of the RBI.

It is important to recognise the contribution that these NBFCs have made to economic growth and to supplying the credit requirements of the economy. However, it is equally important to monitor their operations because some of these NBFCs have stolen money from unwitting investors.

The current article "Growth and Development of Non-Banking Financial Companies in India" has focused on topics like defining the word NBFCs, evolution, growth, and development of NBFCs, regulatory authorities, and NBFC supervision. An analysis of the development, expansion, and evolution of non-banking financial companies in India is attempted in this research.

**Keywords:** Non-Banking Financial Companies, Organized Banking Sector, Financial Institutions, Financial Supermarkets, Reserve Bank of India, Supervision and Regulation.

## I. INTRODUCTION

Non-banking financial companies (NBFCs) constitute an important segment of the financial system in India. NBFCs are financial intermediaries engaged primarily in the business of accepting deposits and delivering credit. They play an important role in channelizing the scarce financial resources to capital formation. NBFCs supplement the role of the banking sector in meeting the increasing financial needs of the corporate sector, delivering credit to the unorganized sector and to small local borrowers. NBFCs have a more flexible structure than banks. As compared to banks, they can take quick decisions, assume greater risks, tailor-make their services and charges according to the needs of the clients. Their flexible structure helps in broadening the market by providing the saver and investor a bundle of services on a competitive basis.

Non-banking financial company engaged in the business of accepting deposits developing credit and play an important role in changing the scarce financial resource to capital formation and Indian economic growth. NBFCs play a vital role in managing the financial services and contribute almost 24.3% GDP to the Indian economy as compared to banks with 21.4%. Non-banking financial companies have been supplementing the role of the organized banking sector by bridging the credit gaps to the increasing financial needs of the corporate sector delivering credit to the unorganized sector and small local borrowers. The present study include the structure of the NBFCs 2014-15 to 2018-19, the Financial position of Non-banking Financial Companies, Select ratios of the NBFC sector and Asset quality and capital adequacy Ratios of the NBFCs sector.

A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 (New Act 2013) it is engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property. A non-banking institution which is a company and has the principal business of receiving deposits under any scheme or arrangement in one lump sum or installments by way of contributions or in any other manner is also a non-banking financial company (Residuary non-banking company).

Non-Banking Financial Companies (NBFCs) are the companies involved in financing activities such as giving loans, charging interest and lending etc. So far classification of NBFC is concerned; with effect from December 6, 2006 the above NBFCs, registered with RBI have been classified as Asset Finance Company (AFC), Investment Company (IC), and Loan Company (LC). The scope of the study encompasses with two categories of NBFCs namely AFCs and ICs. The principal objective of the study is to make a comparative analysis of the financial performance of selected investment and assets finance companies. To compare the selected performance indicators (BVA, ROCE, ROE, DE RATIO, NPR and CR) separately between selected ICs (company-wise) and AFCs (company-wise) and to compare selected performance indicators jointly between selected ICs (company-wise) and AFCs (company-wise) for each individual year. Kruskal-Wallis test have been employed. The study concluded that there is no difference between the financial performances of each category of NBFCs apart from their nature of activities under their respective categories.

A non-banking financial company is defined in clause (b) of Section 45-1 of Chapter IIIB of the Reserve Bank of India Act, 1934, as (i) a financial institution, which is a company; (ii) a non-banking institution, which is a company and which has as its principal business the receiving of deposits under any scheme or arrangement or in any other manner in any manner;

# Different Leadership Styles to be followed by Leaders in Digital Transformation in IT Companies

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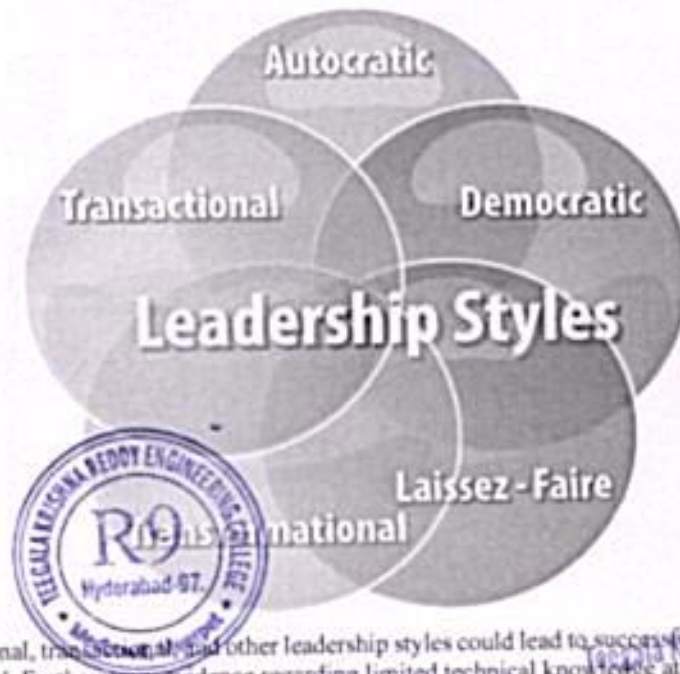
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**Abstract:** Finding leadership philosophies that influence an organization's digital transformation was the goal of this study. A digital transformation project spanning various organisations in Hyderabad was chosen to be led and participated in by six information technology leaders from healthcare organisations. For the purpose of clarity and to spot any clear patterns in leadership styles, the information gathered was transcribed. To ascertain this effect and how leadership style influenced an organization's course for its digital transformation, a qualitative research design utilising semi-structured interviews was constructed. A foundation for this issue was provided by the specific study literature in this field, which also covered the many styles of leadership that were frequently employed. Large-scale decisions inside an organisation were affected by these styles. Additionally, the effectiveness of this transition was assessed in light of how naturally existing leadership styles operate inside an organisation. The research's conclusions showed that a leader's style had a significant influence on how an organisation changed, and that employee involvement and feedback were crucial to the change effort's success. Organisational leaders also lacked some of the technical expertise necessary to oversee this initiative. Organisational conventions, expectations, and desired objectives can be implemented through leadership styles during significant transformational undertakings.

**Keywords:** Digital transformation, Change management, Leadership style, Transactional leadership, Transformational leadership

## I. INTRODUCTION

When an organization seeks to transform from a manual process to a comprehensive digital platform, this requires a successful leadership strategy which can be influential and impactful in advancing this type of change over the long term. Many leaders do not have the technical knowledge or aptitude to oversee this type of transformation. However, their input is critical and requires the ability to be flexible. In addition, they must acquire new tasks and knowledge in the process or this change can lead to significant cost overruns and poor execution (Matt, Hess, & Benlian, 2015). Organizations which employ leaders with different types of leadership styles may experience mixed results in this regard; therefore, the most effective type of leadership styles should be examined to determine how they impact decision-making during the process of digital transformation. Leaders should have some degree of influence and demonstrate their ability to adopt a strategy which will positively impact the digital transformation process rather than to limit its success over the long term (Allio, 2015). However, when the leadership style does not align with the digital transformation or when the strategy is ineffective, problems may emerge which could impact the organization in negative ways for many years to come (Allio, 2015). The purpose of the following study is to determine if differences in leadership styles are influential in the process of digital transformation within an organization and if this process can be further advanced in one direction or another due to leadership style.



The adoption of transformational, transactional, and other leadership styles could lead to successful results when a large-scale digital transformation is implemented. Furthermore, evidence regarding limited technical knowledge at the leadership level (UGS) impact

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# Strategic Human Resource Management practices in Electronic Companies

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**Abstract:** In this study, it was determined how Electronic firms' strategic HRM practises affected how those organisations were seen to be performing. Case study research methodology was used. The 73 employees at the Electronic firms made up the study population. Interviews and self-administered questionnaires were utilised to gather primary data. To describe the properties of the study's variables, descriptive statistics were produced. According to the findings, the company had adopted a number of SHRM practises, but their systematic execution was hampered by a lack of official (written down) strategic plans, clear formal policies, and guidelines across the board.

One employee in the entire company had a master's degree, and no one else had taken a course in actuarial science, which is specific to the insurance industry. There is also a problem with staff mobility, as shown by the small number of employees with between five and fifteen years of work experience at the company. Additionally, it was noted that the company needs to make improvements in the areas of performance management and motivation.

It is advised that management adopt the use of a formal strategic plan, increase capacity building by utilising both qualified internal staff and external experts, base training programmes on training needs assessments, develop formal policies to guide the implementation and institutionalisation of SHRM practises, and request of the government through the Commission for Higher Education to introduce a degree course in actuarial science in order to train insurance agents

**Keywords:** Strategic Human Resource Management Practices, Organizational Performance, Capacity Building, Performance Management, Motivation & Decision Making

## I. INTRODUCTION

Associated with the emergence of internet-based human resource management technology is rhetoric predicting that such technological advances (electronic human resource management technology or e-HRM) will make HRM in organizations more strategic. We find and show that strategic HR involvement and greater e-HRM capability are both directly and reciprocally related supporting both theoretical perspectives but also showing each is not mutually exclusive. We discuss the implication of these results for human resource management theory, practice and future research.

The past decade has witnessed a surge in the use of innovative information technologies (IT) in human resource management (HRM). Fueling this growth is the spread of increasingly sophisticated enterprise resource planning (ERP) software combined with internet-based technologies that standardize and automate the administrative components of HRM activities and tasks. The promise of significant economic efficiencies in processing administrative transactions and communicating information. Some researchers also argue that internet-based IT is a disruptive technology that will inevitably transform the way in which organizations are structured. Consistent with this perspective, many researchers' and practitioners' claim that e-HRM will transform or disrupt how HRM is practiced in organizations, shifting it from being primarily administrative to being more strategically relevant.

### Research Design

This research was a case study of the Electronic companies since it is the only insurance company in the country. The choice of this corporation was informed by the fact that it is considered as only corporations that declares its annual financial statements and conducts annual general meetings for shareholders in Hyderabad. The study employed exploratory research in a bid to establish whether the corporation had adopted SHRM practices. That no single design exists in isolation and further observe that combining different designs in one study enables triangulation and increases the validity of the findings, this study used a combination of other research designs; descriptive, explanatory, and cross-sectional research design.

Table 1: Distribution of the Study Population

Department	Frequency	Number of Respondents	Percentage
General Manager's Office	1	9	12.3
Administrative	1	18	24.7
Technical	1	37	50.7
Finance	1	9	12.3
	4	73	100

Table 2: Demographic Profiles of Respondents

Gender	Frequency	Percentage (%)
Male	31	42.7

# The Role of Big Data in Financial Sector: Need for Financial Analytics to Improve Competitive Advantage

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**Abstract:** Big Data has become more important in practically all global industries in the contemporary information technology era. Big Data is now known for its capacity to facilitate wise decision-making. Currently, businesses all over the world use big data for customer and market research, but the financial industry uses big data much more extensively. Despite this, there aren't many publications on big data and finance due to the difficulties involved. Despite the fact that the financial sector uses big data the most and that its significance cannot be understated, the studies and analysis are insufficient. This work is an attempt to undertake a thorough literature analysis in the topic of big data and finance, taking into account the significance of big data in the financial sector. As a result, by opening up new avenues for empirical research in the field of big data and finance, the study will add to the body of knowledge. Big Data is indispensably important for logical decision-making.

**Key words:** Financial analytics-business development-company analysis

## I. INTRODUCTION

With the passage of time large businesses have realized the advantages of big data especially in financial matters. Along with several advantages there are certain costs associated with the same. The most crucial cost is that investment in Big Data projects is supposed to be the riskiest investment because it involves a huge level of preparation by the organization conducting Big Data projects. It helps in financial forecasting and handling financial matters in a more strategic way. In the current era the companies are at crossroads, businesses are currently facing difficulties in handling the challenges and getting benefits from Big Data on one hand and on the other hand they are making efforts with Big Data challenges.

Proper Big Data handling is a system where businesses use data warehouses, online analytical processes, and dashboards in an integrated system. Properly managed Big Data projects facilitate clear, useful, and detailed information that is useful for in depth analysis which is helpful in multiple ways. Such projects enable the decision makers through proper graphs which clearly guide them the trends and identify the key performance indicators. Once businesses become sure that they will gain and maintain competitive advantage through the investment in Big Data they will be more than willing to invest in Big Data technology. The major disappointment occurs when the organization feels that their investment in Big data projects failed to meet their expectations.

These disappointments have several issues. The most common and highly observed issue is inability of the Big Data and analytical systems to handle and generate required reports over the Big Databases. Another issue is varying results or deviation of forecasting from the actual results (He, 2014). Such issues lead to disappointment and because of low quality of the information and inability to meet the requirements of the companies negatively affect the organizational performance.

Currently along with businesses even the governments are also facing challenges with handling Big Data despite the fact of having unlimited resources. To meet the challenges and get maximum benefits, the users of Big Data are trying to add new capabilities among their strategies while considering Big Data.

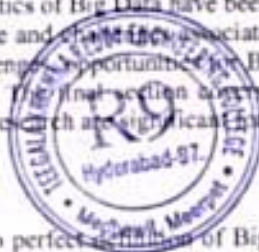
With the help of the tools and techniques mentioned above it has been observed that large firms, because of having large revenues, relatively more stable revenue streams, and having good credit repute are in dire need of Big Data projects for handling their large customer base and maintaining proper financial records.

The current latest systems and tools enhance the forecasting capability of investors and help in minimizing the uncertainty in the stock markets along with reducing the cost of capital of the corporations. Having the capability of processing more data, investment costs of large forms has declined, which further enables them to grow further.

Considering the importance of Big Data for the large businesses in general and specifically in financial matters, the objective of this review is to understand the challenges associated with Big Data in finance in the light of the existing literature. In the upcoming section initially characteristics of Big Data have been identified to better understand the concept. Characteristics of Big Data will be followed by significance and challenges associated with Big Data in finance are mentioned in the light of existing literature. After identifying the challenges, opportunities for Big Data in finance have been discussed along with the application possibilities of Big Data in finance. The final section covers the implications of Big Data in finance for research as well as practice. The findings of the current research are significant for the organizational managers dealing with finance so that they may effectively adopt Big Data.

### Characteristics of big data

As mentioned earlier that there is no perfect definition of Big Data, however, three dimensions were finally identified that are



# Retail Banking and banks Performance in India

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**Abstract:** One of the most cutting-edge financial services offered by the numerous commercial Public Sector Banks (PSBs), private sector, and foreign banks is regarded as retail banking. Term deposits, consumer durable loans, auto loans, debit cards, credit cards, ATMs, insurance, online banking, etc. are all in higher demand. There is no doubt that retail lending has helped the economy grow. One-fifth of all bank credit in India comes from the well-developed retail banking industry. The rapid rise in personal wealth, favourable demographics, the advancement of information technology, the supportive macroeconomic environment, financial market reforms, etc., can all be linked to the rise in retail lending in developing nations. Bank marketing techniques have changed significantly as a result of the significant transition occurring in the retail banking strategies of the banks. PSBs are using aggressive techniques and their extensive branch network to capture a significant portion of the retail sector.

Banking is an economic function that affects not only the critical situation but also for the entire financial system as a whole. The turn of the global financial system, the form of the banking business is also changing, has to be replaced by many of the exciting new features that are being introduced into the banking business to attract more customers.

**Keywords:** Retail banking-Financial services-banks performance

## I. INTRODUCTION

The most common selling firms that are offered in the smaller banking segment are home loans, home loans, automated loans, cards, and student loans. The loans are sold under attractive clothing to differentiate the products offered by one of the banks.

Banks are institutions that detect fraud. The life and success of a bank depend on its ability to meet the needs and needs of the customer. The new nation presented its problems and opportunities in various financial and banking fields. The banking sector in India has undergone many changes in areas of law, regulation, disclosure, and management practices. The economic downturns that began in the 1990s changed the banking situation in the country dramatically. New levels of real estate, leaders in capital appreciation, bad debt recognition, overdraft requirements, etc. have been removed. As a final result of these reforms, new banks were not allowed to enter the market.

Many of the new public banks in modern times have come up with sophisticated systems. These new private banks built a large community of branches, set high production standards, met unique global customers, and most importantly, with first-class interest features, sustainable capabilities, and a strong market image. . in a short amount of time. This has forced banks to use grape banks to respond to new issues and radical recovery measures. On the other hand, some of these banks have not increased their reform performance, have not established high productivity levels, or even failed to realize their potential, and have therefore received indirect benefits from non-public banks.

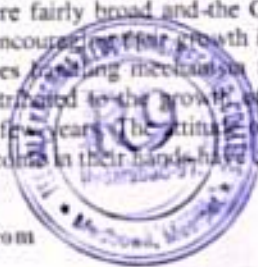
Today, banks are beginning to take the lead in trying to capture this leadership in the form of financial and financial offering that is among the largest non-public banks in the small banking sector. To do the same, banks are offering customer banking space by offering different products and services. A year ago, the idea that the banking sector could be approached was mixed. Naha is successful. A mobile phone with the simplest connected device is not required to make a dent in your banking business, an innovative technology Along with Mobile Banking and SMS Banking, Net Banking and ATM are the most

important steps that banks in India have taken towards innovation. With these many tools and systems, freedom of experience can be achieved. Check your account, transfer your funds, make payments, and what's more, make some items that have been found in a physical bank for a long time. But today there is no time limit on fields and there is no time limit to spend your money.

The main goal behind this perspective is to determine whether the bank's approach to personal investment support and Axis Bank Retail Banking is to understand the importance of bank management for customers. While looking for a place in the competition for the human brain as a market for small-house products, especially important for determining the key factor influencing the choice of the Pameseran, based on the work done by the bank and others. It is effectively used by retailers and every show, and examines the impact of a large number of cultural differences in advertising to improve brand recognition among buyers.

The questionnaire was changed as a technical fact. Through this study, the general protective belief in practice was not as good as the first class.

Factors contributing to growth of retail banking. The following factors can be considered to have influenced and paved the way for the growth of retail banking in India: Use of plastic money: The total number of cards issued by banks has dramatically increased. As the usage of plastic money has increased a Working Group was set up for regulatory mechanism for cards. The terms of the Working Group were fairly broad and the Group was to look into the type of regulatory measures that are to be introduced for plastic cards for encouraging their growth in a safe, secure and efficient manner, and also to take care of the best customer practices and grievances handling mechanism for the card users. The credit card holders and loan availed by them through various forms have contributed to the growth of retail banking to a large extent. Housing credit: Housing credit has increased substantially over last few years. The attitude of the younger income earning people has become more positive and the increase in disposable income in their hands have contributed dramatically to the increase in housing credit.



# Knowledge Management Application in Health Care Companies in India

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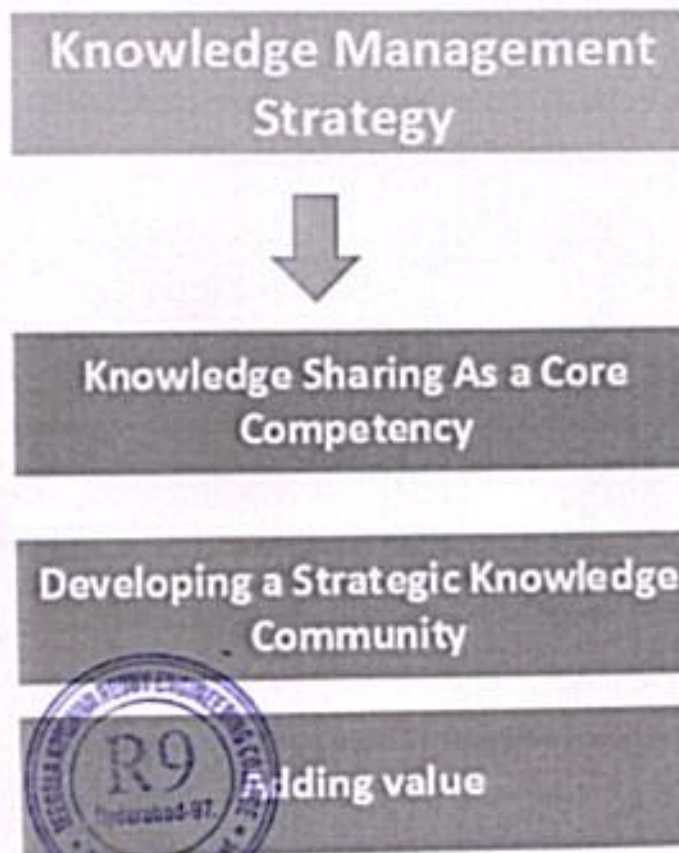
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**Abstract:** In this era of fast and growing technologies, there is a necessity to manage knowledge, its sources, transformation and retention. Knowledge management being a vast area for introspection therefore in this paper efforts are made to find out knowledge sharing strategy. The study was conducted in Indian hospitals with health administrators'. The primary data collected from these respondents were analysed to study the equations developed for empirical research. The results obtained from the factor analysis and correlation matrix explain that the Knowledge sharing system for people, Knowledge sharing system for organization are major factors from people point of view and Innovation & Technology Change, KM Technology and IT & knowledge management from technology point of view. The implications of this paper will help in strategic formulation for knowledge management processes with people and technology view point and resolving the issues of making knowledge management strategy.

**Keywords:** Information Technology; Knowledge Management; Knowledge Management strategy.

## I. INTRODUCTION

This paper focuses on the knowledge management strategies for sharing in hospitals and health care organizations. Knowledge management strategy for Indian health care sector is explored with two independent variables – people & technology. From the health sector point of view the knowledge management can be thought of ensuring the right information is available to the right people and practiced by the right people at the right time. A framework for selecting a knowledge management strategy that is appropriate to the organizational cultural. Knowledge strategy planning methodology, it emphasizes on improving organizational performance by identifying and leveraging knowledge directly related to business processes and performance. The debate that the requirement for knowledge management technology to manage knowledge attributes can be applied in designing effective knowledge management solutions, selecting knowledge management products, devising a proper knowledge management strategy, and controlling investments in knowledge management.



To find out that knowledge management strategies based on knowledge management source shows the principal benefit from knowledge management by implementing external-oriented or internal oriented strategy implies synergistic effects of Teegala Krishna Reddy Engineering College (UGC-Autonomous), Hyderabad - 97.

# Technology Management and its Impact on Indian Banks Performance

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**Abstract:** This essay provides a succinct description of the bank network and its function in IT. There are some benefits and drawbacks that need to be considered, as well as challenges faced by the banking sector and a few key positive and negative opinions based on a SWOT analysis. The government has also played a proactive role in this by developing policies and providing infrastructure. Newspapers, research papers, websites, journals, and other sources were used to gather the data. A thorough overview of the subject has been provided through the analysis and synthesis of the information.

The goal of this study is to give a thorough summary of the prior studies on how information technology (IT) has affected banking. According to the findings, IT has benefited banks in terms of productivity, profitability, and customer satisfaction. The research also shows that IT has hurt banking industry jobs. The influx of digital technologies is causing seismic shifts in the Indian banking industry. Traditional banks are currently having trouble keeping up with the new-age disruptors like mobile payments, peer-to-peer lending, etc. because they were previously reliant on human interaction and paperwork. In accordance with their demands and requirements, they can now effortlessly switch between banks. In order to achieve a competitive advantage, banks are also looking to collaborate with FinTech.

**Keywords:** Information Technology, Digital Banking, Fintech, SWOT analysis, Customer Satisfaction.

## I. INTRODUCTION

A strong banking sector is essential for the health and growth of any economy [1]. A healthy banking sector provides the credit and capital that businesses need to invest and expand, and it helps to create jobs and economic growth. A healthy banking sector also supports consumers by providing them with access to affordable credit and financial services. However, a healthy banking sector does not just happen by accident. It requires strong regulation and supervision to ensure that banks are operating safely and soundly. This in turn requires a commitment from all stakeholders – including banks, governments, and the wider public – to work together to create and maintain a healthy banking sector. The health and proper functioning of banks are a prerequisite for economic growth and prosperity [2]. To understand the impact of digitalization on banks and the broader financial sector, it is important to first understand what digitalization means in general, it can be described as the process of moving from manual systems to digital or automated ones. This is causing banks and financial institutions to change the way they operate and to make sure they are compliant with the new rules. To compete, they'll need to adopt innovative technologies & strategies that will allow them to streamline processes, provide personalized service, & adhere to ever-changing regulations. They must also focus on developing new customer experiences that are convenient, efficient, and secure. The banking sector provides the channels through which financial resources are channeled from savers to borrowers, thus promoting capital formation and economic growth. A strong banking sector is also important for maintaining financial stability. In times of economic crisis, banks are typically the first to feel the effects.

A strong banking sector helps to minimize the negative impacts of a financial crisis and promotes a quicker recovery. As we rely so much on technology, banks must also use technology to stay connected with their customers and provide them with the best services possible. The global banking sector is still adjusting to the post-financial crisis environment, which has seen several disruptions and changes. In this new era of banking, where technology dominates and customers demand faster, more convenient, and seamless services, it is critical for banks to not only keep up with the latest trends but also embrace innovative technologies - including those in the nascent field of artificial intelligence - to stay ahead of the curve and provide value-added services that differentiate them from their peers.

Information technology has played a pivotal role in this transformation, and its impact will continue to be felt in the years to come. Digitalization in the financial services sector has been a process that has been a long time in the making. It is this technology-enabled transformation of the financial sector as a whole that is colloquially referred to as "FinTech" (an abbreviated form of "financial technology). Digitalization has changed the business landscape in several ways. Perhaps most notably, it has given businesses the ability to make better decisions through the use of data. With the right tools and processes in place, businesses can collect and analyze data more efficiently, allowing them to make better decisions that improve their bottom line. It has also led to more efficient workflows. By automating tasks and streamlining processes, businesses can operate more efficiently and effectively. This reduced overhead costs and leads to increased productivity, both of which contribute to a healthier bottom line, digitalization has given businesses several advantages that help them be more successful. As the world continues to digitize, those that don't embrace this change will be at a severe disadvantage.

## II. RELATED RESEARCH WORK

The effects of information technology on banking and its contribution to economic growth is the subject of extensive research. The following is a list of various authors' contributions to this subject. A systematic literature search was conducted



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College Code: R9

### 3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

21-22								
Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal		
						Link to website of the Journal	Link to article/paper /abstract of the article	Is it listed in UGC Care list
Stilt Floor And Its Impact On Safety Of Building	Mohammed Muneerudd in Khan	Civil Engineering	International Research Journal Of Engineering And Technology	Oct-24	E-Issn: 2395-0056	<a href="#">IRJET- International Research Journal of Engineering and Technology</a>	<a href="#">IRJET- V8I10177.pdf</a>	Yes
Comparative Study On Seismic And Wind Forces On Rcc Structure	Mohammed Muneerudd in Khan & Chandra Gupta Nanna	Civil Engineering	International Research Journal Of Engineering And Technology	07   July 2022	E-Issn: 2395-0056 P-Issn: 2395-0072	<a href="#">IRJET- International Research Journal of Engineering and Technology</a>	<a href="#">IRJET- V9I711.pdf</a>	Yes
Experimental Studies On Strength Behaviour Of Natural Fibers Incorporated Geopolymer	P.Chaitanya	Civil Engineering	Vidya Bharati International Interdisciplinary Research Journal	Oct-24	ISSN: 2319-4979 PageNo 1860-1867	<a href="#">viirj - VidyaBharati International Interdisciplinary Research Journal</a>	Part 13.pdf ( <a href="#">viirj.org</a> )	Yes



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**College Code: R9**

Strength Characteristics Of Coconut Fibre Reinforced Concrete	Mr. S. Thiloka Nath Reddy Mrs. S. Nagalaxmi Mr. P.	Civil Engineering	International Research Journal Of Engineering And Technology	Aug-24	E-Issn: 2395-0056 P-Issn: 2395-0072	<a href="#">IRJET- International Research Journal of Engineering and Technology</a>	<a href="#">IRJET-V9I8109.pdf</a>	Yes
Experimental Study on Strength and Durability of Lightweight Aggregate Concrete (M40 Grade)	V.Ramu, Dr. P. Venkat Ram Reddy, G. Lavanya	Civil Engineering	International Journal Of Scientific Research And Development	Sep-24	ISSN: 2321-0613	<a href="#">IJSRD Call for Papers &amp; International Journal of Science</a>	<a href="#">Experimental Study on Strength and Durability</a>	Yes
Design and Development of Brushless DC Motor Drive for Electrical Vehicle Application	CHENCHIRE DDY K,K R SREEJYOTHI, KUMAR V	EEE	Transactions on Computer Systems and Networks	Jun-22	2730-7484	<a href="https://www.springer.com/">https://www.springer.com/</a>	<a href="#">DOI: 10.1007/978-981-19-2184-1_10</a>	YES
Three-Leg Voltage Source Converter-Based D-STATCOM for Power Quality Improvement in Electrical Vehicle	CHENCHIRE DDY K	EEE	Transactions on Computer Systems and Networks	Jun-22	2730-7484	<a href="https://www.springer.com/">https://www.springer.com/</a>	<a href="#">DOI: 10.1007/978-981-19-2184-1_12</a>	YES
Zero Voltage Switching (ZVS)-Based DC-DC Converter for Battery Input Application	CHENCHIRE DDY K,K R SREEJYOTHI, KUMAR V	EEE	Transactions on Computer Systems and Networks	Jun-22	2730-7484	<a href="https://www.springer.com/">https://www.springer.com/</a>	<a href="#">DOI: 10.1007/978-981-19-2184-1_11</a>	YES



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									College Code: R9
Twelve Pulse-Based Battery Charger with PV Power Integration	D SURESH	EEE	TCSN	Jun-22	2730-7492	<a href="https://www.springer.com/">https://www.springer.com/</a>	DOI: 10.1007/978-981-19-2184-1_9	YES	
Security (Password) Based Circuit Breaker Operation Including GSM Module	G.Dhasharatha	EEE	Juni Khyat	Jun-22	2278-4632	<a href="http://junikhyatjournal.in/">http://junikhyatjournal.in/</a>	<a href="http://junikhyatjournal.in/">http://junikhyatjournal.in/</a>	YES	
Power Quality Enhancement In 3-Phase 4-Wire Distribution System Using Custom Power Devices	K CHENCHIREDDY	EEE	ICACCS	Jun-22	2575-7289	<a href="https://icaccs.sece.ac.in/">https://icaccs.sece.ac.in/</a>	DOI: 10.1109/ICACCS54159.2022.9785339	YES	
Performance Verification of Full-Bridge DC To DC Converter Used for Electric Vehicle Charging Stations	K CHENCHIREDDY	EEE	ICACCS	Jun-22	2575-7288	<a href="https://icaccs.sece.ac.in/">https://icaccs.sece.ac.in/</a>	DOI: 10.1109/ICACCS54159.2022.9785288	YES	
Energy Management System Control in Speed and Torque Coupling Parallel Hybrid Electric Vehicle	K CHENCHIREDDY	EEE	ICACCS	Jun-22	2575-7288	<a href="https://icaccs.sece.ac.in/">https://icaccs.sece.ac.in/</a>	DOI: 10.1109/ICACCS54159.2022.9785105	YES	



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Level-Shifted PWM Techniques Applied to Flying Capacitor Multilevel Inverter	K CHENCHIRE DDY	EEE	ICACCS 2022	Jun-22	2575-7290	<a href="https://icaccs.sece.ac.in/">https://icaccs.sece.ac.in/</a>	DOI: 10.1109/ICEARS53579.2022.9752074	YES
Multi-Carrier PWM Techniques Applied to Cascaded H-Bridge Inverter	K CHENCHIRE DDY	EEE	ICEARS 2022	Jun-22	978-1-6654-8425-1	<a href="https://icaccs.sece.ac.in/">https://icaccs.sece.ac.in/</a>	DOI: 10.1109/ICEARS53579.2022.9752442	YES
A Review of Different Configurations and Control Techniques for DSTATCOM in the Distribution	K CHENCHIRE DDY	EEE	E3S Web of Conferences	Jun-21	2267-1242	<a href="https://icaccs.sece.ac.in/">https://icaccs.sece.ac.in/</a>	<a href="https://doi.org/10.1051/e3sconf/202130901119">https://doi.org/10.1051/e3sconf/202130901119</a>	YES
Electric foldable bicycle	Dr.N.R.s.Varma	EEE	IJAEMA	Jun-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	YES
Fire fighting Robot	Dr.N.R.s.Varma	EEE	JES	Jun-22	0337-9254	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	<a href="https://journal.esrgroups.org/">https://journal.esrgroups.org/</a>	YES



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Wireless Power Theft Monitoring System	Dr.B. Vidyasagar	EEE	JES	Jun-22	0337-9254	<a href="https://journal.esrgroups.org/ies">https://journal.esrgroups.org/ies</a>	<a href="https://journal.esrgroups.org/ies">https://journal.esrgroups.org/ies</a>	YES
Design and Simulation of Active Power Factor Controller using Boost Converter	Dr.B. Vidyasagar	EEE	JES	Jun-22	0337-9254	<a href="https://journal.esrgroups.org/ies">https://journal.esrgroups.org/ies</a>	<a href="https://journal.esrgroups.org/ies">https://journal.esrgroups.org/ies</a>	YES
Power Quality Enhancement for a Grid Connected wind Turbine Energy System	Madhubabu Thiruveedula	EEE	IJEIAT	Jun-22	0886-9367	<a href="https://www.ijeiat.com/">https://www.ijeiat.com/</a>	<a href="https://www.ijeiat.com/">https://www.ijeiat.com/</a>	YES
Smart Parking system using IOT	Madhubabu Thiruveedula	EEE	IJAEMA	Jun-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	YES
Harmonic reduction in cascaded H-bridge multilevel inverter using PS-PWM	A.Manjula	EEE	IJA&EMA	Jun-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	YES



  
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Reduction of Harmonic distortion and switching losses of inverter by sinusoidal pulse width modulation	A.Manjula	EEE	IJATES	Jun-22	2348-7550	<a href="http://www.ijates.com/">http://www.ijates.com/</a>	<a href="http://www.ijates.com/">http://www.ijates.com/</a>	YES
Advanced substation and monitoring and control system	K.Santhosh	EEE	JES	Jun-22	0377-9254	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	YES
Accident Identification and Altering System	K.Santhosh	EEE	IJAEMA	Jun-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	YES
Solar based Agriculture Robot	Nagasridhar Arise	EEE	IJEIAT	Jun-22	2582-1431	<a href="https://www.ijeiat.com/">https://www.ijeiat.com/</a>	<a href="https://www.ijeiat.com/">https://www.ijeiat.com/</a>	YES
Power Quality Improvement in Hybrid Power System using Artificial Intelligence	Nagasridhar Arise	EEE	INT-JECSE	Jun-22	1308-5581	<a href="https://www.int-jecse.net/">https://www.int-jecse.net/</a>	<a href="https://www.int-jecse.net/">https://www.int-jecse.net/</a>	YES



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Android Military spying and bomb disposal robot	B.Ramesh	EEE	IJRAR	Jun-22	2349-5138	<a href="https://ijrar.org">https://ijrar.org</a>	<a href="https://ijrar.org">https://ijrar.org</a>	YES
Monitoring and Controlling electric power station using GSM	B.Ramesh	EEE	IJRAR	Jun-22	2349-5138	<a href="https://ijrar.org">https://ijrar.org</a>	<a href="https://ijrar.org">https://ijrar.org</a>	YES
Investigation of performance vector control single-phase induction motor	K CHENCHIRE DDY	EEE	ICACCS	Jun-21	2575-7288	<a href="https://ieeexplore.ieee.org/document/9441773">https://ieeexplore.ieee.org/document/9441773</a>	<a href="https://ieeexplore.ieee.org/document/9441773">https://ieeexplore.ieee.org/document/9441773</a>	YES
A New Closed Loop High Step Up DC-DC Converter for Photo Voltaic Application	K CHENCHIRE DDY	EEE	ijjas	Jun-21	0974-9659	<a href="https://falling-walls.com/">https://falling-walls.com/</a>	<a href="https://falling-walls.com/">https://falling-walls.com/</a>	YES
Comparative investigation of single-phase Distributed Grid-connected with and without D-STATCOM	K CHENCHIRE DDY	EEE	E3S Web of Conferences	Jun-22	2267-1242	<a href="https://icaccc.sece.ac.in/">https://icaccc.sece.ac.in/</a>	<a href="https://icaccc.sece.ac.in/">https://icaccc.sece.ac.in/</a>	YES



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College Code: R9

A Survey On Different Energy Storage System In Conventional And Electrical Vehicles	K CHENCHIREDDY	EEE	ICAISCS	Jun-21	978-93-5627-216-3	<a href="https://icaisc.eu/">https://icaisc.eu/</a>	DOI: 10.1109/ICACCS51430.2021.9441773	YES
A Review of Different Configurations and Control Techniques for DSTATCOM in the Distribution	K R SREEJYOTHI	EEE	E3S Web of Conferences	Jun-21	2267-1242	<a href="https://icacccs.sece.ac.in/">https://icacccs.sece.ac.in/</a>	A Review of Different Configurations and Control	YES
Fast Energy Storage with Bi-Directional Converter Controlled Super Capacitor based UPQC	K R SREEJYOTHI	EEE	ijpdcs	Jun-21	0974 – 973X	<a href="https://mvit.edu.in/">https://mvit.edu.in/</a>	<a href="https://mvit.edu.in/">https://mvit.edu.in/</a>	YES
SRF Theory-Based PI Controller Applied to Micro Grid Interfaced with hybrid sources for Power Quality	K R SREEJYOTHI	EEE	ICACCS	Jun-22	2575-7288	<a href="https://icacccs.sece.ac.in/">https://icacccs.sece.ac.in/</a>	<a href="https://icacccs.sece.ac.in/">https://icacccs.sece.ac.in/</a>	YES
Design And Analysis of V2G and G2V Technology In Electric Vehicles	G.Dhasharatha	EEE	INT-JECSE	Jun-22	1308-5581	<a href="https://www.int-jecse.net/">https://www.int-jecse.net/</a>	<a href="https://www.int-jecse.net/">https://www.int-jecse.net/</a>	YES



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A Novel CCC for Grid connected DC Electric Vehicle Applications(1-6)	Rosaliah Mudigondla	EEE	IJAEMA	Jun-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	YES
Simulation of Four Quadrant operation & Control of Three Phase BLDC Motor for Electric Vehicles(6812-6817)	Rosaliah Mudigondla	EEE	INT-JECSE	Jun-22	1308-5581	<a href="https://www.int-jecse.net/">https://www.int-jecse.net/</a>	<a href="https://www.int-jecse.net/">https://www.int-jecse.net/</a>	YES
Underground Cable Fault Distance Identification with GSM & IOT	S Lavanya	EEE	JES	Jun-22	0377-9254	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	YES
Improving of Performance Characteristics of Induction Motor using Inverter Topologies	S Lavanya	EEE	JES	Jun-22	3779254	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	YES
Solar Fencing to Prevent Crop Damage From Animals	CH. Sai Deepak	EEE	JES	Jun-22	0377-9254	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	<a href="https://journal.esrgroups.org/jes">https://journal.esrgroups.org/jes</a>	YES



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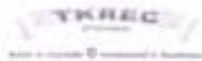


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A novel technique for enlightening Bit Error Rate in sensor networks by means of Orthogonal Space Time Block Code	Dr. K. Venkata Murali Mohan	ECE	International Journal of Mechanical Engineering	Jun-21	0974-5823	<a href="https://www.kalaharijournals.com/resources/21_JUNE_05.pdf">https://www.kalaharijournals.com/resources/21_JUNE_05.pdf</a>	<a href="https://www.kalaharijournals.com/resources/21_JUNE_05.pdf">https://www.kalaharijournals.com/resources/21_JUNE_05.pdf</a>	YES
An Intellectual Methodology for Secure Health Record Mining and Risk Forecasting Using Clustering	Dr.Shankar. R	ECE	Journal of Circuits, Systems, and Computers	Aug- 2021	0218-1266	<a href="https://www.worldscientific.com/doi/epdf/10.1142/S02181275021812812">https://www.worldscientific.com/doi/epdf/10.1142/S02181275021812812</a>	<a href="https://www.worldscientific.com/doi/epdf/10.1142/S02181275021812812">https://www.worldscientific.com/doi/epdf/10.1142/S02181275021812812</a>	Yes
Novel Multi-Time Scale Deep Learning Algorithm for Solar Irradiance Forecasting	Dr.Shankar. R	ECE	MDPI	Apr-2021	1996-1073	<a href="https://www.mdpi.com/1996-1073/14/9/2404">https://www.mdpi.com/1996-1073/14/9/2404</a>	<a href="https://www.mdpi.com/1996-1073/14/9/2404">https://www.mdpi.com/1996-1073/14/9/2404</a>	Yes
Performance enhancement of solar photovoltaic system for roof top garden	Dr.Shankar. R	ECE	ESPKI	May 2021	1614-7499	<a href="https://link.springer.com/article/10.1007/s11356-021-14191-z">https://link.springer.com/article/10.1007/s11356-021-14191-z</a>	<a href="https://link.springer.com/article/10.1007/s11356-021-14191-z">https://link.springer.com/article/10.1007/s11356-021-14191-z</a>	Yes
Energy and Economic Analysis of Curved, Straight, and Spiral Flow Flat-Plate Solar Water Collector	Dr.Shankar. R	ECE	Hindawi IJP	July 2021	1110-662x(16875-29 X)	<a href="https://www.hindawi.com/journals/ijp/2021/5547274/">https://www.hindawi.com/journals/ijp/2021/5547274/</a>	<a href="https://www.hindawi.com/journals/ijp/2021/5547274/">https://www.hindawi.com/journals/ijp/2021/5547274/</a>	Yes



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Elite Oppositional Farmland Fertility Optimization Based Node Localization Technique for Wireless Networks	Dr.P.Padma ja	ECE	Hindawi,WC MC	June 2022	1530-8677	<a href="https://www.hindawi.com/journals/wcmc/ai/">https://www.hindawi.com/journals/wcmc/ai/</a>	<a href="https://www.hindawi.com/journals/wcmc/2022/5290028/">https://www.hindawi.com/journals/wcmc/2022/5290028/</a>	Yes
Maximal-Minimum Hybrid Approach With Decomposed SIm Technique For 5g Ufmc System Paper Reduction	D. Ramadevi	ECE	Optik - International Journal for Light and Electron Optics	Sept-2022	0030-4026	<a href="https://www.sciencedirect.com/science/article/">https://www.sciencedirect.com/science/article/</a>	<a href="https://doi.org/10.1016/j.ijleo.2022.169955">https://doi.org/10.1016/j.ijleo.2022.169955</a>	Yes
Automatic Age and Gender Estimation using Deep Learning and Extreme Learning Machine	Dr.Shankar. R	ECE	Turkish Journal of Computer and Mathematics Education	Dec 2021	1309-4653	<a href="https://www.hindawi.com/journals/ijp/2021/5547274/">https://www.hindawi.com/journals/ijp/2021/5547274/</a>	<a href="https://www.hindawi.com/journals/ijp/2021/5547274/">https://www.hindawi.com/journals/ijp/2021/5547274/</a>	Yes
Green Communication in Wireless Power Consumption and Energy Efficient Trade-offs	Mr.G.Chenna Kesava Reddy	ECE	Revista Geintec-Gestao Inovacao E Tecnologia	July-2021	2237-0722	<a href="https://revistageintec.net">https://revistageintec.net</a>	<a href="https://revistageintec.net/old/wp-content/uploads/2017/07/12181699">https://revistageintec.net/old/wp-content/uploads/2017/07/12181699</a>	Yes
Industrial Safety Applications Using Wireless Access Panels	Mr.S.Nagi Reddy	ECE	Turkish Journal of Computer and Mathematics Education	Aug 2021	1573 - 1577	<a href="https://dergipark.org.tr/en/pub/tjpe">https://dergipark.org.tr/en/pub/tjpe</a>	<a href="http://dx.doi.org/10.17762/turcomat.v12i18.1699">http://dx.doi.org/10.17762/turcomat.v12i18.1699</a>	Yes



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Distribute the Message Over the Network Using Another Frequency and Timing Technique to	Dr.P.Padma ja	ECE	Journal of Nuclear Energy Science & Power Generation Technology	Sep- 2021	2325-9809	<a href="https://www.scitec-hnoi.com/indexing-nuclear-energy-science-power-generation-technology.php">https://www.scitec-hnoi.com/indexing-nuclear-energy-science-power-generation-technology.php</a>	<a href="https://www.scitec-hnoi.com/peer-review/distribute-tribute-">https://www.scitec-hnoi.com/peer-review/distribute-tribute-</a>	Yes
Distance-Based Data Summarizing Strategy For Fuel Consumption Using Ann	Dr. SK. Umar Faruk	ECE	Journal Of Opto electronics Laser	2021	1005-0086	<a href="https://gdzig.org.in/">https://gdzig.org.in/</a>	<a href="https://gdzig.org.in/">https://gdzig.org.in/</a>	Yes
Detection and Classification of Diabetes from a massive data with the implementation of real-time cloud-	Dr.P.Padma ja	ECE	Journal Of Optoelectronics Laser	2021	1005-0086	<a href="https://gdzig.org.in/">https://gdzig.org.in/</a>	<a href="https://gdzig.org.in/vol-41-iss-3.html">https://gdzig.org.in/vol-41-iss-3.html</a>	Yes
lot Based Energy Saving and Fire detection System Using Campus Cards	Dr.Shankar, R	ECE	International Journal of All Research Education and Scientific Methods	June -2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="https://drive.google.com/file/d/1_VP65xWdLSXXV_eQbehluc-">https://drive.google.com/file/d/1_VP65xWdLSXXV_eQbehluc-</a>	Yes
A Research On Detection And Classification Of Breast Cancer Using Machine Learning	M V V Satyanarayana Chowdary	ECE	The International Journal of analytical and experimental modal analysis	Oct2021	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1_VP65xWdLSXXV_eQbehluc-">https://drive.google.com/file/d/1_VP65xWdLSXXV_eQbehluc-</a>	Yes



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**College Code: R9**

Design And Analysis Of Iot-Based Intelligent Robot For Real-Time Monitoring And Control	M V V Setyanarayana Chowdary	ECE	The International journal of analytical and experimental modal analysis	Oct2021	0886-9367	<a href="https://ijaema.com">https://ijaema.com</a> L	<a href="https://drive.google.com/file/d/1VjxWYaFRh3SyYqYFtIQ-">https://drive.google.com/file/d/1VjxWYaFRh3SyYqYFtIQ-</a>	Yes
Design Of Hamming Encoder (23,16) For Emerging Applications	K Kumara Swamy	ECE	International Journal of All Research Education and Scientific Methods	June 2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="https://www.ijaresm.com/control-of-wheel-chair-by-">https://www.ijaresm.com/control-of-wheel-chair-by-</a>	Yes
Control Of Wheel Chair By Eye Movement Using Image Processing	Mr. K. Ramesh	ECE	International Journal of All Research Education and Scientific Methods	June 2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="http://Www.Ijaresm.Com/Control-Of-Wheel-Chair-By-">http://Www.Ijaresm.Com/Control-Of-Wheel-Chair-By-</a>	Yes
Smart Farming Using Iot	Ch Nishanthi	ECE	IJIRT	June 2021	2349-6002	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/Master/Publisher/ijirt151824_Paper">https://ijirt.org/Master/Publisher/ijirt151824_Paper</a>	Yes
IOT based smart Helmet and accident identification system	Dr G Sirisha	ECE	International Journal of analytical and experimental modal analysis	June 2022	0886-9367	<a href="https://ijaema.com">https://ijaema.com</a> L	<a href="https://drive.google.com/file/d/1uFTQ1x">https://drive.google.com/file/d/1uFTQ1x</a>	Yes



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College Code: R9

Brain Tumor detection by using CNL and VGG-16	B Padmini	ECE	International Research Journal of Modernization in Engineering Technology & IJAEM	June 2022	2582-5208	<a href="https://www.irjmts.com">https://www.irjmts.com</a>	<a href="https://www.irjmts.com/uploadedfiles/paper/issue_6_jun">https://www.irjmts.com/uploadedfiles/paper/issue_6_jun</a>	Yes
Automation system for Industries using secure NRF 24L communication system	B Padmini	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue_dcp/Automation%20system%20for">https://ijaem.net/issue_dcp/Automation%20system%20for</a>	Yes
Leaf disease detection and suggesting the required pesticide	B.Nireesha	ECE	IJAEM	June 2022	0886-9367	<a href="https://www.ijaem.net">https://www.ijaem.net</a>	<a href="http://ieeexplore.ieee.org/abstract/document/9825082">ieeexplore.ieee.org/abstract/document/9825082</a>	Yes
Electric Scooty	B Jamuna	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaema.com">https://ijaema.com</a>	<a href="https://ijaem.net/issue_dcp/Electric%20Scooty.pdf">https://ijaem.net/issue_dcp/Electric%20Scooty.pdf</a>	Yes
Colour histogram based image retrieval techniques for diabetic retinopathy & anemia detection	Sd.Reshma	ECE	IJAEM	June 2022	0886-9367	<a href="https://ijaema.com">https://ijaema.com</a>	<a href="https://www.google.com/search?q=Colour+histogram+based+image+retrieval+techniques+for+diabetic+retinopathy+and+anemia+detection">https://www.google.com/search?q=Colour+histogram+based+image+retrieval+techniques+for+diabetic+retinopathy+and+anemia+detection</a>	Yes



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College Code: R9

Movement Based And Voice Enabled Switching And Basic Needs For Physically Challenged	M.Aishwarya	ECE	UCRT	June 2022	2320-2882	<a href="https://ijert.org/?gad_source=1&amp;gclid=Cj0KCOiw2uivBhCXARIsACMvIU1RIPLlBihQ81Ur8R59eEAkbb8VnliMxAB42">https://ijert.org/?gad_source=1&amp;gclid=Cj0KCOiw2uivBhCXARIsACMvIU1RIPLlBihQ81Ur8R59eEAkbb8VnliMxAB42</a>	<a href="https://ijert.org/Papers/Ijert2207086.pdf">https://ijert.org/Papers/Ijert2207086.pdf</a>	Yes
Retinal Disease Screening Through Local Binary Patterns	M V V Satyanarayana Chowdary	ECE	Journal of Engineering Sciences	June 2022	0377-9254	<a href="https://iespublication.com/">https://iespublication.com/</a>	<a href="https://iespublication.com/upload/2022-V13I60194.pdf">https://iespublication.com/upload/2022-V13I60194.pdf</a>	Yes
Health Care System For Home Quarantine People	V.Lavanya	ECE	IJAEM	Jan 2022	2395-5252	<a href="https://iespublication.com/">https://iespublication.com/</a>	<a href="https://ijem.net/Issue_Dcp/Health%20care%20svst">https://ijem.net/Issue_Dcp/Health%20care%20svst</a>	Yes
Covid 19 Detection With Chest Ct Scan Images By Using Cnn	P.Satish Chandra	ECE	IJAEMA	June 2022	8869367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/=COVID+19">https://ijaema.com/=COVID+19</a>	Yes
Pre- Warning System For Weak Bridges And Houses Using Iot	K Kumara Swamy	ECE	IRJIMETS	June2022	2582-5208	<a href="https://www.irjimes.com/">https://www.irjimes.com/</a>	<a href="https://www.irjimes.com/Uploads/2022/06/13/20220613010101.pdf">https://www.irjimes.com/Uploads/2022/06/13/20220613010101.pdf</a>	Yes



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College Code: R9

Adiona - Smart Shoes For Blind	K. Bhargavi	ECE	IJAESM	June2022	2582-5208	<a href="https://www.irime.ts.com/">https://www.irime.ts.com/</a>	<a href="https://www.irimets.com/uploadedfiles/paper/issue6june">https://www.irimets.com/uploadedfiles/paper/issue6june</a>	Yes
Advanced Wheel Chair Control System	M Renu Babu	ECE	IRIMETS	June2022	2582-5208	<a href="https://www.irime.ts.com/">https://www.irime.ts.com/</a>	<a href="https://www.irimets.com/uploadedfiles/paper/issue6june">https://www.irimets.com/uploadedfiles/paper/issue6june</a>	Yes
Creating Artificial Environment For Indoor Farming Using Iot	M Renu Babu	ECE	IJAEM	June 2022	2395-5252	<a href="https://www.ijaem.net/">https://www.ijaem.net/</a>	Doi: <a href="https://doi.org/10.35629/5252-040621842188">10.35629/5252-040621842188</a>	Yes
Agribot	Ch Nishanthi	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net/">https://ijaem.net/</a>	Doi: <a href="https://doi.org/10.35629/5252-040626402643">10.35629/5252-040626402643</a>	Yes
Multienergy Resources Based Inverter Using Iot	Y.Pratyusha	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net/">https://ijaem.net/</a>	<a href="https://ijaem.net/counter.php?id=6063&amp;file=html">https://ijaem.net/counter.php?id=6063&amp;file=html</a>	Yes



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College Code: R9

360 Degree Radar For Defense Application	Dr. D. Vermana Chary	ECE	UCRT	June 2022	2320-2882	<a href="https://ijcrt.org/?gad_source=1&amp;gclid=Cj0KCCQiw2uiwBhCXARIsACMvIU3NgYVpFhT-1rszpe9vZXQo99tV">https://ijcrt.org/?gad_source=1&amp;gclid=Cj0KCCQiw2uiwBhCXARIsACMvIU3NgYVpFhT-1rszpe9vZXQo99tV</a>	<a href="https://ijcrt.Org/Track.Php?R_I_d=222_387">https://ijcrt.Org/Track.Php?R_I_d=222_387</a>	Yes
IoT Based Spy Control Robot For Military Purpose	Dr. G. Chenna Kesava Reddy	ECE	IJMTST	July 2022	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="http://Www.ijmtst.Com/Vol8Issue07.Html">http://Www.ijmtst.Com/Vol8Issue07.Html</a>	Yes
IoT Based Smart Security And Home Automation System	M.Hari Krishna	ECE	Journal of Information and Computational Science	- 2022	1548-7741	<a href="http://www.irjmetcs.com">www.irjmetcs.com</a>	<a href="https://www.google.com/url?sa=t&amp;source=web&amp;rc=t-i&amp;opi=8">https://www.google.com/url?sa=t&amp;source=web&amp;rc=t-i&amp;opi=8</a>	Yes
Multi Functional Blind Stick For Visually Disabled People	B.Rekha	ECE	IRJMETS	June 2022	2582-5208	<a href="https://www.irjmetcs.com/">https://www.irjmetcs.com/</a>	<a href="https://Www.Irjmetcs.Com/Pastvolume/issue.Php?Page=3&amp;P">https://Www.Irjmetcs.Com/Pastvolume/issue.Php?Page=3&amp;P</a>	Yes
IoT Based Smart Farming System	Dr. Sk. Umar Faruk	ECE	Journal of Information	2022	1548-7741	<a href="https://ijaema.com">https://ijaema.com</a>	<a href="https://Ijcs.Org/Vol-12-Issue-7-2022/">https://Ijcs.Org/Vol-12-Issue-7-2022/</a>	Yes



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**College Code: R9**

Automated Navigation System For Unmanned Surface Vehicle	G.Sirisha	ECE	The International journal of analytical and experimental modal analysis	July2022	0886-9367	<a href="https://www.ijaem.net/">https://www.ijaem.net/</a>	<a href="https://loics.Org/Vol-12-Issue-7-2022/">https://loics.Org/Vol-12-Issue-7-2022/</a>	Yes
Colour Histogram Based Image Retrieval Technique For Diabetic Retinopathy Detection	Sd.Reshma	ECE	IJAEMA	June2022	0886-9367	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="http://Www.Ijaema.Com/Volume-Xiv-Issue-VI-June/2022">http://Www.Ijaema.Com/Volume-Xiv-Issue-VI-June/2022</a>	Yes
Metal Detector Robot With Location Coordinates Through Message	Ch.Shekar	ECE	International Journal for Modern Trends in Science and Technology	July 2022.	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="http://Www.Ijmtst.Com/Volume8/Issue07/11.Ijmtst08070">http://Www.Ijmtst.Com/Volume8/Issue07/11.Ijmtst08070</a>	Yes
Controlling Various Parameters in Agriculture Sprayer Rope Way	K.Shivaprashanna	ECE	IJAEM	July 2022	2395-5252	<a href="https://ijcr.org/ugc%20approval.jpg">https://ijcr.org/ugc%20approval.jpg</a>	<a href="https://ijcr.org/papers/IJCR2207217.pdf">https://ijcr.org/papers/IJCR2207217.pdf</a>	Yes
Visual Aid For Blind People Using Raspberry Pi And Camera	Dr.P.Padmaja	ECE	IJCR	July 2022	2320-2882	<a href="https://ijcr.org/?gad_source=1&amp;gclid=Cj0KCQjw2uiw8hCXARIsACMvIU3NzYVpFhI-1zszoe9vZXQo99tV">https://ijcr.org/?gad_source=1&amp;gclid=Cj0KCQjw2uiw8hCXARIsACMvIU3NzYVpFhI-1zszoe9vZXQo99tV</a>	<a href="http://ijcr.Org/ViewFull.Php?Topic=Krishna%20Reddy%20Engineering%20College%20-%20Medbowli%20Meerpet%20Hyderabad%20-%2097">http://ijcr.Org/ViewFull.Php?Topic=Krishna%20Reddy%20Engineering%20College%20-%20Medbowli%20Meerpet%20Hyderabad%20-%2097</a>	Yes



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**College Code: R9**

Solar Powered Autonomous Multi Purpose Agricultural Robot Using Blue Tooth	M.Aishwarya	ECE	IJCRT	July 2022	2320-2882	<a href="https://ijcrt.org/?gad_source=1&amp;gclid=Cj0KCCQjw2uiw8hCXARIsACMvIU3NzYVpFhT-1zszne9yZXQo99tV">https://ijcrt.org/?gad_source=1&amp;gclid=Cj0KCCQjw2uiw8hCXARIsACMvIU3NzYVpFhT-1zszne9yZXQo99tV</a>	<a href="https://ijcrt.Org/Track.php?RID=222.477">https://ijcrt.Org/Track.php?RID=222.477</a>	Yes
Face Recognition Based Smart Attendance System	Dr.C.Anna Palagan	ECE	IJAEM	July 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://www.ijaem.Net/Current-Issue.php?Issueid=43">https://www.ijaem.Net/Current-Issue.php?Issueid=43</a>	Yes
Rfid Based Embedded System For Vehicle Tracking And Road Accidents Using Arduino	Dr. S. Nagireddy	ECE	IRJMETS	July 2022	2582-5208	<a href="http://www.ijaem.net">www.ijaem.net</a>	<a href="https://ijaem.net/issue_dcp/10T%20Base%20Smart%20Aeric">https://ijaem.net/issue_dcp/10T%20Base%20Smart%20Aeric</a>	Yes
IoT Based Smart Agriculture Monitoring System	D.Ramadevi	ECE	IJAEM	May 2022	2794-2796	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://www.ijaem.net/past-issue-volume.php?issueid=">https://www.ijaem.net/past-issue-volume.php?issueid=</a>	Yes
PSG New Radio Evaluation against IMT 2020 Key Performance Indicators	Ch.Nishanth	ECE	IJAEM	May 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://www.ijaem.net/past-issue">https://www.ijaem.net/past-issue</a>	Yes



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# TEEGALA KRISHNA REDDY ENGINEERING COLLEGE (UGC-Autonomous)

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College Code: R9

IoT Based Smart Device For Women Safety	Mr. A.Indra Kumar	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue_Dcp/Iot%20based%20smart%20dev">https://ijaem.net/issue_Dcp/Iot%20based%20smart%20dev</a>	Yes
Development Of Robo Child Rescue System From Borewell	B.Praveen	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue_Dcp/Development%20of%20robo">https://ijaem.net/issue_Dcp/Development%20of%20robo</a>	Yes
Robotic Arm Control With Arduino	V.Saritha	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/content.php?id=5769&amp;file=http://ijaem.net">https://ijaem.net/content.php?id=5769&amp;file=http://ijaem.net</a>	Yes
Smart Traffic Light Controller Using Verilog	Mrs. K. Bhulakshmi	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue_Dcp/Smart%20Traffic%20Light%20">https://ijaem.net/issue_Dcp/Smart%20Traffic%20Light%20</a>	Yes
Automated Electronic Covid Protection System	Mrs. S. Prathyusha	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue_dcp/Wireless%20">https://ijaem.net/issue_dcp/Wireless%20</a>	Yes



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College Code: R9

Wireless Sensor Based Automatic Vehicle Accident Detection System	M.V.V.Satya Naryana Chowdary	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.Net/Issue_Dcp/Wireless%20sensor%20based">https://ijaem.Net/Issue_Dcp/Wireless%20sensor%20based</a>	Yes
lot Based Air And Water Pollution Monitoring Using Raspberry Pi	Dr. SK. Umar Faruk	ECE	IJCRT	June 2022	2320-2882	<a href="https://www.google.com/search?q=Garbage+Management+System+Using+IoT+IRJIMETS&amp;source=sv=a91dd87b2f06a">https://www.google.com/search?q=Garbage+Management+System+Using+IoT+IRJIMETS&amp;source=sv=a91dd87b2f06a</a>	<a href="https://www.irjmet.com/uploadedfiles/paper/issue_7_july">https://www.irjmet.com/uploadedfiles/paper/issue_7_july</a>	Yes
Garbage Management System Using Iot	S. Prathyusha	ECE	IRJIMETS	July 2022	2582-5208	<a href="https://ijcrt.org/papers/IJCRT2207020.pdf">https://ijcrt.org/papers/IJCRT2207020.pdf</a>	<a href="https://ijcrt.org/papers/IJCRT2207020.pdf">https://ijcrt.org/papers/IJCRT2207020.pdf</a>	Yes
Reservation Based Vehicle Parking System Using Gsm Andrfid Technology	V. Amulya	ECE	IJCRT	July 2022	2320-2882	<a href="https://ijcrt.org/?gad_source=1&amp;gclid=Cj0KCOjw7uiwBhCXARisACMvIU3NzYVpFhT-1zszoe9vZXOo99tV">https://ijcrt.org/?gad_source=1&amp;gclid=Cj0KCOjw7uiwBhCXARisACMvIU3NzYVpFhT-1zszoe9vZXOo99tV</a>	<a href="https://ijcrt.Org/Papers/Ijcrt2207020.Pdf">https://ijcrt.Org/Papers/Ijcrt2207020.Pdf</a>	Yes
lot Based Mecanum Wheels Robot	Mr.K.Ramesh	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.Net/Issue_Dcp/Iot%20based%20mecanum">https://ijaem.Net/Issue_Dcp/Iot%20based%20mecanum</a>	Yes



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# TEEGALA KRISHNA REDDY ENGINEERING COLLEGE (UGC-Autonomous)

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College Code: R9

Controlling Of Unmanned Surface Vehicle In Free Water	P. Sharmila Rani	ECE	IJSREM	June 2022	2582-3930	<a href="https://www.ijaresm.com/?gad_source=1&amp;gclid=Cj0KCOjw2uiwBhCXARIsACMviU3BwimiT2BvNRDDzhONGdhRvQV">https://www.ijaresm.com/?gad_source=1&amp;gclid=Cj0KCOjw2uiwBhCXARIsACMviU3BwimiT2BvNRDDzhONGdhRvQV</a>	<a href="https://ijsrem.com/download/controlling-of-unmanned">https://ijsrem.com/download/controlling-of-unmanned</a>	Yes
Voice Based Speed And Direction Control Of Dcmotor	K.Kumara Swamy	ECE	Journal of Engineering Sciences	July 2022,	0377-9254	<a href="https://iespublication.com/">https://iespublication.com/</a>	<a href="https://iespublication.com/Upload/2022-V13i779.P">https://iespublication.com/Upload/2022-V13i779.P</a>	Yes
Time Based Power Distribution In Urban And Rural Areas In Power Shortage Conditions	Dr. G. Chenna	ECE	Journal of Engineering Sciences	June 2022,	0377-9254	<a href="https://iespublication.com/">https://iespublication.com/</a>	<a href="https://iespublication.com/Upload/2022-V13i60202">https://iespublication.com/Upload/2022-V13i60202</a>	Yes
Temperature And Mask Scan Entry System With Sanitization For Covid Prevention	K.Shiva Prasanna	ECE	IJAEM	June 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue-dcp/Temperature%20and%20mask%20">https://ijaem.net/issue-dcp/Temperature%20and%20mask%20</a>	Yes
Computer-Aided Diagnosis Of Chronic Kidney Disease In Developing Countries With Machine Learning	Mr. Praveen	ECE	IJAEM	July 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/issue-dcp/Computer%20Aided%20Diagnosis">https://ijaem.net/issue-dcp/Computer%20Aided%20Diagnosis</a>	Yes



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College Code: R9

Fingerprint Based Electronic Voting Machine Using Arduino	Y.Prathyusha	ECE	Journal of Engineering Sciences	July2022	0377-9254	<a href="https://jespublication.Com/Upload/2022-V13i7090.Pdf">https://jespublication.Com/Upload/2022-V13i7090.Pdf</a>	<a href="https://jespublication.Com/Upload/2022-V13i7090">https://jespublication.Com/Upload/2022-V13i7090</a>	Yes
Child Rescue System From Open Bore-Well	Mrs. V.Saritha	ECE	Journal of Engineering Sciences	June2022	0377-9254	<a href="https://www.irjmet.com/">https://www.irjmet.com/</a>	<a href="https://www.irjmet.com/uploadedfiles/paper/issue_6_june">https://www.irjmet.com/uploadedfiles/paper/issue_6_june</a>	Yes
Analysis of Channel Adaptive Error Control Scheme	Dr. Sk. Umar Faruk	ECE	Journal of Interdisciplinary Cycle Research	2021-2022	0022-1945	<a href="https://ijcrjournal.com/">https://ijcrjournal.com/</a>	<a href="https://ijcrjournal.com/">https://ijcrjournal.com/</a>	Yes
A Novel Block Merging Algorithm for Image Denoising	Mr.M. Hari Krishna	ECE	International Journal for Modern Trends in Science and Technology	2021-2022	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	Yes
Review of Medical Image Compression Using Adversarial Networks	Dr. Sk. Umar Faruk	ECE	International Journal of Control and Automation	2021-2022	2005-4297	<a href="http://sersc.org/journals/index.php/IJCA/index">http://sersc.org/journals/index.php/IJCA/index</a>	<a href="http://sersc.org/journals/index.php/IJCA/index">http://sersc.org/journals/index.php/IJCA/index</a>	Yes



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								College Code: R9	
Accident Prevention, Detection And Reporting For Two-Wheeler Safety System	N. Aravind	ECE	IRJETS	June2022	2582-5208	<a href="http://www.ijraset.com">www.ijraset.com</a>	<a href="https://doi.org/10.22214/ijraset.2022.45208">https://doi.org/10.22214/ijraset.2022.45208</a>	Yes	
Hardware Realization Of Low Powerand Area Efficient Vedic Mac In DSP Filters	Ms. D. Ramadevi	ECE	IJRASET	July 2022	2321-9653	<a href="https://ijirt.org/">https://ijirt.org/</a>	<a href="https://ijirt.org/Article?manuscript=155848">https://ijirt.org/Article?manuscript=155848</a>	Yes	
Biometric Security Locker For Shared Access Using Raspberry Pi	B. Jamuna	ECE	IJIRT	June 2022	2349-6002	<a href="https://ijirt.org/?ga_d_source=1&amp;gclid=Cj0KQiw2uiwBhC XARIsACMvIU3W84Ju2iSuYDH5KeDY8dIM4EFbuVe6YZY9">https://ijirt.org/?ga_d_source=1&amp;gclid=Cj0KQiw2uiwBhC XARIsACMvIU3W84Ju2iSuYDH5KeDY8dIM4EFbuVe6YZY9</a>	<a href="https://ijirt.org/Master/Publichedpaper/Ijirt155848.Paper.P">https://ijirt.org/Master/Publichedpaper/Ijirt155848.Paper.P</a>	Yes	
Women Security Assistance System Using Gsm And Geo-Position Messaging System	Mr.M. Hari Krishna	ECE	IJAEM	July 2022	2395-5252	<a href="https://ijaem.net">https://ijaem.net</a>	<a href="https://ijaem.net/Issue_Dcp/Women%20security%20assist">https://ijaem.net/Issue_Dcp/Women%20security%20assist</a>	Yes	
Design and Optimization of CNN for Lane Detection	Dr.KMV.Madankumar	CSE	Journal Of Opto Electronics Laser	2022	1005-0086	<a href="https://www.gdzig.org.in/">https://www.gdzig.org.in/</a>	<a href="https://gdzig.org.in/vol-41-iss-7.html">https://gdzig.org.in/vol-41-iss-7.html</a>	Yes	



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College Code: R9

IOT Based Home Security and Automation Using Google Assistant	Dr.KMV.Madan Kumar	CSE	Turkish Journal of Computer and Mathematics Education	2021	1309-4653	<a href="https://turcomat.org/index.php/turkbilmat">https://turcomat.org/index.php/turkbilmat</a>	<a href="https://turcomat.org/index.php/turkbilmat/article/view/1275">https://turcomat.org/index.php/turkbilmat/article/view/1275</a>	Yes
Weapon Detection Using Deep Learning	Dr.CH.V.Phani Krishna	CSE	Journal Of Opto Electronics Laser	2022	1005-0086	<a href="https://www.gdzjg.org.in/">https://www.gdzjg.org.in/</a>	DOI:10050086.2022.07.67	Yes
Artificial Intelligence Methods to understand and improve Employee Experience	Dr. CH.V.Phani Krishna	CSE	Journal of Positive School Psychology	2022	2717-7564	<a href="http://journalppw.com">http://journalppw.com</a>	<a href="http://journalppw.com">http://journalppw.com</a>	Yes
Multi-Task Discovery Method Based on Concept Network for Data Mining	Dr.CH.V.Phani Krishna	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
Deepfake Detection Using Lstm And Resnext	Dr.Ch.V.Phani Krishna	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes



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**College Code: R9**

Implimentation Of Weighted Round Robin Load Balancing Algorithm For Grpc	Dr.Ch.V.Phani Krishna	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes
Deduplication in Cloud with Secure Access Control	Dr.Ch.V.Phani Krishna	CSE	UE	2022	2349-9249	<a href="https://www.ije.ir/">https://www.ije.ir/</a>	<a href="https://www.ije.ir/">https://www.ije.ir/</a>	Yes
Secure internet of battlefield from malicious software using deep eigenspace learning	Dr.K Bhargavi	CSE	AIP Conference Proceedings	2022	978-0-7354-4178	<a href="https://pubs.aip.org/aip/acp">https://pubs.aip.org/aip/acp</a>	<a href="https://doi.org/10.1063/5.0072732">https://doi.org/10.1063/5.0072732</a>	Yes
Counterfeit Currency Detection Using Deep Convolutional Neural Network	Dr.K.Bhargavi	CSE	JES	2022	0377-9254	<a href="http://www.iespublication.com">www.iespublication.com</a>	<a href="http://www.iespublication.com">www.iespublication.com</a>	Yes
Authentication Of Product & Counterfeits Elimination Using Block Chain	Dr.K.Bhargavi	CSE	JES	2022	0377-9254	<a href="http://www.iespublication.com">www.iespublication.com</a>	<a href="http://www.iespublication.com">www.iespublication.com</a>	Yes



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College Code: R9

A Strategy for Near-Deduplication Web Documents Considering Both Domain & Size of the Document	Dr.K.Bhargava	CSE	JICS	2022	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://joics.org/VOI-12-ISSUE-7-2022/">https://joics.org/VOI-12-ISSUE-7-2022/</a>	Yes
Cyber Threat Detection Based On Artificial Neural Networks Using Event Profiles	Dr.K.Bhargava	CSE	JES	2022	0377-9255	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
A Study In To The Web Mining Applications Today-Risks And Modern Trends	Dr.K.Bhargava	CSE	DICKENSIAN JOURNAL	2022	0012-2440	<a href="https://www.scimagojr.com/journalsearch.php?q=6700153208&amp;tip=sid">https://www.scimagojr.com/journalsearch.php?q=6700153208&amp;tip=sid</a>	<a href="https://www.scimagojr.com/journalsearch.php?q=67001532">https://www.scimagojr.com/journalsearch.php?q=67001532</a>	Yes
Performance Analysis of Diabetes Mellitus Using Machine Learning Techniques	Dr.K.Bhargava	CSE	Turkish Journal of Computer and Mathematics Education	2021	225-230	<a href="https://turcomat.org/index.php/turkbilmat">https://turcomat.org/index.php/turkbilmat</a>	<a href="https://turcomat.org/index.php/turkbilmat">https://turcomat.org/index.php/turkbilmat</a>	Yes
Detection of cyber attacks using machine learning"	Dr.N Vadivelan	CSE	AIP Conference Proceedings	2022	978-0-7354-4178	<a href="https://pubs.aip.org/aip/asp">https://pubs.aip.org/aip/asp</a>	<a href="https://doi.org/10.1063/5.0072724">https://doi.org/10.1063/5.0072724</a>	Yes



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College Code: R9

A border surveillance system to sense terrorist outbreaks	Dr.N.Vadivelan	CSE	ELSEVIER	2021	0045-7906	<a href="http://www.elsevier.com/locate/compecon">www.elsevier.com/locate/compecon</a>	<a href="https://link.springer.com/article/10.1007/s00500-022-0022-0">https://link.springer.com/article/10.1007/s00500-022-0022-0</a>	Yes
A proficient technique for recognizing the online digital signature in project registration	Dr.N.Vadivelan	CSE	Springer	2022	0045-7906	<a href="https://link.springer.com">https://link.springer.com</a>	<a href="https://doi.org/10.1007/s00500-022-07071-2">https://doi.org/10.1007/s00500-022-07071-2</a>	Yes
Energy Efficient Node Cooperation In Underwater Data Collection Network	Dr.N.Vadivelan	CSE	IJR	2022	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>		Yes
"A Novel CNN-Based Classification and Prediction of COVID-19 Disease Using Deep Learning"	Dr.Saranga m Kodati	CSE	Springer	2022	978-981-16-7389-4_55.	<a href="https://link.springer.com">https://link.springer.com</a>	<a href="https://link.springer.com/chapter/10.1007/978-981-16-7389-4_55">https://link.springer.com/chapter/10.1007/978-981-16-7389-4_55</a>	Yes
Efficient Road Side Framework Placement using VANET	M. Nalini	CSE	Bioscience Biotechnology Research Communicatio	2021-2022	2321-4007	<a href="https://bbrc.in/">https://bbrc.in/</a>	<a href="https://bbrc.in/">https://bbrc.in/</a>	Yes



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**College Code: R9**

A Cost-Effective System for Controlling of Devices	N. Vadivelan	CSE	Test Engineering and Management	2021-2022	0193-4120	<a href="https://miar.ub.edu/issn/0193-4120">https://miar.ub.edu/issn/0193-4120</a>	<a href="https://miar.ub.edu/issn/0193-4120">https://miar.ub.edu/issn/0193-4120</a>	Yes
Data Dimensionally Reduction Techniques	Dr.K.Bhargavi	CSE	International Journal of Engineering Technology and Management	2021-2022	2581-4621	<a href="https://ijetms.in/">https://ijetms.in/</a>	<a href="https://ijetms.in/">https://ijetms.in/</a>	Yes
Case Study of Significance of Cyber Security in Data Mining	Priyanka Thudimalla	CSE	The International Journal of analytical and experimental modal analysis	2021-2022	0886-9637	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	Yes
" Securing SDN Enabled IoT Scenario Infrastructure of Fog Networks From Attacks ",	Dr.Saranga m Kodati	CSE	IEEE	2022	2473-2001	<a href="https://ieeexplore.ieee.org/">https://ieeexplore.ieee.org/</a>	<a href="https://ieeexplore.ieee.org/document/9742727">https://ieeexplore.ieee.org/document/9742727</a>	Yes
Analysis of flight delays with error calculation using machine learning	Dr.Saranga m Kodati	CSE	IJTE	2022	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes



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								College Code: R9
Fire detection using deep learning algorithms and image processing	Dr.Saranga m Kodati	CSE	JICS	2022	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://joics.org/">https://joics.org/</a>	Yes
Social distancing detection with deep learning model	Dr.Saranga m Kodati	CSE	IJMTST	2022	2455-3778	<a href="http://www.ijmtst.com">www.ijmtst.com</a>	<a href="https://doi.org/10.46501/IJMTST.10806081">https://doi.org/10.46501/IJMTST.10806081</a>	Yes
Analysis Of Buildings Damage Caused By Earthquakes Using Machine Learning	Dr.K.saranga m Kodati	CSE	IJTE	2022	2057-5688	<a href="http://ijte.uk/">http://ijte.uk/</a>	<a href="http://ijte.uk/">http://ijte.uk/</a>	Yes
IoT Based Smart Grid on Smart Cities	Dr.Saranga m Kodati	CSE	LINO Journal	2022	0211-2574	<a href="https://www.scimagojr.com/journalsearch.php?q=21100205995&amp;tip=sid">https://www.scimagojr.com/journalsearch.php?q=21100205995&amp;tip=sid</a>	<a href="https://www.scimagojr.com/journalsearch.php?q=21100205995&amp;tip=sid">https://www.scimagojr.com/journalsearch.php?q=21100205995&amp;tip=sid</a>	Yes
"Efficiency Optimization of Security and Safety in Cooperative ITS Communication for QoS Service"	Dr.Rajaram Jatothu	CSE	Springer	2022	978-981-19-0011-2	<a href="https://link.springer.com">https://link.springer.com</a>	<a href="https://doi.org/10.1007/978-981-19-0011-2">https://doi.org/10.1007/978-981-19-0011-2</a>	Yes



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College Code: R9

Hybrid Cryptography Approach for Providing Advanced Security on Cloud	Dr.Rajaram Jatothu	CSE	IJMTST	2022	2455-3778	<a href="http://www.ijmtst.com">www.ijmtst.com</a>	<a href="https://doi.org/10.46501/10.46501/IJMTST0807002">https://doi.org/10.46501/10.46501/IJMTST0807002</a>	Yes
Effect of Security Protocols on the Presentation of SNMP	Dr.Rajaram Jatothu	CSE	JICR	2022	0022-1945	<a href="https://iicrjournal.com/">https://iicrjournal.com/</a>	<a href="https://iicrjournal.com/">https://iicrjournal.com/</a>	Yes
Extraction Of Pdu Using Snmp In Network Grid	Dr.Rajaram Jatothu	CSE	JICS	2022	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://joics.org/">https://joics.org/</a>	Yes
An Enhanced Multi-Modal Biometric Authentication	Dr. Anto.A. Micheal	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Automatic Age and Gender Estimation using Deep Learning and Extreme Learning Machine	Dr. Anto.A. Micheal	CSE	TJCM	2021		<a href="https://turcomat.org/">https://turcomat.org/</a>	<a href="https://turcomat.org/index.php/turkbilm/article/view/2021">https://turcomat.org/index.php/turkbilm/article/view/2021</a>	Yes



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College Code: R9

Home Automation And Security System With Nodemcu Using IOT	Dr. Anto.A. Micheal	CSE	IJMETS	2022	2582-5208	<a href="http://www.irjmets.com">www.irjmets.com</a>	<a href="http://www.irjmets.com">www.irjmets.com</a>	Yes
Intelligent Video Surveillance System Using Edge Computing	Dr. Anto.A. Micheal	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes
A Software Defined Network Based Security Assessment Framework For Cloud IOT	Dr.M.Dasharatham	CSE	JICS	2022	1548-7741	<a href="https://jocs.org/">https://jocs.org/</a>	<a href="https://jocs.org/">https://jocs.org/</a>	Yes
Predicting Drug Risk Level From Adverse Drug Reaction Using Machine Learning	Dr.M.Dasharatham	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes
Real Time Phishing Attack Detection using Machine Learning	Dr.M.Dasharatham	CSE	IJMTST	2022	2455-3778	<a href="http://www.ijmtst.com">www.ijmtst.com</a>	<a href="https://doi.org/10.46501/IJMTST080700">https://doi.org/10.46501/IJMTST080700</a>	Yes



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College Code: R9

Secure Phrase Search For Intelligent Processing Of Encrypted Data In Cloud-Based IoT	J.Rachana	CSE	JICS	2022	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://joics.org/">https://joics.org/</a>	Yes
Depression Detection From Social Media Data Using Cnn And Linguistic Metadata Features	J.Rachana	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Web Mining To Detect Online Spread of Terrorism	J.Rachana	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Secure Cloud Storage With Data Dynamics Using Secure Network Coding Techniques	G.Rani	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Key Management Scheme For Secure Channel Establishment In Fog Computing	G.Rani	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes



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Segmentation Technique for Images Using K-Means Clustering	S.Sanjeeva Rao	CSE	IJMTST	2022	2455-3778	<a href="http://www.ijmtst.com">www.ijmtst.com</a>	<a href="https://doi.org/10.46501/IJMTST080607">https://doi.org/10.46501/IJMTST080607</a> Z	Yes
Customer Segmentation Using K-means Algorithm in Machine Learning	S.Sanjeeva Rao	CSE	JICS	2022	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://joics.org/">https://joics.org/</a>	Yes
Bone Fracture Detection and Classification Using Deep Learning	S.Sanjeeva Rao	CSE	TJAEMA	2022	0886-9367			Yes
Unauthorized Access Point Detection Using Machine Learning Algorithms For Information	B.Triveni	CSE	IRJMETS	2022	2582-5208	<a href="http://www.irjmets.com">www.irjmets.com</a>	<a href="http://www.irjmets.com">www.irjmets.com</a>	Yes
Geographical Air Pollution Prediction	A.Roja Ramani	CSE	JES	2022	0377-9254	<a href="http://www.iespublication.com">www.iespublication.com</a>	<a href="http://www.iespublication.com">www.iespublication.com</a>	Yes



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**College Code: R9**

Prevention Of Data Hacking With Blockchain	A.Rojaramani	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
Malaria Detection Using Deep Learning	A.Rojaramani	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Prediction Of User Behaviour In Social Hotspots Using Multi_X0002_Messaging Interaction And	B.Narasingham	CSE	TJER	2022	2349-9250	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Computer Automation Using MediaPipe and Gesture Recognition	B.Narasingham	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Crop Guidance Using Machine Learning	B.Narasingham	CSE	TJER	2022	2349-9250	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes



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College Code: R9

Advanced Data Security Using Hybridcryptography And Steganography	K.Srilatha	CSE	URAR	2022	E-ISSN 2348-1269, P-ISSN 2349-5138	<a href="http://www.ijrar.org">www.ijrar.org</a>	<a href="http://www.ijrar.org">www.ijrar.org</a>	Yes
Diabetic Retinopathy Detection From Retinal Images	K.Srilatha	CSE	JICS	2022	1548-7741	<a href="https://ioics.org/">https://ioics.org/</a>	<a href="https://ioics.org/">https://ioics.org/</a>	Yes
Railway Tweet Analysis Using Machine Learning	M. Chinababu	CSE	IRJET	2022	E-ISSN-2395-0056 P-ISSN-2395-0072	<a href="http://www.irjet.net">www.irjet.net</a>	<a href="http://www.irjet.net">www.irjet.net</a>	Yes
Paralysis Patient Health Care Monitoring System Using IOT	M. Chinababu	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes
Implementing Intelligent Traffic Control System for Congestion Control, Ambulance Clearance and	M. Chinababu	CSE	TIJER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes



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College Code: R9

Finger Print Based Atm Authentication & Money Management System	M. Chinababu	CSE	TJAEMA	2022	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	Yes
Framework for task scheduling in cloud using machine learning techniques	A.Laxman	CSE	TJAEMA	2022	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	Yes
Question Answering System Using Natural Language Processing	A.Laxman	CSE	JICR	2022	0022-1945	<a href="https://icrjournal.com/">https://icrjournal.com/</a>	<a href="https://icrjournal.com/">https://icrjournal.com/</a>	Yes
Automatic Vacant Parking Management Using Multicamera Vehicle Detection	K.Renuka	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
Theft Detection System	Yadagiri .A	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes



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College Code: R9

Detection And Monitoring Multiple Shilling Attack In Online Management Systems Predicated	K.Koteshwara chari	CSE	IJSREM	2022	2582-3930	<a href="http://www.ijsrem.com">www.ijsrem.com</a>	<a href="http://www.ijsrem.com">www.ijsrem.com</a>	Yes
Educational Erp (Complete Education Institution Erp)	Y.Shiva sree	CSE	JES	2022	0377-9254	<a href="http://www.iespublication.com">www.iespublication.com</a>	<a href="http://www.iespublication.com">www.iespublication.com</a>	Yes
Multi Model Recommend System	T. Rakesh Kumar	CSE	TJER	2022	2349-9250	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
A Comprehensive Study Of Machine Learning Algorithms for predicting Car Purchase Based on Customers Demands	P V Rama Gopala Rao	CSE	ZKG International	2022	2366-1313	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	<a href="http://www.zkginternational.com">www.zkginternational.com</a>	Yes
Machine Learning approach to study the impact of obesity on autonomic nervous system using heart	P V Rama Gopala Rao	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes



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College Code: R9

Soil Properties Prediction Using Machine Learning Techniques	Gogu Swathi	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Decentralized Web Hosting Using Blockchain	Gogu Swathi	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Training And Placement Cell Android Application	Sangeetha Jawar	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Driver Distraction Detection Using CNN	Sangeetha Jawar	CSE	IJRASET	2022	2321-9653	<a href="http://www.ijraset.com">www.ijraset.com</a>	<a href="http://www.ijraset.com">www.ijraset.com</a>	Yes
STATELESS RESTFUL SERVER	M.srimathi	CSE	IJR	2022	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	Yes



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College Code: R9

Predictive Analytics For Crude Oil Price Using Rnn-Lstm Neural Network	CH.Sukanya	CSE	TJER	2022	2349-949	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Brain Tumor Classification And Detection Using Mri Scan Images	A.Sireesha	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
The Detection Of Video Manipulation Of Faces Using A Network Of Convolutional Neural Networks	V. Venkata Ramanjaneyulu	CSE	USREM	2022	2582-3930	<a href="http://www.ijirem.com">www.ijirem.com</a>	<a href="https://doi.org/10.55041/IJSRE.M15277">Doi:10.55041/IJSRE.M15277</a>	Yes
Vehicle Movement Based Automatic Street Light Using IOT	V. Venkata Ramanjaneyulu	CSE	UR	2022	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	Yes
Traffic Sign Board Recognition And Voice Alert System	K.Prathyusha	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes



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College Code: R9

Secure And Dynamic Multi Keyword Ranked Search Scheme Over Encrypted Cloud Data For Improving Pedestrian Detection Prevent Vehicle Accidents	K.Prathyusha	CSE	JICR, June 2022	2022	0022-1945	<a href="https://jicrjournal.com/">https://jicrjournal.com/</a>	<a href="https://jicrjournal.com/">https://jicrjournal.com/</a>	Yes
Application Of Deep Learning In Waste Management	N.Anjamma	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
Smart Street-An (Ai) Artificial Intelligence Powered Street Garbage Detection And Alert System	N.Anjamma	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
GPS & GSM based Women Safety & Alerting System	V.Rajesh	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes
	D.Sravani	CSE	TJER	2022	2349-9249	<a href="http://www.tjer.org">www.tjer.org</a>	<a href="http://www.tjer.org">www.tjer.org</a>	Yes



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College Code: R9

Image Classification Of Abnormal Red Blood Cells Using Deep Learning	K.Devadas	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
IOT Based Coal Mine Safety Monitoring And Alerting System	A.Swetha	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes
Sign Language To Speech Translation Using Machine Learning	A.Swetha	CSE	JES	2022	0377-9254	<a href="http://www.jespublication.com">www.jespublication.com</a>	<a href="http://www.jespublication.com">www.jespublication.com</a>	Yes
Deep Learning Network For Low-Light Image Enhancement	P.Swetha	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes
Sliding Window Blockchain Architecture For IOT	T.Layaraja	CSE	TUER	2022	2349-9249	<a href="http://www.tijer.org">www.tijer.org</a>	<a href="http://www.tijer.org">www.tijer.org</a>	Yes



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College Code: R9

Blood cell classification using deep learning CNN model	NVN Sowjanya	CSE	JCR	2022	2394-5125	<a href="https://www.icreview.com/">https://www.icreview.com/</a>	<a href="https://www.icreview.com/">https://www.icreview.com/</a>	Yes
Deep learning CNN for detecting malicious social bots	NVN Sowjanya	CSE	JCR	2022	2394-5125	<a href="https://www.icreview.com/">https://www.icreview.com/</a>	<a href="https://www.icreview.com/">https://www.icreview.com/</a>	Yes
Object Single Frame Using YOLO Model	NVN.Sowjanya	CSE	IRJET	2022	e-ISSN: 2395-0056 p-ISSN: 2395-0072	<a href="http://www.irjet.net">www.irjet.net</a>	<a href="http://www.irjet.net">www.irjet.net</a>	Yes
Division And Replication Of Data In The Cloud For Optimal Performance and Security(Droops)	NVN.Sowjanya	CSE	IRJMETS	2022	2582-5208	<a href="http://www.irjmets.com">www.irjmets.com</a>	<a href="http://www.irjmets.com">www.irjmets.com</a>	Yes
Extensible Path Planning Intelligent System by Applying Nature Inspired Computing (NIC)	Dr.J.Praveen Kumar	Information Technology	Design Engineering	Jun-21	ISSN: 0011-9342	<a href="https://www.scimagor.com/journalsearch.php?q=28687&amp;tip=sid&amp;clean=0">https://www.scimagor.com/journalsearch.php?q=28687&amp;tip=sid&amp;clean=0</a>	<a href="https://drive.google.com/file/d/12rz1QVZ0j7T8llmy/view">https://drive.google.com/file/d/12rz1QVZ0j7T8llmy/view</a>	Yes



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College Code: R9

Identify of fake twitter accounts using SVM algorithm	Dr.J.Praveen Kumar	Information Technology	JOICS	Aug-22	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/1vVbQ1x-vuB8-nGBdPw">https://drive.google.com/file/d/1vVbQ1x-vuB8-nGBdPw</a>	Yes
an approach of CCTV street garbage detection and alert system	Dr.J.Praveen Kumar	Information Technology	The International journal of analytical and experimental modal analysis	Jul-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1xmMkNhlpytEr1MCwModnz">https://drive.google.com/file/d/1xmMkNhlpytEr1MCwModnz</a>	Yes
Optimized Mode Of Object Detection With Deep CNN For Advanced Driving Assistance	Dr.M.Ramu	Information Technology	Journal of Interdisciplinary Cycle Research	Jul-22	0022-1945	<a href="https://ijcrjournal.com/">https://ijcrjournal.com/</a>	<a href="https://drive.google.com/file/d/1gYSic-cfm9dZomxTZu4TWS">https://drive.google.com/file/d/1gYSic-cfm9dZomxTZu4TWS</a>	Yes
Secure Deduplicated Cloud Storage with Encrypted Two-Party Interactions in CCPS	E. Aruna	Information Technology	International Journal for Modern Trends in Science and Technology	July 2022.	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="http://www.ijmtst.com/volume8/issue07/48.IJMTST080712">http://www.ijmtst.com/volume8/issue07/48.IJMTST080712</a>	Yes
CONTEXTUAL SCENARIO OF A CLOUD BASED EHR SYSTEM FOR DEVELOPING COUNTRIES	E. Aruna	Information Technology	JOICS	Aug-22	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/1wZtj_2l71sBclM5S0tE0Wb1">https://drive.google.com/file/d/1wZtj_2l71sBclM5S0tE0Wb1</a>	Yes



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**College Code: R9**

A NOVEL APPROACH ON DIABETES MELLITUS AND RISK PREDICTION USING MACHINE LEARNING	S.Pavani	Information Technology	JOICS	Aug-22	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/19VNEPFvyPT05OW9yRhmIUP">https://drive.google.com/file/d/19VNEPFvyPT05OW9yRhmIUP</a>	Yes
A Survey on Health Workers to Monitor Nutrition among Women and Children	S.Pavani	Information Technology	International Journal for Modern Trends in Science and Technology	July 202	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="http://www.ijmtst.com/volume8/issue07/49.UMTST080713">http://www.ijmtst.com/volume8/issue07/49.UMTST080713</a>	Yes
Low-Light Image Enhancement by using Feature Aggregation(FA)	G. Archana	Information Technology	International Journal for Modern Trends in Science and Technology	Jul-22	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="http://www.ijmtst.com/volume8/issue07/50.UMTST080713">http://www.ijmtst.com/volume8/issue07/50.UMTST080713</a>	Yes
THE CLASSIFICATION PERFORMANCE OF MISSING CHILD IDENTIFICATION USING CNN	G. Archana	Information Technology	The International journal of analytical and experimental modal analysis	Jul-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1jdhlI2yujUwMlnwAGKBevl32">https://drive.google.com/file/d/1jdhlI2yujUwMlnwAGKBevl32</a>	Yes
Improve liver disease diagnosis using machine learning approaches using classification algorithms	A.Jyoshna	Information Technology	JOICS	Aug-22	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/1x8KqCUegR0deZiDV0EvGp">https://drive.google.com/file/d/1x8KqCUegR0deZiDV0EvGp</a>	Yes



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College Code: R9

HEART DISEASE PREDICTION OF ACCURACY BY USING DIFFERENT MACHINE LEARNING	A.Jyoshna	Information Technology	The International journal of analytical and experimental modal analysis	Jul-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1FT12ssvgObh--oEMCewV/view">https://drive.google.com/file/d/1FT12ssvgObh--oEMCewV/view</a>	Yes
Forecast alzheimer's illness using CNN algorithm	N.Priyanka	Information Technology	Journal of Interdisciplinary Cycle Research	Jul-22	0022-1945	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	<a href="https://drive.google.com/file/d/1RvwLahUAYR9XYB-rvdsIVc-">https://drive.google.com/file/d/1RvwLahUAYR9XYB-rvdsIVc-</a>	Yes
REVIEW OF ALGORITHMS AND TECHNIQUES USED FOR IDENTIFY THE CRIMINALS.	J.Sudeer kumar	Information Technology	Journal of Information and Computational Science	Aug-22	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/1A9qe4Hia_lSckU8ZvUEEN_p">https://drive.google.com/file/d/1A9qe4Hia_lSckU8ZvUEEN_p</a>	Yes
EARTHQUAKE DAMAGE PREDICTION ANALYSIS OF USING DIFFERENT MACHINE LEARNING	G.Lavanya	Information Technology	The International journal of analytical and experimental modal analysis	Jul-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1Z00_Q3Orh8Mkyx6hGateRx">https://drive.google.com/file/d/1Z00_Q3Orh8Mkyx6hGateRx</a>	Yes
phishing website classification and detection using random forest algorithm	K.Naveena	Information Technology	Journal of Interdisciplinary Cycle Research	Jul-22	0022-1945	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	<a href="https://drive.google.com/file/d/13_8Pe19">https://drive.google.com/file/d/13_8Pe19</a>	Yes



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College Code: R9

SURVEY ON WEATHER FORECAST USING MACHINE LEARNING	A.Pavani	Information Technology	Journal of Interdisciplinary Cycle Research	Jul-22	0022-1945	<a href="https://ijerjournal.com/">https://ijerjournal.com/</a>	<a href="https://drive.google.com/file/d/1OnCQICxWDil9zH4xeC74T9">https://drive.google.com/file/d/1OnCQICxWDil9zH4xeC74T9</a>	Yes
automatic vacant parking management using multicamera vehicle detection	S.Sravan Kumar	Information Technology	JES	Jun-22	0377-9254	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/12LaynWKU1C2wxYdZvafbk1">https://drive.google.com/file/d/12LaynWKU1C2wxYdZvafbk1</a>	Yes
DIGITAL SMART SYSTEM FOR RESTAURANTS USING WIRELESS TECHNOLOGY	G.Rajkumar	Information Technology	The International journal of analytical and experimental modal analysis	Jul-22	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1iykEh1A5703CTICJJDwSDwFk">https://drive.google.com/file/d/1iykEh1A5703CTICJJDwSDwFk</a>	Yes
Security from phishing attack on internet using evolving fuzzy neural networks	Dr. Vadivelan Natarajan	AIML	cvr journal of science and technology	2021	2277 – 3916	<a href="https://doi.org/10.32377/cvrst2007">https://doi.org/10.32377/cvrst2007</a>	<a href="https://doi.org/10.32377/cvrst2007">https://doi.org/10.32377/cvrst2007</a>	Yes
A Proficient Technique for Recognizing the Online Digital Signature in Project Registration System	Dr. Vadivelan Natarajan	AIML	Soft Computing SPRINGER JOURNAL	2022	2693-5015	<a href="https://doi.org/10.21203/rs.3.rs-1158330/v1">https://doi.org/10.21203/rs.3.rs-1158330/v1</a>	<a href="https://doi.org/10.21203/rs.3.rs-1158330/v1">https://doi.org/10.21203/rs.3.rs-1158330/v1</a>	Yes



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College Code: R9

Secure internet of battlefield from malicious software using deep eigenspace learning	Dr. Vadivelan Natarajan	AIML	AIP conference proceedings	2022	1551-7616	<a href="https://doi.org/10.1063/5.0072732">https://doi.org/10.1063/5.0072732</a>	<a href="https://doi.org/10.1063/5.0072732">https://doi.org/10.1063/5.0072732</a>	Yes
Detection of cyber attacks using machine learning	Dr. Vadivelan Natarajan	AIML	AIP conference proceedings	2022	1551-7616	<a href="https://doi.org/10.1063/5.0072724">https://doi.org/10.1063/5.0072724</a>	<a href="https://doi.org/10.1063/5.0072724">https://doi.org/10.1063/5.0072724</a>	Yes
A Study of English Language Teaching in the Covid-19 Era; Challenges and Opportunities	R.Nagaraju	English	International journal of Multidisciplinary Educational Research	Oct-21	2277-7881	<a href="https://www.ijmer.in">https://www.ijmer.in</a>	<a href="https://s3.amazonaws.com/ijmer/pdf/">https://s3.amazonaws.com/ijmer/pdf/</a>	Yes
Increasing pre-monsoon rain days over four stations of Kerala, India	Dr.A.Nagarjuna	Physics	Acta Geophysica	Apr-22	1895-6572	<a href="https://link.springer.com/journal/11600">https://link.springer.com/journal/11600</a>	<a href="https://doi.org/10.1007/s11600-022-00742-6">https://doi.org/10.1007/s11600-022-00742-6</a>	Yes
Sustainable English Language Instruction	R.Nagaraju	English	Pune Research Times	Jul-22	2456-0960	<a href="http://puneresearch.com/times">http://puneresearch.com/times</a>	<a href="http://puneresearch.com/media/data/issues/2022/07/202207070960.pdf">http://puneresearch.com/media/data/issues/2022/07/2022070960.pdf</a>	Yes



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**College Code: R9**

A Study On employee Engagement	Dr V Surya Narayana	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Impact of Quality of Work Life (QWL) On Employee Satisfaction	Dr V Surya Narayana	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Employee Attrition with Reference to Big Bazaar	Dr V Surya Narayana	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Impact on working capital on profitability at IT Industry	Dr ch Ramesh	MBA	International	2021-2022	2319-8885	<a href="http://www.ijsetr.com">Www.ijsetr.com</a>	<a href="http://www.ijsetr.com">Www.ijsetr.com</a>	Yes
Market basket analysis using data mining	Dr ch Ramesh	MBA	UGC	2021-2022		<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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College Code: R9

A Study on Investor Awareness in Indian Capital Markets with Reference To Post Liberalization Period	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Performance of Sectoral Mutual Funds with Reference To India Infoline Limited	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Analytical Study of Fund Flow Statements in an Organization	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Analytical Study of Fund Flow Statements in an Organization	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Comparative Study on Universal Banking in India with Respect To Public Vs Private Banks	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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College Code: R9

A Study on Impact of Exchange Rate on Indian Stock Market	G Srinivas	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Impact on Equity Trading Volume on Select Commodities	G Srinivas	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Inventory Management at Hindustan Coca Cola Beverages Pvt Limited	G Srinivas	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Financial Issues of Micro, Small and Medium Enterprises in Telangana, India with reference to IT Sector	K Srujitha	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Impact of GST in FMCG Sector with Special Reference to Hyderabad	P Deepak goud	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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College Code: R9

Impact of Foreign Direct Investment (FDI) on the Banking & Insurance Sector	P Deepak goud	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Role of Women in Top Management Positions and its Impact on Company Leadership	K Venkat Raju	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Employee Welfare Schemes at FMCG companies in India: Employee Satisfaction	K Venkat Raju	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Stress Management and Job Satisfaction in Telecom Companies in Hyderabad	K Srujitha	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Camel Framework evaluation of India Banks	D Srisailam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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**College Code: R9**

Role of Fintech on Banking Performance: The Impact of Technological Innovation on the	D Srisaillam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Financial Performance and Development of Nonbanking Financial Companies in India	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Performance and Retention through Employee Engagement in IT companies	Dr ch Ramesh	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Comparative Study of Home Loans in Banking Industry	G Srinivas	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Importance of Risk Management	G Srinivas	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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A Study on Comparative Analysis of Loans and Advances of Public Sector Banks in India	G Srinivas	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on role of SEBI In Investors Protection	D Srisailam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Asset And Liability Management with Respect To Indian Bank Limited	D Srisailam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Analytical Study of Derivatives Market in India	D Srisailam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Importance of Capital Market in Economy	D Srisailam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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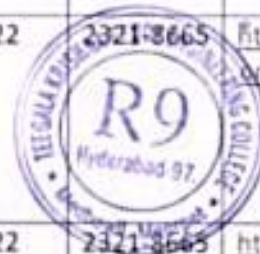
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A Study on Financial Ratio Analysis of Firms: A Tool for Decision Making	D Srisailam	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Reward System and its Impact on Employees Performance	P Deepak goud	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Work Life Balance of Women Employees	P Deepak goud	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study of Talent Management and its Impact on Performance of Organizations	K Srujitha	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Emotional Intelligence at Work Place	K Srujitha	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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A study on employee job satisfaction	M.Annapurna	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Effectiveness of Performance Appraisal System in TVS Motors Limited	M.Annapurna	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Recruitment and Selection	K Girija	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Impact on Working Capital Profitability: IT Industry	K Venkat Raju	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Impact of Selected Behavioural Bias Factors on Investment Decisions of Equity Investors	K Venkat Raju	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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The Impact of Capital Budget Decision on Financial Performance of Commercial Banks in India	K Venkat Raju	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
A Study on Portfolio Management	K Venkat Raju	MBA	UGC	2021-2022	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes
Small and Medium-Sized Enterprises Financing: A Review of Literature	K Venkat Raju	MBA	UGC	2021-202	2321-8665	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	<a href="https://www.ijtrd.com/papers.aspx?id=97">https://www.ijtrd.com/papers.aspx?id=97</a>	Yes



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# Stilt Floor and its Impact on Safety of Building

Mohammed Muneeruddin Khan

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**Abstract** - In this paper the impact of stilt floor on the safety of building is discussed. There are different recommendations and laws pertaining to stilt floor by local bodies and codes. Recent collapse of buildings in major cities give an alarming bell to consider strict rules pertaining to construction of stilt floor.

**Key Words:** Stilt floor, collapse, codal provisions, soft storey, design.

## 1. INTRODUCTION

Stilt floor means ground level portion of a building consisting of structural column supporting the superstructure, without any enclosures, to provide space for parking, switch room, generator room. Generally, the height of stilt floor is kept at 2.5m. The provision of stilt floor depends on local bodies. Depending upon road width,

### 1.1 Difference between cellar and stilt floor

Cellar is a Utility and parking area which is generally below ground level, where as stilt floor is at ground level. Both cellar and basement are below ground level.

The difference between stilt floor and ground floor is height level. Stilt is generally kept at 2.5m, while ground floor is minimum 3.0m. Normally for plot dimensions less than 100sqm, no stilt provision is mandatory by most of the local municipal bodies.

### 2. Stilt floor impact on structure

IS Code 1893, specifies term soft storey for stilt floor. A soft storey is one in which the lateral stiffness is less than 70 percent of that in the storey above or less than 80 percent of the average lateral stiffness of the three storeys above



Fig. 1 Stilt floor



Fig. 2 Failure of stilt floor during earthquakes



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# Comparative Study on Seismic and Wind forces on RCC Structure

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<sup>1</sup>Assistant Professor, TKR Engineering College, Hyderabad, <sup>2</sup>Assistant Professor, TKR Engineering College, Hyderabad, <sup>3</sup>Student, TKR Engineering College Hyderabad, <sup>4</sup>Student, TKR Engineering College Hyderabad,

**Abstract** – This paper gives the comparative study on seismic and wind forces on G+10 RCC Residential building. The results are taken from the Major Project done by the students. The Seismic and wind forces parameters are selected for Hyderabad city, Telangana state. Planning is done by AutoCAD software. Analysis and Design is done by STAAD PRO Software. The footing is designed as Mat Footing using STAAD PRO Foundation. The parameters like design of corner and mid columns are compared. Maximum nodal displacement is compared. Footing soil pressure, reinforcement and base pressure is compared.

**Key Words:** Seismic force, Wind Force, Base shear, deflection, Bending Moment.

## 1. INTRODUCTION

In this study the analysis and design has been done for G+10 Residential building. The plan of the building is kept same for both the studies. For distinguishing two studies the following cases will be referred:

**Case-I:** For seismic forces with load combination of  $1.2(DL+LL+EQ)$ .

**Case-II:** For wind forces with load combination of  $1.2(DL+LL+WL)$

DL: Dead Loads IS875 Part-I

LL: Live Loads IS875 Part-II

WL: Wind Loads IS875 Part-III

EQ: Earthquake Loads IS1893

Both Wind load and Earthquake loads are lateral loads. Wind is a constant force and Earthquake is an instantaneous force.

The magnitude of Wind load depends on height of building, Velocity of wind and the amount of Surface area the wind attacks.

The magnitude of earthquake load depends on mass of structure, stiffness of the structural system and the acceleration of surface of earth.

Damping will be considered in seismic forces calculations. Under normal conditions damping is not considered in Wind force calculations.

The soil type has effect on Seismic forces but not on Wind forces.

## 2. ARCHITECTURAL PLAN (Case I & II)



## 3. COLUMN CENTRELINE (Case I & II)



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## EXPERIMENTAL STUDIES ON STRENGTH BEHAVIOUR OF NATURAL FIBERS INCORPORATED GEOPOLYMER CONCRETE

Chunchu Bala Rama Krishna<sup>1</sup>, Pokuri Chaitanya<sup>2</sup>, R Vaishnava Kumar<sup>3</sup>, Seelam Srikanth Reddy<sup>4</sup>

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<sup>2</sup>Assistant Professor, Department of Civil Engineering, Teegala Krishna reddy college of engineering & technology, Hyderabad.

<sup>3</sup>Assistant professor, Department of Civil Engineering, RVR AND JC college of Engineering, Guntur.

### ABSTRACT

To enhance the strength parameters and applications of GGBS based geopolymer concrete using Sisal and Banana which are natural fibers extracted from plants, these fibers are good in both physical and mechanical properties which can be used effectively and these are chemical free fibers. Many engineering properties like Split tensile, Flexural strength are improved with the addition of different percentages of fibers. They contribute good resistance towards the cracking and increases the life span of concrete, they act themselves as a natural admixtures to provide additional properties to the concrete. In this experimental study to find out the performance of geopolymer concrete, different percentages of both Banana and Sisal fibers (0%, 0.5% and 1.0%) of having 30mm in length were used and GGBS was brought from the thermal power plant that uses to produce geopolymer concrete. The mixing of both Sodium Hydroxide and Sodium Silicate was used as alkaline solution maintaining alkaline liquids to GGBS of ratio 0.45. Sodium Hydroxide concentration was kept to 8M. The curing condition of geopolymer concrete was ambient curing. M30 grade of ordinary cement concrete is casted using grade 53 of Ordinary Portland cement. Compressive strength, Split tensile strength and Flexural strength of fibers without geopolymer concrete, fibers with geopolymer concrete and ordinary cement concrete was tested at different ages and then compared

**Keywords:** Banana Fibre, Sisal Fibre, GGBS, Sodium Hydroxide, Sodium silicate, Material properties, Hardened concrete properties

### 1. INTRODUCTION

Concrete is one of the most used construction material which makes best bridges, poles, roads etc. Approximately for production of 1 ton of cement the environment has to consume 1 ton of CO<sub>2</sub>. CO<sub>2</sub> alone contributes 70% of global warming. Several investigations were done to enhance then cement utilization in concrete in order to handle the global warming effect. GGBS is a byproduct that occurs from blast furnaces to make iron. Whereas GGBS is one material which can replaces the cement and it is also ecofriendly product that reduces the environmental damage, it is rich in calcium silicate hydrate which can improves appearance of the concrete, strength and durability. The main components of this material are MgO (1-18%), Al<sub>2</sub>O<sub>3</sub> (8-24%), SiO<sub>2</sub> (28-38%) and Cao (30-50%). The main purpose of using fibers in concrete is to enhance the mechanical properties like tension, spalling, impact, fatigue, thermal shock and toughness.

So many studies were conducted in recent times to study the behavior of concrete using fibers as reinforcement. In this study natural fibers (banana and sisal) were used as reinforcement to geopolymer concrete and the fibers were added in different fractions such as 0%, 0.5% and 1.0% of volume

### 2. LITERATURE REVIEW

Azizul Islam [1] presented the effect of fiber on the mechanical properties and the impact resistance of oil palm shell geopolymer concrete (OPSGC) prepared with ground granulated blast-furnace ash (GGBS) and

palm oil fuel ash (POFA) as binders. The fiber added OPSGC with the addition of the 0.5% of steel fibres the split tensile strength has been increased about 19-38% and similarly the flexural strength about 13-44% when compared to the non fibrous OPSGC and the first crack load of Geopolymer concrete increases upto 1.5-3.5 times compared with non fibrous OPSGC. Due to the energy absorption capability of uncrushed produced higher final impact energy on comparing with the crushed OPS specimens

Samuel Demie [2] The characteristics of interfacial transition zone (ITZ) made with fly ash based self-compacting geopolymer concrete (SCGC) was studied under the influence of multiple superplasticizer dosage on microstructure characteristics and compressive strength and also their correlations. Concrete specimens were made with multiple percentages of superplasticizer dosage maintaining 3%, 4%, 5%, 6% and 7% cured at 70°C kept for 48 hrs. The better results were found at the maximum percentage of superplasticizer presence and with the decrease in the thickness of ITZ such that the compressive strength of the concrete increases and also enhanced the development of microstructure at the ITZ of concrete

Tanakorn Phoo-ngernkham [3] Described the effect on adding nano-SiO<sub>2</sub> and nano-Al<sub>2</sub>O<sub>3</sub> on the properties of high calcium fly ash geopolymer pastes. Nano-particles were added to fly ash at the percentages of 0%, 1%, 2%, and 3% by weight and the concentration of sodium hydroxide was 10M. Sodium silicate to sodium hydroxide weight ratio was 2.0. The alkaline liquid/binder ratio was 0.60 and curing at ambient

## Strength Characteristics of Coconut Fiber reinforced concrete

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**Abstract** - This paper presents the possibility of utilizing coconut fiber as a supplementary reinforcement material in concrete. Various fibers are used in concrete. Coconut fibers are easily available in large quantity and are also cheap. In this study experimental investigations are carried out to know the workability, compressive strength and split tensile strength of coconut fiber reinforced concrete. The cement was partially replaced with six percentages say 0%, 1%, 2%, 3%, 4%, 5% of coconut fiber by weight of cement. The compressive strength and split tensile strength of cured concrete is evaluated for 7 days, 28 days. These results show that coconut fiber can be used in construction or not.

**Key Words:** Reinforcement, coconut fiber, concrete, compressive strength, split tensile strength.

### 1. INTRODUCTION

As we know that concrete is the widely used construction material throughout the world. Concrete is weak in tension and flexure so it is reinforced with steel bars. Various types of fibres were used in concrete to make more strong, durable and economical. Naturally available fibre such as coconut fibre having physical and mechanical characteristics that can be used in the development of reinforced concrete material. These coconut fibres are easily available in large quantity with low cost. The goal of this paper is to study the properties of concrete by adding coconut fibres and to determine the compressive strength and split tensile strength of concrete after addition of coconut fibres. To know the performance of coconut fibres in concrete to reduce cracking. Utilisation of these fibres in concrete leads to an effective solid waste management technique. The introduction of fibres is a solution to develop concrete with enhanced compressive strength and split tensile strength. NFRC (Natural Fibre Reinforced Concrete) is the one of the FRC (Fibre Reinforced Category). Using of FRC is gradually gaining acceptance from civil engineers. In recent years research and development of fibres related to construction industry have grown rapidly. Coconut fibre is more ductile among all natural fibres and has the potential to be used as the reinforcing material in concrete. It is biodegradable so the impact on the environment will be minimum.

The aim of this study was to identify the improvement in strength characteristics of concrete with the addition of oil coated coconut fibre so as to decrease the water absorption.

Coconut fibre with a tensile strength of 21.5 Mpa is the toughest among all natural fibres. They are capable of taking strains 4 to 6 times higher than other fibres.

### 2. METHODOLOGY

#### 2.1 MATERIALS:

The following materials were used for preparing the concrete mix of M20.

- OPC (Ordinary Portland Cement) of 53 grades
  - Fine aggregate i.e. sand
  - Aggregate
  - Coconut fibers
  - Water
- **OPC:** Ordinary Portland Cement of grade 53 cement was used in this study.
- **Fine aggregate:** The fine aggregate was natural river sand which is freely available. The sand passes through a 4.75 mm sieve and contained more than 5% coarse particles so that it reduces the porosity of the final mass and considerably increases its strength usually.
- **Coarse aggregate:** It is the important constituent material in concrete. It occupies 60 to 70% of concrete. For this study locally available crushed stone aggregates of size 20 mm are used and the various tests are carried out on the aggregates as per IS 2386-1963(IV).
- **Coconut fibers:** These are collected from the local temples, cleaned, sundries and removed dust particles to analyze its properties. Coconut fiber has high water absorption. Due to this property, the coconut fibers of 6 mm in length were pre-soaked in water for 24 hours.

VARANASI

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# Experimental Study on Strength and Durability of Lightweight Aggregate Concrete (M40 Grade) Containing Fly-Ash and Vermiculite

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**Abstract**— This project is aimed to know about the Experimental Study on Strength and Durability of Lightweight Aggregate Concrete (M-40 Grade) Containing Fly-Ash and Vermiculite. To study the strength characteristics, 5 Mixes were prepared. In the mixes materials used were 20% of fly-ash partial replacement of cement and Partial replacement of Fine aggregate with varying proportions of Vermiculite i.e. 0%, 5%, 10%, and 15%. Slump cone test and compaction factor test were conducted on fresh concrete to check its workability and consistency. Weight of concrete mixes were determined. To determine various strength characteristics i.e., Compressive strength, split tensile strength test and flexural strength, tests were conducted on the cast concrete specimens. To determine compressive strength, tests were conducted on cubes of size 10cm \*10cm \*10cm for 7 days, 14 days and 28 days. To determine split tensile strength, test was performed on cylinders of size 15cm diameter and 30cm height at 28 days. To determine flexural strength, test was conducted on beams of size 10cm\*10cm \*50cm at 28 days. Two distinct acids, HCl (Hydrochloric Acid) and H<sub>2</sub>SO<sub>4</sub> (Sulphuric Acid), were used to test the concrete sample's durability, 3 cubes of each mix were cured in acids for 7 days maintaining pH 3 respective weight and compressive strength were determined.

**Keywords:** Light Weight Concrete, Light Weight Aggregate, Mechanical Properties, Fly Ash, Vermiculite, HCL and H<sub>2</sub>SO<sub>4</sub>.

## I. INTRODUCTION

Construction is growing rapidly all over the world, necessitating new material development in concrete to minimize the dead weight of structural elements using lightweight aggregates. Light weight aggregates are defined as those having a specific weight of less than 1120 kg/m<sup>3</sup>. Vermiculite, Dolomite, Perlite, Pumice, and other lightweight aggregates are used to make lightweight concrete. Because earthquake forces are related to the mass of the structure, structural lightweight concrete has the ability to lower the structure's self-weight as well as the risk of seismic damage. It also lowers density while increasing thermal insulation. The self-weight, foundation size, and building cost are all reduced when the density is reduced for the same strength. In this study, we are employing Vermiculite as a fine aggregate replacement in lightweight concrete, and we are partially replacing the binder, cement, with Fly-Ash to reduce the effect of global warming. Compression strength tests, split tensile strength tests, flexural strength tests and durability tests were performed on concrete specimens with various proportional mixes of Vermiculite and Fly-Ash to investigate the mechanical properties of concrete.

When volcanic rock is heated to extremely high temperatures, vermiculite is formed. It is a granular expanded aggregate with large air gaps that produces a lighter structure and sound insulating qualities when blended with an appropriate binder. It is a naturally occurring substance that is generated when mica disintegrates. When heated to 650<sup>o</sup>-1000<sup>o</sup> C, it is a micaceous mineral that expands about 30 times. A complex composite of hydrated aluminum and magnesium silica makes up the chemical composition. Low bulk density, thermal conductivity, and refractoriness characterize expanded vermiculite.

Lightweight vermiculite materials have been studied as a replacement for fine and coarse aggregate in concrete in recent years. Also, Fly Ash can be used as a cement substitute in concrete. The resistance of concrete specimens to Sulphuric acid solutions has been investigated using a variety of methods, including measuring changes in strength, mass loss, and visual inspection. Construction is growing rapidly all over the world, necessitating new material development in concrete to lower the dead weight of structural elements using light weight aggregates. In order to verify that structural elements made from this mixture have a sufficient service life, a hardened mixture of the necessary mechanical strength must also be evaluated for durability qualities (acid resistance, water absorption, etc.).

## II. OBJECTIVES

- The main objective of this design is useful for pre stressed concrete structures.
- The Flexure strength test for 28 days, the 5% of vermiculite and 20% of Fly Ash were observed as the Mix has good strength and with less weight.
- It resist structures which are subjected to chemical actions.

## III. DESIGN MIX

Concrete Mix Design Stipulation

Characteristic compressive strength required in the field at 28 days grade designation — M 40

- 1) Nominal maximum size of aggregate — 10 mm
- 2) Shape of CA — Angular
- 3) Degree of workability required at site — 50-75 mm (slump)
- 4) Degree of quality control available at site — As per IS:456
- 5) Type of exposure the structure will be subjected to (as defined in IS:456) — Mild
- 6) Type of cement: OPC conforming IS:456
- 7) Method of concrete placing: Machine mixed Concrete.

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# Design and Development of Brushless DC Motor Drive for Electrical Vehicle Application

V. Kumar, Kalagotla Chenchireddy, Khammampati R Sreejyothi, and G. Sujatha

**Abstract** Nowadays, the usage of conventional vehicles' importance is decreased due to increase in fuel cost and very high levels of air pollution, and also decreased the greatest negatives to human beings in petroleum resources: to produce safe, clean, and high-efficiency transportation implemented. Future driving technology will include electric, hybrid electric, and fuel cell-driven vehicles. This paper presents an overview of electric vehicle technology and implemented Speed Control of a Brushless DC motor for Electrical Vehicle applications. The performance of the BLDC motor is investigated under steady, dynamic state speed, and torque conditions. In the above two conditions, the actual value reached the reference value. The test results are verified in MATLAB/SIMULINK.

**Keywords** BLDC motor • Electric vehicle • Speed • Torque

## 1 Introduction

Field programmable gate array (FPGA) is implemented for BLDC motor having a digital controller. The BLDC system had two levels of operation: low duty level (DL) and high duty level (DH). The implemented controller utilizing the PID control reduced the cost of the system and also provided ease of operation that is capable of regulating the speeds without an observer. Regenerative braking improved the efficiency and extended the driving distance of electric vehicles [1]. Because of its great torque and efficiency, the BLDC motor is commonly utilized in electric vehicles. A dynamic load system cannot be controlled by the traditional PID controller found in BLDC motors. A PID-fuzzy controller was used to solve this flaw. In a variable speed and dynamic load situations, the PID-fuzzy controller maintained the steady-state

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condition of the BLDC motor speed. As a result, the BLDC motor's performance has improved [2].

In BLDC, the flux-weakening control and energy regeneration braking control were investigated. The controller described has high efficiency and improved the system's dynamic performance under load-changing settings. In the system, the proportional-integral-differential control approach was presented. The problem of correctly regulating the speed over a vast range is solved with an arithmetic variable velocity [3]. This research [4] showed a BLDC braking system with an electric braking system motor-based electrical vehicle using single, two, and three switch topologies as well as plugging as braking methods. The maximum voltage division, the boost ratio, and the braking torque ratios were employed for each braking method. The applied technique considers stopping the vehicle at any speed recharging its batteries. Surface Brushless DC Motor (BLDC) and Mounted Permanent Magnet Synchronous Motor (SPMSM) were compared. In designing point of view, implemented an identical design of stator such as the outermost diameter of the core, current density, and magnetic flux density. The results are compared. BLDC, the output power density of SPMSM is increased by 12.8% due to red-

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# Three-Leg Voltage Source Converter-Based D-STATCOM for Power Quality Improvement in Electrical Vehicle Charging Station

Kalagotla Chenchireddy and V. Jegathesan

**Abstract** The usage of a huge amount of automobiles in the world may cause serious problems for the climate and human existence. Lately, the innovative and improvement activities associated with transportation have emphasized the growth of the high good organization, hygienic, and safe transportation. Electric vehicles had normally planned to restore conventional vehicles soon. This Paper presents grid to vehicle (G2V) technology for the battery charging station. This paper presents two topologies three-phase diode-bridge rectifier and bidirectional DC-DC converters. The diode-bridge rectifier circuit converter converts three-phase AC supply to DC supply and is controlled by synchronous reference frame, and DC/DC converter uses for battery charging and also controlled by PI controller. The most important intention of this paper is to vary the performance characteristics of the battery in charging and discharging mode. This proposed technology is simulated in MATLAB/SIMULINK model. The battery charging and discharging results are verified.

**Keywords** Lithium-ion battery · Electric vehicle · Power quality · On-board charging station · P-Q control theory

## 1 Introduction

To decrease air contamination and get better energy efficiency, several countries and cities (e.g., Singapore) are headed to presenting electric vehicles (EVs) to restore the vehicles allocation in the current interchange scheme. The powerful location of charging stations is fundamental for the fast improvement of EVs since it is essential for giving accommodation to EVs and guaranteeing the proficiency of the traffic organization. Be that as it may, existing works for the most part focus on the mileage tension from EV clients yet overlook their key and serious charging

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practices. To catch the cutthroat and vital charging practices of the EV client think about that as an EV client's charging practice which is reliant on supplement EV clients' decisions, comprises of the movement cost (e.g.) to the charging location and the lining price in charging station. To begin with, we consider the charging location situation difficulty as a bi-level advancement issues. The general intention is minimize the entirety charging price of EV drivers (name public price), an drivers are unspecified to reduce their occurring expense of EV charging performance [1].

When the increasing load in EV charging station, result is greater than the

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# Zero Voltage Switching (ZVS)-Based DC-DC Converter for Battery Input Application

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and P. Tejaswi

**Abstract** This paper presents a phase shift H-bridge DC-DC converter for electrical vehicle battery charger application. There are many conventional DC-DC converter topologies. Those are buck converter, boost converter, buck-boost, and Cuk converter. The main drawbacks of this converter are single input and single output, and these converters are not suitable for converting high DC supply to low DC supply. This paper presented a phase shift H-bridge DC-DC converter, and this converter is mainly used in step-down high DC voltage to low DC voltage, and it also provides isolation between input and output. The major applications are server power supply, telecom rectifier, battery charging system, and renewable energy system. The presented topology operated in mainly two modes of operation one is discontinuous conduction mode (DCM) and the second one is continuous conduction mode (CCM). When the battery is charged fully the mode circuit is operated in DCM mode. When the charging across the SOC is very low the circuit will operate in CCM. The simulation results are verified in CCM mode. The closed-loop PI controller is used for controlling battery voltage, current, and SOC.

**Keywords** Electric vehicle · Zero voltage switching · DC/DC converters · Charge controller · PI controller

## 1 Introduction

At the present day, the importance of rechargeable batteries is rising due to electrical vehicle application. An electrical vehicle is four times better than a petrol vehicle. The size of the battery bank is 10–12 higher than the petrol tank and volume also higher than the petrol tank. Niu presented a full-bridge phase-shifted ZVZCS converter for

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the electric vehicle battery charger. The presented topology reduced switching loss using soft-switching devices and improved the overall efficiency of the system. Author Kim introduced an energy recovery snubber circuit for a full-bridge DC converter. The snubber circuit protected the load side [2]. Author Zebowli introduced a single-phase reconfigurable full-bridge converter for electrical and hybrid vehicle applications [3]. Chen reduced switching loss by using soft



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# A NOVEL TECHNIQUE FOR ENLIGHTENING BIT ERROR RATE IN SENSOR NETWORKS BY MEANS OF ORTHOGONAL SPACE TIME BLOCK CODE (OSTBC) CODING

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## Abstract:

For the planning of any organization, lifetime and size of the organization are the main boundaries notwithstanding that high information rate and low piece mistake rate likewise assume a significant part in the planning of any sensor organization. In this paper, new transmission methods for the transmission of sensors information have been proposed for sensor networks by consolidating different balance and coding methods into the network transmission. The proposed strategy is utilized to further develop the Bit Error Rate execution of the remote sensor organization, in the vast majority of the remote sensor organizations, pieces are changed over into parcels and these bundles are sent from source to objective during that transmission the nature of physical not set in stone by the Bit Error Rate (BER) and the Packet Delivery Rate (PDR). The actual layer manages transmission of pieces over remote connection the planning limitations of this layer is balance, variety and coding. In this paper different regulation, it is consolidated to code and variety methods into sensor network for decreasing Bit Error Rate (BER). The proposed framework separates the organization into two kinds of hubs, initial one is the sensor hubs, outfitted with brief distance transmission capacity and another is exceptional hubs that are outfitted with modulators and coders for sending information over significant distance. This proposed framework likewise reached out for giving the got information transmission by the utilization of different mistake recognition and adjustment codes.

## Keywords:

Bit Error Rate (BER), Orthogonal Space Time Block Code (OSTBC), Internet Of Things (IOT), Symmetrical Transform Division Multiplexing (OTDM), Space Time Coding (STC), Singular Vector Disintegration (SVD).

## Introduction:

Remote Sensor Networks (WSNs) are the blend of numerous little detecting components for moving information from source to objective utilizing multi-jump transmission. There are various applications in which constant observing is required so a gigantic measure of information is gathered after the assortment of this information different numerical changes are expected to change over this crude information into helpful data. A few applications require security of the information while for certain applications like (1) remote interactive media sensor network central issue is exactness of the information and high information move rate. In agribusiness, these organizations can give the report about the development rate of plants. This can diminish

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## An Intellectual Methodology for Secure Health Record Mining and Risk Forecasting Using Clustering and Graph-Based Classification\*

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The objective of the research work is to analyze and validate health records and securing the personal information of patients is a challenging issue in health records mining. The risk prediction task was formulated with the label Cause of Death (COD) as a multi-class classification issue, which views health-related death as the "biggest risk." This unlabeled data particularly describes the health conditions of the participants during the health examinations. It can differ tremendously between healthy and highly ill. Besides, the problems of distributed

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Article

# Novel Multi-Time Scale Deep Learning Algorithm for Solar Irradiance Forecasting

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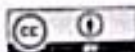
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**Abstract:** Solar irradiance forecasting is an inevitable and most significant process in grid-connected photovoltaic systems. Solar power is highly non-linear, and thus to manage the grid operation efficiently, with irradiance forecasting for various timescales, such as an hour ahead, a day ahead, and a week ahead, strategies are developed and analysed in this article. However, the single time scale model can perform better for that specific time scale but cannot be employed for other time scale forecasting. Moreover, the data consideration for single time scale forecasting is limited. In this work, a multi-time scale model for solar irradiance forecasting is proposed based on the multi-task learning algorithm. An effective resource sharing scheme between each task is presented. The proposed multi-task learning algorithm is implemented with a long short-term memory (LSTM) neural network model and the performance is investigated for various time scale forecasting. The hyperparameter estimation of the proposed LSTM model is made by a hybrid chicken swarm optimizer based on combining the best features of both the chicken swarm optimization algorithm (CSO) and grey wolf optimization (GWO) algorithm. The proposed model is validated, comparing existing methodologies for single timescale forecasting, and the proposed strategy demonstrated highly consistent performance for all time scale forecasting with improved metric results.

**Keywords:** solar irradiance forecasting; multi-task learning; multi-time scale prediction; LSTM; hybrid CSO-GWO

## 1. Introduction

Renewable energy resources have gained significance in the context of power sector applications to balance energy demand and generation [1]. The energy crisis is a serious problem encountered by all countries in the world. The growth and development of renewable energy sources are major areas of research interest. One of the green energies that is abundantly available on earth is solar energy [2–4]. The amount of radiation received on earth is different over different regions in terms of geographic location, climatic





## Performance enhancement of solar photovoltaic system for roof top garden

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### Abstract

The photovoltaic (PV) for irrigation system is an emerging technology to harness the solar energy. The performance of the PV modules depends on the incident solar radiation, geographical location, and the surface temperature of the modules. The performance of the PV system needs to be monitored by manually or embedded controllers. The commercially available technologies for monitoring the system are costlier and need to be optimized. The Arduino controller is used to monitor the performance of the photovoltaic (PV) system in Coimbatore (11.016° N, 76.9558° E), Tamilnadu, India. The PV surface temperature is monitored and controlled by flowing the water above the module by setting the mean ambient temperature as a reference temperature 34 °C when the system exceeds the reference temperature. PV surface temperature is reduced up to 16°C thus improved the electrical efficiency by 17% compare to the reference module. The Arduino controller control the relay to switch on the motor to control the mass flow rate of the water at 0.0028kg/s. The various parameters are measured such as voltage, current, and solar radiation of the location and analyzed. The estimated cost of monitoring system and various sensor is 10\$ which cost comparatively 50% lower than the other PV monitoring controllers. This method can be employed in the medium and large-scale irrigation system.

**Keywords** Arduino · PV · Water cooling · Sustainable energy

### Introduction

In the world, 80% of the PV modules make use of monocrystalline (m-si) or polycrystalline (p-si) PV cells. The m-si and p-si solar cell have module electrical efficiencies of up to 21.5% and 18% respectively which the efficiency surpasses all the present PV technologies suited for BIPV applications (Alrashedi et al., 2020, b). In the manufacturing of process, opaque, square-like shape crystalline silicon-based PV cells encapsulated. The solar cells were typically blue/black in appearance due to the anti-reflective coating on the surface of PV cell (Mesloub et al., 2020; Mesloub & Ghosh, 2020). The recent development in the thin film PV technologies created the opportunity to develop the BIPV modules. Commercially available thin-film modules were manufactured using materials such as amorphous-Si (a-Si), micromorphous-Si ( $\mu$ c-Si), copper-indium-gallium-selenide (CIGS), and cadmium telluride (CdTe) thin film technologies. The thin film technology obtained the maximum energy conversion efficiency of up to 13.2%. The thin film is rigid or flexible, available in various colors, which provide the see-through appearance for window

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## Research Article

# Energy and Economic Analysis of Curved, Straight, and Spiral Flow Flat-Plate Solar Water Collector

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In this work, the solar water collector flow tube geometry is modified as curved and spiral to enhance the system's performance. The investigation is carried out experimentally under the meteorological conditions of the Kovilpatti region (9°10'0" N, 77°52'0" E), Tamil Nadu, India. The flow pipes of the solar water heater are made of copper material which has higher thermal conductivity to recover the water heat as thermal energy. The influence of the mass flow rate (MF) on the flow pipes with respect to the surface temperature for various configurations of the flow tubes is investigated. The two MFs of 0.0045 kg/s and 0.006 kg/s are tested. The MF of 0.006 kg/s yields the maximum efficiency of 73% compared to the other MF. The straight, curved, and spiral tubes yielded the maximum efficiency of 58%, 62%, and 69%, respectively, at 0.0045 kg/s. Similarly, the MF of 0.006 kg/s obtained an efficiency of 62%, 65%, and 73% for straight, curved, and spiral flow tubes, respectively. The economics and energy of the system are analyzed. The maximum energy efficiency of the collector is estimated to be 32% for the MF of 0.0045 kg/s for the spiral flow collector, and for the 0.006 kg/s MF, the obtained exergy efficiency is 27% for the spiral flow water heater. The economic analysis revealed that the expense is \$0.0608 and \$0.0512 worth of hot water produced for the domestic space heating.

## 1. Introduction

The loss of energy in the form of heat is inevitable in our everyday life. It plays a significant role and is used for various

purposes, such as cooking, heating water, space heating, industrial process heating, and drying. Almost one-third of the world-generated energy is utilized in the form of heat. In addition, it is estimated that approximately 50% of the



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Research Article

# Elite Oppositional Farmland Fertility Optimization Based Node Localization Technique for Wireless Networks

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Wireless networks include a set of nodes which are connected to one another via wireless links for communication purposes. Wireless sensor networks (WSN) are a type of wireless network, which utilizes sensor nodes to collect and communicate data. Node localization is a challenging problem in WSN which intends to determine the geographical coordinates of the sensors in WSN. It can be considered an optimization problem and can be addressed via metaheuristic algorithms. This study introduces an elite oppositional farmland fertility optimization-based node localization method for radio communication networks, called EOFFO-NLWN technique. It is the goal of the proposed EOFFO NLWN technique to locate unknown nodes in the network by using anchor nodes as a starting point. As a result of merging the principles of elite oppositional-based learning (EOBL) and the agricultural fertility optimization algorithm (FFO), we have developed the EOFFO-NLWN approach, which is described in detail below. The EOBL concept makes it easier to populate the FFO algorithm's population initialization, which results in an increase in the exploration rate. Various BNs and CRs were tested, and the findings revealed that the EOFFO-NLWN technique outperformed all other known techniques in all cases. A comprehensive experimental result analysis of the EOFFO-NLWN technique is performed under several measures, and the results described the sovereignty of the EOFFO-NLWN method associated to existing techniques.

## 1. Introduction

As an emergent model of computing and networking, wireless sensor network (WSN) has been applicable and relevant in different domains like military, medicine, climate forecasting, surveillance [1], environmental control, and so on. Reliable advances and development in networks have considerably enabled and extended wide-ranging applications of WSN. In recent times, WSN has been incorporated with another concept includes internet of things (IoT) [2]. Wireless communications and electronics have advanced signifi-

cantly in recent years, enabling the expansion of multifunctional devices that are low in cost and power ingesting, and that can communicate over relatively short distances. Sensors that are inexpensive, intelligent, wirelessly interacted, and widely scattered open the door to possibilities for monitoring and regulating homes, communities, and the natural environment that were previously unimaginable. Furthermore, networked sensors provide a plethora of defence applications, enabling for the development of new capabilities in reconnaissance, surveillance, and a variety of other tactical applications. A feature that is highly desirable



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## Green Communication in Wireless Power Consumption and Energy Efficient Trade-offs

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### Abstract

Energy efficiency is a significant issue in portable wireless networks since the battery life of versatile terminals is restricted. Protection of battery power has been tended to utilizing numerous procedures. Wireless sensor networks (WSNs), framed by various little gadgets fit for detecting, processing, and wireless correspondence are arising as a progressive innovation, with applications in different territories. The novel highlights of wireless sensor networks have carried new difficulties and issues to the field of conveyed and communitarian data preparing. In the light of the importance of reducing operating consumpt and maintaining cellular network profitability, energy efficiency in cell networks has received a crucial consideration from both scholars and the business, despite the fact that these networks are "green communication." Since the base station is the most important energy buyer in the business, efforts have been undertaken to review the use of the base station and to identify ways to energy efficiency improvements. The trade-offs between energy utilization and throughput, under nearby just as under helpful detecting, are portrayed. The Energy efficient tradeoffs have been arranged dependent on every convention layer and examined its effect in the organization energy efficiency.

**Key-words:** Wireless Sensor Networks (WSNs), Green Communication, Energy Efficient, Tradeoffs.

### 1. Introduction

We need energy-efficient frameworks to secure our current circumstance, adapt to a worldwide temperature alteration, and encourage manageable turn of events. In any case, broadcast

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## Review Of Industrial Safety Applications Using Wireless Access Panels

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### ABSTRACT

Wireless communication is emerging from the office world to the industrial world. Since industrial communication underlies stricter conditions than office communication. It is important that some technicalities are applied by the users of wireless communication in industrial environments. Recent developments in wireless communication technology offer new opportunities for wireless connectivity of field devices in industries such as oil and gas, chemical processing and water distribution. Wireless communications can assist these industries to improve plant knowledge by acquiring additional measurements from processes and equipment when wired communication would be infeasible.

### I. INTRODUCTION

Wireless communication is as of now utilized in cycle computerization for measure checking. The following phase of usage of wireless innovation in industrial applications is for measure control. Numerous specialists like Han et al (2010), Jafari et al (2011) and Park et al (2011) are investigating this zone and some starter results have likewise arisen. In any case, numerous issues are yet to be tended to. Prior, the requirement for secluded and adaptable framework plan for control frameworks at diminished cost made ready for circulated control frameworks, where the data is traded over communication network (Yepez et al 2003). These networks have developed over years, at first from pair of curved wires needed for every gadget to a solitary transport based fieldbus innovation where different gadgets share a typical communication medium (Han et al 2010). A fieldbus alludes to a group of communication conventions particularly intended for ongoing disseminated control applications.

Industrial plants incorporate sensors associated with the control station through wire and wireless strategies for persistent detecting and checking the status of the framework. In this unique situation, wireless innovation gives a reasonable help to the business offering points of interest as far as low installation cost, scalability, flexibility, absence of cabling, shrewd handling capability, high portability and simplicity of sending contrasted with ordinary wired arrangements. These favorable circumstances are promising for industry, where an extensive development sooner rather than later is normal.

By and by, the utilization of WSN sensors for industrial applications requires achieving a bunch of hard imperatives. For example, checking and control of a particular cycle, requests the improvement of specific network architectures, instruments and calculations that ensure a high communication quality and dependability of the framework. What's more, as ecological conditions might be hard, industry executions should guarantee information dependability consistently. At long last, the plan of an industrial



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## Research Article

### Distribute the Message over the Network Using another Frequency and Timing Technique to Circumvent the Jammers

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#### Abstract

The next wireless communication paradigm for network devices is mobile ad-hoc systems. In contrast to conventional mobile networks, networks will not have a wired connection. Providers ultimately rely on one another to maintain the network. The major uses for ad hoc networks remain the tactical military as well as other safety-sensitive activities. Its susceptibility to Denial-of-Service (DOS) assaults is one major problem in developing such systems. In this document, one kind of DOS assault, dubbed Jamming, is considered. An interference in lawful wireless technology is the goal of jamming. A jammer could do this by both avoiding transmitting a transmission from the true mobile user or through blocking valid packets from just being received. In this work, researchers present a novel way of measuring problematic areas to identify quite an assault.

**Keywords:** Adhoc system, MAC protocol, Jammer, Relation

#### Introduction

A group of network devices with wireless connections is formed in a Mobile Adhoc Networks (MANET) is a temporary network without any permanent or centralized management. The adhoc node is fitted via an omnidirectional, high-direction radio transceiver/reception. Owing to node movements, its transceiver coverage patterns, the power consumption level as well as the amount of co-channel disruption, the network may be seen as random graphs at any moment. Over the period the Topology Of the network might alter or adapt the transmitter and receiver characteristics of the node. Their sensitivity to Denial-of-Service (DOS) attacks is among the primary challenges in designing these systems. Protection from DOS assaults is a vital element of every safety system. Although DOS is thoroughly examined for wireline systems, research is necessary for mobile nodes to avoid such assaults. Such platforms are sensitive to hostile attackers due to their implementation in strategic warfare missions. These attackers could try to disturb/degrade the workings of the system as a whole rather than damage a particular node. Also, related routing

features, include portable wireless communication, portability, capacity restriction.

In this paper, one kind of DOS assault, dubbed Jamming, is considered. Indeed, mobile nodes share wireless media in a mobile adhoc network. Radio transmission can therefore be jammed or tampered with, which can distort or lose the information. If the intruder has a strong emitter, a message that is strong enough even to spread the intended information and interrupt transmission could be created. A jammer may conduct several various attacks techniques to interfere with other radio signals. Improvement of jammer node's incident response methods is required. In IEEE 802.11n it is not simple to identify a jamming assault, as a collision with a poor SNR is not distinguished.

The step is to identify particular jammer types where the jammer simply broadcasts whenever its radio equipment signals legitimate radioactivity. At instances, whereas the radio is listening quietly the assaulting apparatus falls slumber. The adversary also saves energy and reduces the chance of the packets just discovery.

A range of measurements could be performed to calculate different jamming attacks. Certain statistics are shown below [1]:

- Energy-efficient reduced detectability.
- Full DoS • Maintaining behavior in conformity or proximity to protocol standards.
- Verified or unverified users.
- Fixed error-fixing methods.
- Fixed data link layer approaches.

These requirements are jammer situation-specific. This implies that the jamming situation would better tell us which are the suitable criteria to employ to evaluate 2 separate jammer strategies for a given case. As a most significant measure for sensor nodes when nodes were anticipated to survive for a longer period could be efficiency. Naturally, a blocker aims to also be eco-friendly throughout all circumstances and has a poor detection chance to be covert. It may be done by uniformity with the behavior of the Mac protocol.

In militant situations where a transmitter is employed to disrupt adversary radio transmission, interference, as well as its countermeasures, has such a long record [2].

#### The MAC Layer of Adhoc Networks

The present ad hoc network IEEE 802.11 standard em-uses the DCF to Medium Access Control (MAC). DCF describes a decentralized Crash Management Multiple Access Algorithm (CSMA/CA), based on the Carrier Sense. The CSMA/CA Protocols aims to minimize crashes and provide fair communication links. If a node has a packet to transfer, the channel will detect during an idle time that is DIFS-related. A randomized retransmit period is determined when the channel is busy. Whenever you identify a broadcast on the route, the retransmit time count decreases and then re-activates when the circuit is once again perceived idle for much more than a DIFS.

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**Distance-Based Data Summarizing Strategy For Fuel Consumption Using Ann**

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**ABSTRACT**

This research is evident that by message generating function is reversible and it can be concealed in a conventional watermarking model. Normalized MSE and NAE measures which will be very closer to the ideal values of 0 respectively signify the robustness of the proposed system. The Singular Value Decomposition(SVD) model does not embed the watermark physically onto the host images and this shows limited performance. The Contourlet Transform (CT) and SVD watermarking system is clearly stating that upon implementation in a healthcare institution, it is efficient by all means as required by the legislative standards like authentication and improved interpretations and protecting the privacy of the patients. The proposal also expects a demonstration for proportions of resilience and ambiguity, the images with smaller scope of interests and their invariants for watermark generations.

**I. INTRODUCTION**

Producers, authorities, and drivers all benefit from fuel prediction models for large trucks. They are essential throughout the whole car ownership

Experience. The purpose of this study is to provide an estimate of the typical fuel used by heavy vehicles throughout the course of their service life. As a rule, there are three broad groups into which one may divide the methods used to create models of fuel consumption:

- Physics-based models, on the other hand, are based on a thorough understanding of the system's underlying mechanics. Mathematical equations are used in these models to tell the story of the motion of the vehicle's parts through time.
- AI models depict a theoretical planning between an information space containing a chose set of indicators and a result space mirroring the objective outcome, for this situation, the mean fuel utilization.
- Similar to the data-driven nature of algorithms, statistical models establish a link between a collection of predictors and an outcome of interest. For the typical person, a machine learning model was previously presented.

Using a set of predictors obtained over a specific time period, one may make predictions about fuel efficiency expressed in terms of miles per gallon or kilometres per litre. Our suggested model quantizes the space of predictor inputs with respect to fixed distance rather than fixed time, which is one way in which it varies from models that have come before. Indicators in the proposed model are gathered comparative with a decent window that addresses the distance the vehicle has voyaged, considering a more precise planning from input space to yield space. While frasher models simply become familiar with the examples in the information, more seasoned models furthermore play out an interpretation from the time sensitive size of the information space to the distance-based size of the result space. Information and result parts of the model sharing the same scale has many benefits.

- When gathering information, the pace is set such that it has an effect proportionate to its contribution. There is no difference in the quantity of information gathered when a vehicle is parked or in motion.
- Average fuel consumption may be affected by variations in the vehicle's duty cycle and the environment, which can be taken into account by the model's predictors.
- Fewer predictors are needed to store and transmit sensor data, which improves efficiency. Given the advancements in computing power in modern automobiles, it is preferable to execute data summarising close to the point of collection.

**II. RELATEDWORK**

Average fuel consumption has been modelled using both physics-based and machine learning approaches, as well as statistical models. Full vehicle simulation models based on physics were created by the Environmental Protection Agency and the European Commission for heavy duty vehicles [1, 2]. With these models, we can anticipate typical fuel usage within 3% of actual readings taken with a flowmeter [2]. Accuracy of this kind requires a lot of work in the lab. The opposite extreme of modelling is represented by statistical processes, which are used in controlled testing environments to guarantee that the findings given are consistent and reliable. Examples of such models may be found in the CFR [5]. This suggests a methodology for predicting new-car fuel consumption involving obvious measurable methodologies for explicit obligation cycles created from fragments of genuine voyages. Along these lines, the SAE J1321 [6] standard is applied to the computation of fuel utilization for trucks and buses after aftermarket changes or under varying operating conditions.



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# Detection and Classification of Diabetes from a massive data with the implementation of real-time cloud-based Machine Learning System

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**ABSTRACT** To infect a human there are a lot of different diseases that are spreading all over the world, at any case a human got affected by a major health issue. Some of the reports are been expressed that among the world population nearly 20% of people got affected by Diabetes. The major cause for the spread of Diabetes is the secretion of insulin in the body which automatically converts the sugar to protein and gets over limited. Identifying such a kind of disability at the previous stage is the hardest thing. Instead of trying different treatments here, researchers has given such an amazing report statement which identifies the classification of diabetes with the major data report at the same time storing such important data with a cloud platform for future predictions. In this research Advanced Deep Learning Algorithm is implemented to perform the Diabetes detection and classification.

**Keywords:** Classifiers, Advanced Deep Learning Algorithm, Diabetes, Big Data analysis, cloud management, Machine learning.

## I. INTRODUCTION

As we know that the ML concepts are being classified into three important techniques or types, in such a case support vector machine is one of the highlighted things to be known which comes under the supervised algorithm type. As normal, the concept of the supervised learning algorithm is that the user would feed enough data to the system, and with the labels and data provided to the system, it acts according to it. In case of creating a separate algorithm for diabetes-related health care systems then it requires several medical information like analyzing blood glucose levels, and the level of insulin that are being segregated within the patient's body. Here both the levels are being considered as the labels that are used to identify the actual presence of diabetes inside the human body. Imagining the similarity once the data is fed into the system and then the system would automatically try to plot the data that are received from the user and predicts the exact graphical representation from the data as output. While analyzing the graph model it has different regions, for example, maximum margin, maximum hyperplane margin, positive and negative hyperplane, and finally the supporting vectors, these are being considered as the statistical data that is used to analyze whether the patients are affected from Diabetes or not. Once the group separation is made then whenever the user feeds new data to the system then it automatically makes separation in it.

Other than blood glucose and insulin level from the patient's body the system would ask for some other additional data to make results inaccurate, for example, sometimes the body mass index values would result in positive or negative of diabetic patients. With utilizing all these requirements and the involvement of massive data transfer by implementing the real-time cloud technology ML algorithms are being the most health caring technology in recent days.

## II. LITERATURE REVIEW

After the rise of AI, ML, and cloud-based technology it is not much great thing to get access to information by staying in a different location, by utilizing this technology in order to prevent and to find the right solution for diabetes patients, through this paper the author has introduced an AI algorithm which is Bayesian and KNN type classifier, at end of this article he also proves the accuracy results with 60% of perfection result [1]. All over the world transportation is one of the most common things tackled by all sets of people, in order to reduce road accidents with the help of AI algorithms



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# IoT Based Energy Saving and Fire detection System Using Campus Cards

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## ABSTRACT

In class rooms or in offices lot of energy is wasted because the people are switching on the fans and lights and leaving the place without turning off them. In this project we are implementing novel system to save the power loss and if fire is detected in the campus this information updated to higher authority through GSM.

## INTRODUCTION

In homes, schools, colleges or industry we see that fan and lights are kept ON even if there is nobody in the room or area. The power wastages most commonly occurred in organizations are considered so as to avoid the wastage of power in the class room where more electricity is wasted due to carelessness or the negligence of students. To overcome this wastage the automatic switching of electrical appliances is considered. This is done based on the control of the electrical appliances during the class session timings where the switching ON of the electrical appliances is done automatically and in the remaining hours when the students move to other places like libraries, laboratories the switching OFF of the electrical appliances is done. The need of power consumers increasing rapidly meanwhile the renewable and non-renewable power generation is insufficient and the power wastage is also high due to the absence of people.

### Existing System

The huge amount of electrical strength of many nations is consumed in lightening the buildings, shopping malls for decorative purposes. However, there may be no need in midnight to switch them on. The system proposed throughout this paper, features automatically and switches the mild off for purchasing shops and homes while having nobody in it and activates the light when someone going to enter the home and colleges.

### Disadvantage:

- Huge power loss
- Poor control system

### Proposed System

In this system allotting a campus card to every student and whenever they entered into class it is going to read their number and count is going to increase and at the same time whenever any person leaving the class room the final count is going to reduce and at the same time fire can also be detected using this fire sensor. To detect the person placing the IR based trans-receivers. Which are going to detect, where person is sitting Since it is already known how many people are there in the room and as known where they seated and it is very easy that where to switch on the fan and light's. If all the persons leave the class room then can switch off all the electrical appliances in classroom. With this large amount of energy can be saved.



## A RESEARCH ON DETECTION AND CLASSIFICATION OF BREAST CANCER USING MACHINE LEARNING

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**ABSTRACT-**Breast cancer, is a type of cancer that affects women in larger number in the world. Medical advances on all fronts to improve the care of patients and defeat this disease of the century. Because of this, it is essential that several disciplines continue to make their contribution and particularly data mining or artificial Intelligence. The classification of breast cancer is a medical application that poses a great challenge for researchers and scientists. Recently, the neural network has become a popular tool in the classification of cancer datasets. The proposed method consists of three steps: The first step is to find region of interest (ROI). The second step is texture feature extraction of ROI and optimization of features using optimized feature selection algorithm. The third step is classification of detected abnormality as benign or malignant using Convolutional Neural Networks (CNN). The proposed method was evaluated using Mammographic Image Analysis Society (MIAS) dataset. The proposed method has achieved 95.8% accuracy.

**Keywords-** Breast Cancer Classification, Convolutional Neural Network (CNN), K-means based GMM Algorithm, Medical Image Processing, Mammographic Images.

**1. INTRODUCTION** Breast cancer is sort of malignant growth beginning from breast tissue, most commonly from the inner lining of milk ducts or the lobules of breast and then metastasizes to other areas of the body. In India, more than 100,000 women are recently determined with breast cancer every year; and have overtaken cervical cancer to turn into the main source for death among ladies in metropolitan urban areas. Breast Cancer is second most common cancer all over world [2]. Over 60% of breast cancers are detected in the complex stage and hence mortality from breast cancer are also high [3]. Hence premature detection of breast cancer is necessary in successful treatment and in dipping the number of deaths caused by breast cancer. Research related to the finding of breast cancer has improved for the duration of the final decade. Alto et al. [4] have chosen extracting descriptors of





## DESIGN AND ANALYSIS OF IOT-BASED INTELLIGENT ROBOT FOR REAL-TIME MONITORING AND CONTROL

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### ABSTRACT

Nowadays development of IoT applications with robotics is an ongoing reevaluation. This major project mainly focuses on the security, remote surveillance, and monitoring of our homes done by the surveillance robots. Remote surveillance has become the most important research topic over the past decade. Through this major project we put forward a surveillance robot that can be used in domestic areas and many other places. Robots are becoming important in our day-to-day life activities as they reduce the human labor and probability of error. We can control robots manually or they can be automatic based on the need of people. This project focuses on design and implementation of mobile robot for obstacle detection and avoidance in a real-time basis. In this major project, we will design robot car with DC motors and wheels. This robot will be controlled from anywhere in the world with the help of IoT technology. By using a IoT service provider app or website we can control the robotic movements like forward, backward, left, right and stop. In addition, the robot is interfaced with obstacle sensor. When any obstacle is detected then the robot will stop and changes the direction. We are using a raspberry pi board with inbuilt Wi-Fi module to interact with IOT server. This project is extending to the next level with the help of a camera for live streaming the video which is captured by using a Raspberry Pi camera which is interfaced to the Raspberry Pi Board. The PIR sensor is used to identify any human movement and that information will be updated in the IOT server. Whenever the human is detected then the live stream will be activated.

### INTRODUCTION

Innovation has gotten a dynamic and enormous change mechanical technology and mechanization field which runs in a wide range of regions. Surveillance is the procedure of close deliberate perception or supervision kept up over an individual, gathering, and so forth particularly one in care or under doubt. Traditionally surveillance is done by systems which are installed in every security critical areas. These systems mainly consist of high quality cameras, multiple computers for monitoring, servers for storing these videos [1]. The installing of these systems everywhere is a complex task and also requires heavy maintenance. Thus surveillance is for the most part required in the territories where the frameworks cannot be introduced, for example, outskirts zones, open spots, workplaces and in ventures. It is primarily utilized for observing exercises. The demonstration of surveillance can be performed both indoor just as in open air regions by people or with the assistance of implanted frameworks, for example, robots and other robotized gadgets. A robot is only a





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# Control of Wheel Chair by Eye Movement Using Image Processing

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## ABSTRACT

The purpose of Eye movement based control electric wheelchair is to eliminate the necessity of the assistance required for the disabled person. The implemented system will allow the disabled person to control the wheelchair without the assistance from other persons. In this system controlling of wheelchair carried out based on Eye movements. The camera is mounted in front of the user, to capture the image of any one of the Eye (either left or right) and tracks the position of eye pupil with the use of Image processing techniques. According to the position of the eye, wheelchair motor will be directed to move left, right and forward. In addition to this, for the safety purpose ultrasonic sensor is mounted in front of wheelchair to detect the obstacles and automatically stop the wheelchair movement.

## INTRODUCTION

The number of persons who are paralyzed and therefore dependent on others due to loss of self-mobility is growing with the population. The development of the wheelchair for paralyzed users is surprisingly recent starting with the conventional manually powered wheelchairs and advancing to electrical wheelchairs. Conventional wheelchair use tends to focus exclusively on manual use which assumes users still able to use their hands which excludes those unable to do. This system is introduced for easy movement for the disabled persons. In this system the camera captures the image of the person and detects the eye. According to the position of the eye pupil the movement of the wheel chair will be done.

## System Design

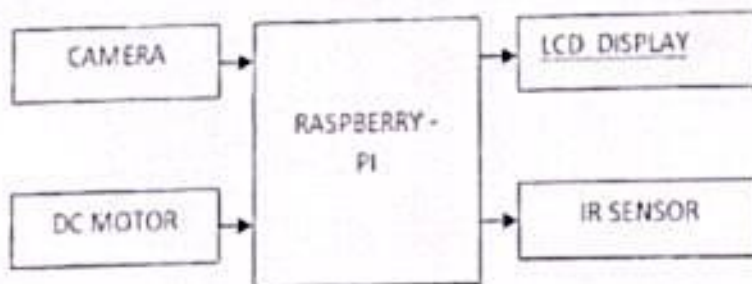


Fig :1 Block diagram of system

Our project system implementation is working based on real time data acquisition operating system. We are using the Raspberry pi B+, the advance computer board that consumes low power, Which provides well enough in/out pins, USB ports, UART, PWM, HDMI port and Ethernet adapter port for connecting it through internet via wired or wireless connection. Also raspberry pi have up to 32 GB external memory capably. Here we are using the 512MB RAM of the Raspberry pi and it is controlled based on the ARM architecture. The figure1 represents the experimental setup of the system. The camera module is mounted on the Wheelchair in front of user/patient Eyes. The main important thing is a distance between eye and camera device is fixed, no changes can be done otherwise it won't work. It may be 10cm to 14cm. The mounted Camera module will capturing the images of user face and eye, and find out the exact eye pupil

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# Smart Farming Using IOT

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**Abstract** - The agriculture industry is developed a lot with the help of technology; it became data-oriented and smarter. The rapid growth of the Internet of Things based technologies reshaped many industries, including agriculture. Such a radical change dismantles existing farming practices and creates new opportunities along with some challenges. The IoT systems contributed in many fields and proven. It is time for farmers need to introduce the Smart Agricultural systems for higher crop yield. With a compilation of data from sensors and modern electronic gadgets, the farmer can monitor agricultural fields. Smart Agriculture can forecast weather data, switching ON the pump motor and switch ON the bulb for artificial light due to less light intensity, for farms acknowledging the dampness of soil of moisture levels. The IR sensor detects the pest and humans by their temperature; the sensors are interfaced to process module Arduino-UNO. The Smart agriculture system can be operated from anywhere with the help of networking technology.

**Index Terms** - Internet of Things (IoT), Agriculture, Soil moisture sensor, Arduino-UNO ATmega328p, IR sensor, Smart farming.

## I. INTRODUCTION

Despite a growing population, the agriculture industry must rise to meet demand, regardless of environmental challenges like unfavorable weather conditions and climate change. In IoT-based smart farming, a system is built for monitoring the crop field with the help of sensors (light, humidity, temperature, soil moisture, IR sensor) and automating the irrigation system. The farmers can know the field conditions from anywhere. IoT-based smart farming is highly efficient when compared with the conventional approach. The benefits which farmers are obtaining by adopting the IoT program are innumerable. It has helped farmers to reduce costs and increase crop yields. The primary purpose of the system is to maintain the ideal environment for the growth of crops. With the usage

of smartphones and computers, users can access the data through the mobile site. Users can keep track of the crops and control the water pumps, lights, and fans in the control panel of the user interface. The primary aim of an intelligent irrigation system is to provide and maintain the optimum conditions for the crops. Through cultivating in an environment with sufficient water supply and ideal temperature, the growth of plants can be improved. Thus, the productivity of the agriculture field will increase as well. Using an IR sensor, we can detect the pest, birds, and humans through their temperature sensing and informs them to the user. By using this technology, we can increase productivity and can feed more people in the future. IoT transforms the agriculture industry with advancements and helps farmers to contend with their challenges. The applications can notify the IoT issues; it is cost-effective, and production of the crop will be increased [1]

## II. LITERATURE SURVEY

A brief overview of existing work in various papers, which have been referred for implementation.  
In [1] K. Lakshmi Sudha et. al, "Smart Precision Based Agriculture Using Sensors"; It focuses on developing devices and tools to manage, display and alert the users using the advantages of a wireless sensor network system.  
In [2] Sushanth & G. Sujatha, "IoT Based Smart Agriculture"; The paper aims at making use of evolving technology i.e., IOT and smart agriculture using automation. Monitoring environmental conditions is the major factor to improve yield of efficient crops. The feature of this paper includes development of a system which can monitor temperature, humidity, moisture and even the movement of animals which may destroy the crops in agricultural fields through sensors using an Arduino board.



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## IOT BASED SMART HELMET AND ACCIDENT IDENTIFICATION SYSTEM

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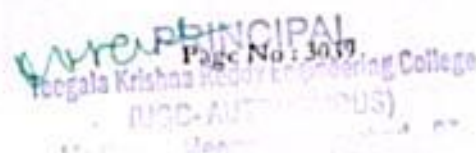
### ABSTRACT

In this concept, we are using two parts, Helmet section and Bike section. At first, the helmet circuit has IR, MQ3 Sensor (Alcohol detection) and RF Transmitter interfaced with Arduino UNO controller. The Bike circuit has RF receiver, Relay Driver, Relay, Push Buttons (Load identification sensor), MEMS Sensor interfaced with ARM7 Micro controller. The helmet circuit sends a signal to the automobile or bike circuit to start if the helmet is over the head of rider and no alcohol detects. If alcohol is detected or helmet is not detected then the Ignition of bike circuit will be OFF. Similarly, if an accident is detected using MEMS sensor or triple riding is detected using push button then the ignition of motor will be OFF. These Sensors's notification can be received through the Blynk app. Also, the live location of the bike circuit can be tracked using Blynk app.

### INTRODUCTION

As per the global report of WHO (World Health Organization) on road safety, India has the highest number of road accidents in the world and has overtaken China in the process. Out of all these accidents 98.6% of bikers died due to major injuries to brain. If we look on accident's statics in India for last 5 year, we realized that there were one death in every 4 minutes due to road accident and drunken driving is also major cause of accident. To reduce the deaths due to accident government comes with 'no helmet no petrol' act but public goes against with this act and after sometimes this act was vanished. Traffic police are also unable to cover all the roads. So, we proposed smart helmet as a solution of this problem. The objective of the system includes helmet which is mandatory to start the ignition of bike. The drunken driving is another main cause of accident. This system also has a solution for this. This provides automatic turn off ignition of bike when drunken driver tries to start the bike.

A motorcycle frequently called motorbike, which is the most used than another form of automobiles because of its low price. But another side, this is the most unsafe automobile. The accident can happen for driving fast or driving after consuming alcohol. Safety and



## BRAIN TUMOR DETECTION BY USING CNN AND VGG-16

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### ABSTRACT

Medical science has incredibly grown and become Successful in modern years. Technology is altering the world of medicine. The main objective of our project is to detect the brain tumour by using Convolutional Neural Network(CNN) and VGG16. A Convolutional Neural Network is a classification of deep neural networks. CNN is mainly used for Image Processing, by which we will capture the image and compress it, VGG is the simple yet easy model in the CNN. VGG-16 incorporates sixteen nineteen deep layers, a crucial CNN model comes to the notion if one wishes to use an off-the-shelf model for a task. Our paper intends to locate out the brain tumour with the utilization of VGG-16, by using Convolutional Neural Network model. The performance will be evaluated on accuracy.

**Keywords:** CNN, VGG-16, Accuracy, Classification, MRI DNN.

### I. INTRODUCTION

Artificial Intelligence comes under the domain of science co-operated with the idea of designing a machine which can learn by itself without any person's interference. Because of AI, humans can design machines which can think like humans and can learn from the experiences like human do. Many of the practical examples we are seeing today like solving various optimization complications, Classifying huge digitized data and getting required pattern, self-driving cars depending on natural language processing and deep learning. The existence of more layers and model is deeper, then the overall performance will be higher. Different deep learning algorithms are Multi-layer Perceptron Neural Network, Convolutional Neural Network, Recurrent Neural Network, long Short-term Memory, Deep Boltzmann Machine(DEM), Deep Belief Networks to function on sequential Data(signals and text). Recurrent Neural Networks are there. Now a days super computers are widely used for editing and analysing the image of a given patient and using the image, it changes the dimensions and analyses the given input of the user by using Convolutional Neural Network. This Convolutional Neural Network plays a key role by using different data set and compress the image in to computer format so that it can process the data by using artificial intelligence and using different layers such as

1. Convolutional layer: this layer preserve the characteristics of the image.
2. Pooling layer :this layer reduces the dimensions of the given data, which can avoid the over-fitting.
3. Fully connected layer:It forms the last few layers in CNN network.

We use VGG-16 model from the CNN. This Visual Geometry Group was a very simple and has a great depth. This has 2 models with 16 and 19 layers of deep datasets. VGG is an object-recognition model that supports up-to to 19 layers. We use this various datasets and use for image-recognition architectures.

### II. METHODOLOGY

#### CNN MODEL:-

CNN is an Convolutional Neural Network. CNN model will detect the Tumor and differentiate the type of Tumor. CNN is a deep learning algorithm which take input image and process the image and differentiate the one image from another. It has four layers, i.e.: Convolutional layer, Pooling layer, Flattening layer, Fully connected layer. Those four layers performs the four different operation on the input image.



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# Automation system for industries using secure NRF24L Communication system

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**ABSTRACT:** Automation has become a ubiquitous process in this present time. Nowadays seeing an outcome without any human interference is a common view. This project reviews the usage of automation in industry environment which is wireless and can be implemented. Moreover, it also shows safety measures to be taken for normal misfortunes in industry. System includes Arduino nano microcontroller at the transmitter and receiver which are interfaced with the NRF24L modules. At transmitter end we have keypad for controlling appliances. And at the receiving end we have another nrf24l receiver module which includes like fan, motor, led, controlling system to make them turn off and turn on and provide security with a altering system.

**KEYWORDS:** ARDUINO NANO, NRF24L Module.

## 1. INTRODUCTION

It often happens that we forgot to switch off some electric devices while leaving home for a journey. This will cause wastage of energy, power and even the devices may get damage due to overheating and load. Even if we remember often left from home there is a rare options to rectify it. But it causes wastage of time and at the same time wastage of energy too. Also if we are away from home we may have to turn on lights at night. These are normally not possible in present conditions. so, this paper offer a solution for a problem by using mobile phone which we can handle easily for normal people and also vary useful for disabled(handicap) people ex: ac, fans, lights, water pumps, door etc. The components that we use in this paper are Power supply Atmega328 microcontroller, Relays, Nrf24l module, and home appliances that we needed to control For Ex: fan, light, water pump and door etc.

## II. WORKING PRINCIPLE:

Connect the NRF24L01 module with Arduino according to the circuit diagram. copy the code of transmitter and receiver and paste it in Arduino IDE. Upload the code. Now, open the serial monitor and observe the message that is coming from the transmitter to the receiver.

This system includes arduino nano micro controllers at the transmitter and receiver which are interfaced with the NRF24L modules. At the transmitter end we have a keypad for controlling the appliances. And at the receiving end we have a another NRF24L receiver module which includes lights, DC motors, locks and a security system to make them turn on and turn off and alert. It also includes the PIR sensor For Human detection

## TRANSMITTER

In the transmitter block we have a battery with Arduino Nano which is interfaced to the 3 pin push button keypad and a Nrf24l module. Whenever we press the push button for controlling of light, fan or lock then a digital data to a specific address will be sent to the receiver using a particular frequency band above 2Ghz.

## RECEIVER

In the receiver block, arduino Nano is interface with the power supply, green led, red, led, buzzer, Pir Sensor, relay and L293D motor Driver modules, light, fan and lock with Nrf24l receiver module. The Nrf24l receiver will capture the signal from the Transmitter and decode the data with specific frequency and address. This decoded data will executed to the respective appliances like light, fan or lock. And a pir sensor is used for providing the Security.





### LEAF DISEASE DETECTION AND SUGGESTING THE REQUIRED PESTICIDE

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**ABSTRACT:** This paper presents identification of the apple plant leaf diseases and suggesting a natural remedy and pesticide for its prevention or cure. Identification is that the key to preventing the losses within the yield and quantity of the agricultural product. Hence, image processing is done for the detection of plant diseases, and that we can suggest the pesticide accordingly. Disease detection involves the steps like pre-processing of the input image, image segmentation and classification, beginning being pre-processing, which involves resizing and removal of noise, and therefore the second step is segmentation and at last classification. We've used gaussian blur for noise removal, for segmentation we've used k means clustering and for recognition of disease, we have used the Support Vector Machine classifier to spot if the leaf contains a disease or it's healthy. After, the mentioned steps we will display what kind of disease the leaf has and an appropriate remedy for it (both natural remedy and pesticides for prevention). The discussed methods are used for the detection of plant diseases using their leaves images. Health monitoring and disease detection on plant is incredibly important for agriculture. It's very difficult to watch the plant diseases manually. Disease detection involves the steps like image acquisition, image pre-processing, image segmentation and classification.

**KEYWORDS:** Leaf Disease Detection, SVM, Support Vector Machine, Image Processing, Image Pre- Processing, Image segmentation, k means clustering, image classification, leaf disease detection flask implementation, Leaf disease classification.

#### 1. INTRODUCTION

Identification of the plant diseases is the key to preventing the losses in the yield and quantity of the agricultural product. The studies of the plant diseases mean the studies of visually observable patterns seen on the plant.

Health monitoring and disease detection on plant is very critical for sustainable agriculture. It is very difficult to monitor the plant diseases manually. It requires tremendous amount of work, expertise in the plant diseases and require the excessive processing time. Hence, image processing and Machine learning techniques are used for the detection of plant diseases. Disease detection involves the steps like image acquisition, image pre-processing, image segmentation, and classification.

Technology helps human beings in increasing the production of food. The production of food can be affected by number of factors such as climatic change, diseases, soil fertility etc. Out of these, disease plays major role to affect the production of food. Agriculture plays an important role in Indian economy.

Elaborate different techniques for the detection of plant disease using the images of leaves implemented Otsu's thresholding followed by boundary detection and spot detection algorithm to segment the infected part in leaf. After that they have extracted the features such as colour, texture, morphology, edges etc. for classification of plant disease. BPNN is used for classification i.e., to detect the plant disease.

Other solution analyses different image processing approaches for plant disease detection, analyzed the colour and texture features for the detection of plant disease. They have experimented their algorithms on the dataset of 110 RGB images. The features extracted for classification were

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## Electric Scooty

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**ABSTRACT:** India is the second largest producer and manufacturer of two-wheelers in the world. It stands next to Japan and China in terms of the number of two-wheelers produced and domestic sales.

Indian two-wheeler industry has got spectacular growth in the last few years. The face of auto industry that was redefined with the invention of fuel-efficient technology is all set to see dawn of a new era in two-wheeler industry.

It's not petrol or diesel or any other fuel, but it is electricity that has initiated a revolution in two-wheeler industry in India.

Indian two-wheeler industry has embraced the new concept of Electric Bikes and Scooters that are very popular mode of personal transportation in the developed countries like America, Japan and China.

So, the electrically charged bikes or scooters have very bright future in area of personal transportation.

Here we introducing an Electric Scooty having three way charging mechanism. This electric scooty uses dc generator for generating power while running, uses solar panel when scooty is at rest and a charger that operates from main power supply for charging the battery. This electric scooty uses 24V 250W brushless direct current (BLDC) hub motor and Lithium ion (Li-ion) battery. The use of BLDC hub motor in the bicycle that avoids the complexity and losses while using the permanent magnet direct current (PMDC) motor. Li-ion batteries are used. Whenever the scooty is robbed or lost through GPS tracker we can easily find it if someone tries to unlock the scooty in any appropriate way, face recognition will capture the photo of the person and it will send the image of that person to our mobile. This feature helps when our scooty is lost, whenever if there is any internal problem in the scooty the accident sensor will gives us an alert, the electricity is stored in the battery, if

the battery is fully discharged then the energy of solar panel is used. electric scooty will be a big advantage to future generations. college going student's, senior citizens can easily have this scooty as this comes at a low cost when compared to other e-bikes.

**KEYWORDS:** DRP, RAM, ROM, RW, LCD, BCD, A DC, DAC

### I. INTRODUCTION

In recent years, environmental problems caused by fuel vehicles and fuel economy become more and more serious. The vehicles of new energy, which is green, environmentally friendly and economical, is an important goal for economic and social development of many countries, but also the future development direction of the vehicle. EV is a vehicle with zero pollution emissions, mileage and fuel vehicles can be mutually comparable electric vehicles. Being an e-scooter, the electric system plays a promising role in its designing and creation. The electric system consists of battery, motor, motor controller and other electronic equipment. The most important thing that electric system does is that it gives power to the motor which helps in the running of the scooter. This energy in form of chemical or electric energy is stored in the battery which is used by a hub motor, thus the electric or chemical energy converted to mechanical energy. A proper electric system is important to ensure driver and vehicle safety in case of collision. The brushless DC (BLDC) motor is fixed to hub of rear wheel of e-scooter. The reason for choosing BLDC motor is its compactness and noiseless operation. So, our main Objectives to design or development an Escooter are as following: -

To reduce running cost of vehicle ii. To reduce the emissions iii. To overcome the draw backs of electric vehicle iv. To increase life period and efficiency of existing scooters.

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## COLOUR HISTOGRAM BASED IMAGE RETRIEVAL TECHNIQUES FOR DIABETIC RETINOPATHY & ANAEMIA DETECTION

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### ABSTRACT

Diabetic Retinopathy (DR) is the critical and most common eye related disease. Early detection of DR is the best solution to prevent from this disease. This project proposes an Image Retrieval technique that search and retrieve the query image from retinal Database.

Anaemia occurs when there are not enough healthy red blood cells to carry oxygen to your body's organs. Having anaemia, also referred to as low haemoglobin level in a humans body. Major symptoms of anaemia are tiredness, weakness, fatigue, dizziness, shortness of breath, headaches, and a reduced ability to exercise. At first, anaemia can be so mild that you don't notice it. But symptoms worsen as anaemia worsens.

**Keywords :** Diabetic Retinopathy, Anaemia, Image Retrieval Technique, Query Image

### INTRODUCTION

In recent years, with the rapid development of digital image proc, helping the user to find the multimedia information what they need quickly and effectively becomes a hot research topic at present. Image retrieval is a major component of multimedia information retrieval technology, and also one of the basic theory of video information retrieval, it play a significant role in the field of information retrieval.

Image retrieval is based on users' query requests, extract an image or image set that related to the query image from the image dataset. The Minority-based image retrieval has been proposed in the early 1990's. This approach is to retrieve images using low-level





## MOVEMENT BASED AND VOICE ENABLED DEVICE SWITCHING AND BASIC NEEDS FOR PHYSICALLY CHALLENGED

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**Abstract:** The main aim of this project is to control the devices and to ask the basic needs like water, food or medicine by using MEMS (Micro Electro-Mechanical Systems) technology. MEMS is a Micro Electro Mechanical Sensor which is a highly sensitive sensor and capable of detecting the tilt. This sensor finds the tilt and makes use of the accelerometer to change the direction of the wheel chair depending on tilt. For example, if the tilt is to the right side, then the wheel chair moves in right direction or if the tilt is to the left side, then the wheel chair moves in left direction. Wheel chair movement can be controlled in Forward, Reverse, and Left and Right direction along with obstacle detection using ultrasonic sensor. These had greater importance than any other technologies due its user-friendly nature. The obstacle detection mechanism is done by an ultrasonic sensor that makes use of ultrasonic waves to find the presence of an obstacle in its path. It makes use of the ultrasonic sensors to detect the obstacle present in its expected trajectory and dynamically changes.

**Index Terms:** MEMS (Micro Electro-Mechanical Systems), Wheelchair, Ultrasonic sensor, Accelerometer, Obstacle detection mechanism, Highly Sensitive sensor

### I. INTRODUCTION

This project develops device switching via voice commands. Therefore, the focus is on device switching and controlling GSM modem to send SMS in case of emergency, all controlled by voice commands. To be specific, there are three main objectives in this project. First of all, to design and construct a voice enabled device switching system to assist physically challenged and elderly people. Secondly, to control the electrical devices like light, fan, etc. with the help of voice recognition system. Although many systems have been developed that use voice recognition such as voice enabled wheelchairs, voice enabled home loads and many more, they do not provide monitoring ability. In this project the user has the ability to monitor the loads and security system. This project focuses on device switching by voice commands, which is a great help to those with disabilities and elderly people. This system will give them an opportunity to live as autonomously as possible in their own house. They will have the ability to switch ON or OFF all their home appliances from anywhere in the house by voice commands while monitoring.

Speech recognition, which is also used in domestic automations, was first predicted in 1976 by Reddy Boldly. He predicted that in 10 years from 1976, connected speech systems will be built with the cost of \$20,000. Although the system was eventually built, it was not built within the expected time frame and its costs were much lesser than predicted. This technology has been improving every day, and the costs of it have been decreasing in turn, up-to the point that in today's life speech recognitions can be used in most smart phones and even laptops, with no extra charges. Speech recognition is one of the best advancements that will be center of attention in any field imagined due to its simplicity to use and affordable cost. Since speech recognition is the most natural way of interaction, it can be used in any system. We might witness a lot of machines, home appliances, robots and etc. fully functioning with voice commands, in the near future.

Speech recognition is basically translation of spoken words into text, in computer science point of view. The main two engines running speech recognition in Microsoft speech are automatic speech recognition (ASR) and Text to Speech (TTS). There are two types of speech recognition: 1- Speaker dependent 2- speaker independent. In the first type the system only responds well to the individual who trained the system and there is a wide range of words that can be detected. This type of recognition can be used for security systems and personal computers that work with voice recognition. The second type works based on the words detected and does not depend on the individual who gives the commands. Although in this type the number of words that can be recognized is



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## RETINAL DISEASE SCREENING THROUGH LOCAL BINARY PATTERNS

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### ABSTRACT

When sugar level (glucose) in the blood fails to regulate the insulin properly in human body, diabetic is occurred. The effect of diabetic on eye causes diabetic retinopathy. Diabetic Retinopathy is one of the complicated diabetes which can cause blindness. It is metabolic and the disordered patients perceive no symptoms until the disease is at late stage. So early detection and proper treatment has to be ensured. To serve this purpose, various automated systems have been designed). A key feature to recognize Diabetic Retinopathy is to detect Microaneurysm in the fundus of the eye. This work investigates discrimination capabilities in the texture of fundus images to differentiate between pathological and healthy images. For this purpose, the performance of Local Binary Patterns (LBP) as a texture descriptor for retinal images has been explored. The goal is to distinguish between diabetic retinopathy (DR) and normal fundus images analyzing the texture of the retina background and avoiding a previous lesion segmentation stage. We propose preprocessing technique such as Contrast Limited Adaptive Histogram Equalization (CLAHE) to enhance the contrast of the input image and we use candidate extractors such as Circular Hough Transform to improve the red lesion detection. Finally the output image was classified as Normal and Diabetic retinopathy (DR).

These results suggest that the method presented in this paper is a robust algorithm for describing retina texture and can be useful in a diagnosis aid system for retinal disease screening.

### INTRODUCTION

Retinal microcirculation offers a unique non-invasive way to study the early manifestation of several diseases affecting the human circulatory system. Changes in retinal vascular geometrical patterns such as width, tortuosity, branching angle, junction exponents and fractal dimension have been investigated as candidate biomarkers in various ocular, systemic and neurodegenerative diseases. Data from long-term population-based studies have demonstrated a consistent link between the retinal microvascular changes with incident clinical stroke, hypertension, arteriosclerosis, dementia and other cerebral small vessel diseases [9]. For instance, the narrowing of arteries and widening of veins is a significant indicator of the progression of diabetic retinopathy.

Visual surveillance in machine understanding has been investigated worldwide during last few decades. Human motion detection & tracking from video imagery is one of the most active research fields. The social interests in movement detection and tracking of people have enormously increase in recent years with numerous applications like human computer interface, surveillance, security and many others. Moving object detection and







# Health Care System for Home Quarantine People

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**ABSTRACT:** We have proposed an Internet of Things based electronic wireless communication system which is monitoring the health parameters continuously by using biosensors such as Body temperature sensor and Heart rate sensor. The received values will be transmitted to the nearby medical centre or COVID Hospital and the same values will be displayed on IoT web server or App. The information on this web-server or app can be monitored by the doctor's mobile devices dealing with quarantined people and Government authorities through the server. The data can be continuously monitored for a 24x7 time frame and that too with non-contact with the person.

**KEYWORDS:** Temperature sensor, Heart beat sensor, RHMS, MCD.

## I. INTRODUCTION

When the COVID-19 disease was rapidly spreading throughout the world, the most difficulty faced by hospitals was the lack of enough places (i.e., beds) to accommodate the patients. Hence, they were forced to send back the patients with mild symptoms to their homes for self-quarantine. During the home quarantine period, it is very troublesome to monitor the patients' live status by doctors or other medical staff. Proper medications have to be provided promptly in case the symptoms get worse. No delays in notifications can be tolerated. The implementation of an Home Quarantine Patient Monitoring System, with the help of IoT network, would minimise the physical gap between the patient and the healthcare system.

To such an aim, an Internet of Things (IoT) based network infrastructure is conceived in this paper, since heterogeneous devices can be involved in remote monitoring applications; in fact, it comprises wearable sensors, GPS tracker, air quality sensor, a lightweight database and a

monitoring dashboard. Wearable sensors would monitor the body temperature, blood pressure, oxygen saturation, heart rate and respiratory rate. GPS tracker would ensure the patient does not leave the permitted area during the quarantine period. This helps to prevent the community from spreading. The air quality of the quarantine room is also measured as it has a role in patients' recovery from the effect of COVID-19 on lungs.

## II. EXISTING SYSTEM

### Health Care Concerns In Telemedicine

This section introduces an overview of healthcare service concerns in telemedicine. Further healthcare services are apparently required, particularly services supplied from outside of hospitals. Chronic diseases (e.g. cardiovascular diseases, cancer and diabetes) are critical matters for healthcare services, given that these diseases embody one of the first causes of mortality, morbidity and disability. Several challenges occur in healthcare service provision for telemonitoring systems. However, this study focused on the challenges related to scalability. The challenges in healthcare service in relation to scalability problems are presented in taxonomy

### SYSTEMATIC REVIEW PROTOCOL FOR PATIENTS PRIORITISATION

The scope of this study was established by using the keywords 'telemedicine', 'triage', 'priority' and 'sensor'. Other telemedicine studies, such as surveys and reviews, were excluded. The scope was limited to English literature but considers all health-related areas. Three digital databases were searched for target articles: (1) the Science Direct database offering access to science, technology and articles in highly reliable journals; (2) the IEEE Xplore Library of technical literature



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## COVID-19 DETECTION WITH CHEST CT-SCAN IMAGES BY USING CNN

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### ABSTRACT

SARS-CoV-2, also known as COVID-19 or Corona virus, is a viral contagious disease that is infected by a novel corona virus, and has been rapidly spreading across the globe. It is very important to test and isolate people to reduce spread, and from here comes the need to do this quickly and efficiently. According to some studies, Chest-CT outperforms RT-PCR lab testing, which is the current standard, when diagnosing COVID-19 patients. Due to this, computer vision researchers have developed various deep learning systems that can predict COVID-19 using a Chest-CT scan correctly to a certain degree. The accuracy of these systems is limited since deep learning neural networks such as CNNs (Convolutional Neural Networks) need a significantly large quantity of data for training in order to produce good quality results. Since the disease is relatively recent and more focus has been on CXR (Chest XRay) images, the available chest CT scan image dataset is much less. Using a pre-built predictive model, we concluded that around 40% of the generated images are correctly predicted as COVID-19 positive. The dataset thus generated can be used to train a CNN-based classifier which can help determine COVID-19 in a patient with greater accuracy.

Keywords: Corona virus, Convolutional neural networks, Chest CT, Multi-objective, Differential evolution.

### I. INTRODUCTION

Pneumonia of unknown cause discovered in Wuhan, China, was published to the World Health Organization (WHO) office in China on 31st December 2019. It was consequently assigned to Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2) because of having similar genetic properties to the SARS outbreak of 2003. Therefore, on 11th February 2020, WHO termed that new disease as COVID-19 (Corona virus disease), which displays an upper respiratory tract and lung infection. The clinical characteristics of critical COVID-19 pandemic are bronchopneumonia that affects cough, fever, dyspnea, and detailed respiratory anxiety ailment. According to the WHO reports, COVID-19's general indications



### ADIONA - SMART SHOES FOR BLIND

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#### ABSTRACT

Eyes-we all know that this is the best gift god give us. All the things happen around us, this whole world is visible to us, because of eyes. But there are some people who can't able to see the things happen around them, they can't see what's going on their surrounding areas, because they are blind or they lost their vision permanently. Those people face many challenges in their daily life. They used walking cane, or stick to move and detection of any object. But stick is not give proper results and it issued for limited range. There are many types of sticks and other devices are available in market but they are very expensive, so poor people can't buy it. This paper presents smart shoes for blind person. This smart shoe is easy to use and it creates user-friendly environment for blind person. It is wearable system. And it is not expensive. In this ultrasonic sensor, buzzer, battery, Arduino Uno and jumper wires are used.

**Keywords:** A.

#### I. INTRODUCTION

Blindness, low vision, visual impairment and vision loss have dramatic impacts on individuals experiencing such disabilities. These carry with them physiological, psychological, social, and economic outcomes, hence impacting the quality of life and depriving such individuals from performing many of the Activities of Daily Living (ADL), the most crucial of which is navigation and mobility. Blindness is a qualitative term that describes the clinical condition whereby individuals have no light perception as a result of total vision loss. Blindness also refers to those who have so little vision that they have to rely predominantly on other senses as vision substitution skills. On the other hand, visual impairments is a qualitative term used when the condition of vision loss is characterized by a loss of visual functions at the organ level, such as the loss of visual acuity or the loss of visual field.

#### II. METHODOLOGY

Moadid Khder, University, Conference: International Conference on Sustainable Futures ICSF 2017, Bahrain. Smart Shoes for Visually Impaired/Blind People

Sight is considered the most important sense and the blind people are observed upon with pity by others. Technology helps the blind people to communicate with the environment, the communication process and the dissemination of information has become very fast and on a wider scale to include all parts of the world which greatly affected to the human life, thus increasing the ways of entertainment and comfort and reduced suffering and hardship in many things. Blind people are part of this world, so the technology must leave a significant impact on their lives to make what was impossible for them as possible and available to them today. The assistance provided earlier for blind people were as a particular hardware device such as talking OCR Products, identifying color, barcode readers; that hardware were expensive and limited capabilities due to rapid change in hardware. The challenges faced by impaired/blind people in their daily lives are not well understood. In this paper, we try to present an application called SMART SHOES where it's a way to give hand to blind people with the aid of technology in order to solve some of their faced problems. The Application results enhance the understanding of the problems facing blind people daily, and may help encourage more projects targeted to help blind people to live independent in their daily lives.

**PRE- WARNING SYSTEM FOR WEAK BRIDGES AND HOUSES USING IOT****J. Srikanth<sup>\*1</sup>, Ch. Prudhvi Sai Reddy<sup>\*2</sup>, D. Mounika<sup>\*3</sup>, A.G.Sai Sreelekha<sup>\*4</sup>, C. Pavan Kalyan<sup>\*5</sup>, K. Kumara Swamy<sup>\*6</sup>**<sup>\*1,2,3,4,5</sup>Student, Department of Electronics and Communications Engineering, Teegala Krishna Reddy Engineering College, Hyderabad, Telangana, India<sup>\*6</sup>Assistant Professor, Department of Electronics and Communications Engineering, Teegala Krishna Reddy Engineering College, Hyderabad, Telangana, India.**ABSTRACT**

In this project the alert is made about weak bridges and houses that may destroy and having a risk of collapsing. The main aim of the projects is to avoid hazards. Early warning systems are the systems by which the people receive relevant and timely information in systematic way. Early action can often prevent a hazard turning into a human disaster by preventing loss of life and reducing the economic and material impacts. In the bridge or House monitoring system is significant to the structural health monitoring of both old/new bridges and flyovers an infrastructure daily used by citizens of their respective countries. In this system we use MEMS sensor for dislocation or uneven movement of the bridge or house, flex sensor is used to crack detection, and a ESP32 micro controller is used for processing the data and to react according to the instructions and alert the system whenever there is a uneven condition occurred.

**I. INTRODUCTION**

Human beings need shelter to live, so they have started building houses and buildings. A bridge is a structure which connects two places. A bridge is a structure built to span a physical obstacle, such as a body of water, valley, or road, without closing the way underneath. It is constructed for the purpose of providing passage over the obstacle, usually something that is otherwise difficult or impossible to cross. Two things should be considered when you are building the foundations - the solidarity of the soil and the heaviness of the building and its content. The causes of weak buildings or houses may be weak foundations, poor soil condition, poor materials - Materials that just aren't strong enough to withhold the load used in construction, unskilled or semi-skilled workers - Even when workers are given the right materials to make the concrete, they mix them incorrectly. This results in concrete, which is not of the sufficient strength to hold the load, the load is heavier than expected, the strength isn't tested and to cover a water body such as a well, lake etc. and build a house or a bridge. In this system, we use MEMS sensor for dislocation or uneven movement of the bridge or house, flex sensor is used to crack detection, and a Atmega328 microcontroller is used for processing the data and to react according the instructions and alert the system whenever there is an uneven conduction control.

**II. METHODOLOGY**

The working principle of the project is based on the working of flex sensor and mems sensor.

The mems sensor and flex sensor are connected to the ESP32 which is also connected to the power supply, LEDs and buzzer. The mems sensor should be in stable position and x, y coordinates are the marks (2000-1550) digitally. The flex sensor range is (0-1000v) lower the value it gives and the more sensitive it becomes. It is 100v the program is written in the ESP32 according to these values. When the mems sensor x and y coordinates value is greater than 2000 and lower than 1550 then red led glows and buzzer will beep. If x and y value is less than 2000 and greater than 1550 buzzer will be off and green led glows. When the flex sensor value is less than 100 and it is bent then red led glows and buzzer starts beeping. If the flex sensor value is more than 100 when it is in stable position then green led glows and buzzer will be off. And GPS data will continually update the information in the server it is used to detect the location of the house.

## ADVANCED WHEEL CHAIR CONTROL SYSTEM

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### ABSTRACT

Freedom of mobility is a dream for every person with physical disability especially in the case of paralysis, quadriplegics. This project focuses on the development of an advanced wheelchair for application of physically disabled persons. It helps the caregiver to avoid heavy lifting situations that put their back at risk of injury, and allow them to spend more energy at the end of the workday. The proposed concept works on the mechanical control principle which is a friendly assisting device for the physically challenged patients who can pee without the help of caregiver. This project presents the details about design, fabricate and testing of the device. With the outcome of this project enhances the knowledge in the structural design of mechanical links. It has an advantage of exit hole for human waste; thereby it becomes advanced wheel chair. The hole can be closed and opened with the help of lead screw and dc motor. Finally, in order to validate the complete proposed advanced wheel chair, a prototype has been demonstrated and presented in this project.

**Keywords:** Gesture, Arduino, Embedded.

### I. INTRODUCTION

In recent time, overall of peoples in the world, approximately 1.85% of them require a wheelchair especially from the group of elderly and disabled people. With the world population keep increasing each day, there is an additional need for wheelchairs every day. Wheelchair is the best device in assisting people to enhance their personal mobility in everyday life. So that, elderly and disabled persons can find it convenient to move and maneuver around using the help of a wheelchair which can either be pushed by another individual or propelled either by physical force manually or electronically. As we know, traditional wheelchairs have some limitations in context to flexibility, bulkiness and limited functions.

### II. METHODOLOGY

The device architecture consists of an Arduino Uno microcontroller which serves as the Wheel Chair bot 's brain, motor driver circuitry which is responsible for controlling the 24-volt DC motors attached to the wheels, and a remote controller which controls the bot 's motion. The microcontroller communicates through transmitter and receiver. The hardware is designed in such a way that the wheel chair easily moves on a plane surface. The two DC motors provide necessary torque required to move flawlessly with 80kg patient. The motors are synced such that they both rotate at equal rpm to move the wheelchair in a straight line. To move the wheelchair to the right or left their respective motor rotates the wheel and the direction is easily and safely changed by the user. The motors are powered by a single DC LINO 12-volt 26Ah rechargeable battery. The battery also provides necessary power to the electronics of the project. A single Arduino mega is the brain of the smart wheel chair. It connects the Bluetooth, the motor drive circuits, the MPU sensor and the buck boost circuits. The shaft of the motor is connected to the wheels via a strong chain sprocket mechanism. This mechanism was selected for its durability and ease of maintenance

### III. MODELING AND ANALYSIS

Switch ON the Bluetooth of both of the device. If the Key is correct both the device is connected otherwise password has to be entered again. Enter the Wheel Chair password (second Password) to enter the commands. If both the device is connected input the Commands to operate the system. If the requirement is forward then the forward command (f) is entered and all the dc motors are supplied with 12V and moved in forward directions for linear movement. If the requirement is reverse then the reverse command (b) is entered and all the dc motors are supplied with 12V and moved in backward directions for linear movement. If the requirement is to turn left then the left command (l) is entered and thus, left dc motors are stopped and the right dc motors are supplied with 12V and the wheelchair moves in left direction. If the requirement is to turn



# Creating Artificial Environment for Indoor Farming Using Iot

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## ABSTRACT:

The aim of modern agriculture is to enhance the growth of plants for a maximum yield. As there is an increase in population growth we are in a desperate need for increase in productivity to suffice our population. In this project

we are implementing two sensors they are DHT11 which is used to monitor the temperature and humidity parameters and MQ135 which is an air quality sensor for monitoring the environment of the particular region. If any of these parameters is in an abnormal condition then exhaust fan gets turned on, so that we can reduce the humidity. By using these parameters the rate of plant growth is doubled. Results show that when all the factors of plant growth are stabilized, then it is possible to grow a plant in 50 days which normally takes 80 days for its growth.

The main components included in this cultivation of plants under artificial environmental parameters are

1. Light (RGB)
2. Sensor (DHT11, MQ135)

Microcontroller.

**KEYWORDS:** Photosynthesis, LED'S, Artificial farming.

## INTRODUCTION

The world is increasingly faced with global problems including unusual weather, environmental pollution, and shortages of water, fossil fuel and plant biomass. Accordingly, the stable and safe supply of plant-derived food and other products will be endangered. When leafy vegetables are grown in the open field, their quality and productivity tend to vary with the local climate, weather conditions and soil fertility. On the other hand, when plants are grown in this artificial environment, their quality and productivity are generally improved. The artificial environment is an approach to grow

crops in a controlled indoor environment. As the environment is indoor it will not have any insects, and pests affecting the crops, hence no insecticides and pesticides will be required. The indoor environment will neither evaporate water nor will percolate it in to the earth hence water requirements be very small. The indoor environment is equipped with artificial lighting, so crops can be grown independent of season.

## HOW PLANTS GROW

1. **Light:** All living things, except for a few groups of bacteria, depend on photosynthesis for their existence. Photosynthesis is the process by which green plants make their own food. In the presence of light energy, plants manufacture food (mainly sugars), by combining carbon dioxide and water in the presence of chlorophyll to release oxygen and water.
2. **Proper temperature:** Temperature is the most important environmental factor affecting plant growth. Plants vary in their temperature needs. The ability of a plant to withstand cold temperatures is known as hardiness. Plants that cannot tolerate cold weather are known as tender plants.
3. **Water:** Water is essential for life. It is one of the most important requirements for plant growth.
4. **Air:** The manufacture of carbohydrates and proteins which a plant needs to live and grow requires raw materials.
5. **Nutrients:** Although plants are able to use a few nutrients from the air, most of the nutrients that a plant needs must be present in the growing medium (soil). Minerals such as nitrogen, potassium, phosphorus, calcium, and magnesium are taken up through the plant's roots.





# AGRIBOT

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**ABSTRACT:** Agribot is a machine that helps to reduce man power in the field of agriculture. Which helps in process of seeding, watering, fertilizing, pesticide and closing the dig. This Agribot machine can provide manual as well as auto control. At present time, robots are increasingly being integrated into working task to replace humans specially to perform repetitive task. Seeding is one of the first steps in farming during this process seeding is carried out in all the rows of the farming plot. The second step of the farming is irrigation process, slowly applies small amount of water to the planted seeds in all the rows of the farming plot. The fertilization process is same as irrigation process, but some crops need fertilizers when the seed germinates, and plant begins to grow. The third step is to be monitoring the weather and cutting the crops. In past agriculture equipment was only available in the form of massive heavy machinery but now the Agribot are used commonly as normal machines.

**KEYWORDS:** Robot, Seeding, Watering, Weather monitoring and Grass Cutting.

## I. INTRODUCTION

In older days technology was not developed that much. So, they were seeding and plant cutting by hand. And Watering and pesticide spraying was done by man. But nowadays technology was developed. So now it's not necessary to do seeding in sunlight. By using robot technology, the one who monitoring the robot motion can sit in a cool place and can do seeding by monitoring the robot motion. Today's agricultural field demands to find new ways of agricultural operation to improve performance efficiency. In the field of agriculture various problems are faced by the farmers in the operations like seed sowing, pesticide spraying and grass cutting. Manually irrigation method suffers from various problems. The tendency of manual work is going on reducing. The man power shortage is one of the biggest

problems faced continuously by all farmers. Due to the lack of labour, wages are already rising. It is not economically beneficial to all farmers. So, we develop a system for "Agribot" using microcontroller which is very economical and beneficial. Due to automation the work become easiest and saves money also. This system is working on two type vehicle which is driven by DC motor. The micro-controller supplies the power for motor which helps the Agribot in depositing/seeding in the agricultural fields. The ARDUINO UNO R3 is used to write the software program for the Agribot sowing/seeding and watering functions. DHT11 sensor fitted robotic arm should be dipped into the soil. It checks the humidity and temperature of soil. The block app is used to create the remote controller that helps in controlling the agribot to perform the functions. The software program is then compiled into the hex file. So, there is no more labour work. It gives information about weather conditions of soil nutrients. Hence all the problems of proposed system are overcome by using this system.

## II. LITERATURE SURVEY

A literature survey is an objective, critical summary of published research literature relevant to a topic under consideration for research. Seven published articles have been referred to create a firm base about the project. Following is a brief overview of all the eight papers that have been referred.

This Series addresses current and future challenges pertaining to embedded hardware, software, specifications and techniques. Titles in the Series cover a focused set of embedded topics relating to traditional computing devices as well as high tech appliances used in newer, personal devices, and related topics. The material will vary by topic but in general most volumes will include fundamental material (when appropriate), methods, designs, and techniques.<sup>[1]</sup> This introductory tutorial





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# Multienergy Resources Based Inverter Using Iot

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**ABSTRACT** In modern time, multiple energy resources have come into the existence which include wind power technology, solar power generation, fuel cell power generation which has been growing widely. In present time there are many types, Improved Single Stage Grid Connected Solar PV System using Multilevel Inverter. In this project a microcontroller based grid tied solar inverter (GTSI) has been designed and developed. Keeping in mind solar PV power is expensive with MOSFET switching has been used for higher DC to AC conversion efficiency. Here, microcontroller has been used. In order to synchronize the output voltage of the inverter with the Grid voltage, sinusoidal reference voltage for the microcontroller has been taken from the grid line. The microcontroller generates PWM signal which is modulated by the grid voltage.

Solar PV power is stored in a 12 V lead-acid battery which can be replaced by using maximum power point tracker. Solar DC power from the battery is fed to a switching circuit which is driven by the PWM signal. The output of the switching circuit is applied to the primary of a 18W step-up transformer.

Finally, the output of the step-up transformer is filtered by a capacitor. And here we used automation system which will turn on the lights depends on the light intensity of the room.

To do this automation we use LDR sensor which is connected to the micro controller.

## I. INTRODUCTION

One of the major challenges that the European Union (EU) faces within the scope of sustainable development is the increasing energy demand patterns of cities. European cities should be places of advanced social progress and environmental regeneration, as well as places of attraction and engines of economic growth, based on a holistic integrated approach in which all aspects of sustainability are taken into account.

Cities are faced with a number of challenges associated with accommodation, transport, transport and infrastructural services, making difficult for urban communities and states to realize their objectives.

In recent years, cities have been turning to advanced technologies to become Smart Cities. This term is used to denote Information and Communication Technological (ICT) solutions for cities and to highlight ICT importance and potential in helping the city to develop competitive advantages. More specifically, Smart Cities are comprised of cities that work in frugal and sound ways, by incorporating every one of its substructure and administrations into a unified whole and utilizing insightful gadgets for observing and control, in order to guarantee maintainability and effectiveness. Energy demand is one of the most crucial and multifaceted problems for Smart Cities. As the quality of life is being improved, as well as the continuous increase of the population is given, it is obvious that the increase in energy demand is an irreversible situation.

## II. EXISTING SYSTEM

India still faces unprecedented energy crisis in rural and suburban area. The problems become more severe during summers. However, winter is no different as there was still an average power outage of 3-4 hours every day. Those without generators and UPS faced tremendous problems in these outages. The prices of both continued to increase due to a sharp increase in their demand. We are not using solar UPS as there replacement but it can be used as backup energy during grid failure. It also does no harm to environment. The sun shines bright throughout the year. Global solar Radiation estimates have been made for most parts of the world, and also for major cities of India which is essential for the optimum design of solar energy conversion systems and utilizing them with UPS applications.







# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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## 360 DEGREE RADAR FOR DEFENSE APPLICATION

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### ABSTRACT

The idea behind the project is to develop a system that can provide additional security to our defence system. We are introducing a system that can be used in extreme climatic conditions where it is difficult to deploy our army personnel.

Our project is used for the detection of intruders, identifying them, and stopping them without any human loss. we use the ultrasonic sensor to detect the obstacle using the echo signals and we use cameras to capture the image of the intruders. Then we are using a laser to demonstrate a gun firing toward the intruder. A buzzer is connected to an Arduino microcontroller which can be used to warn the nearby local station. This project makes a huge difference in our defence system by eliminating any human less.

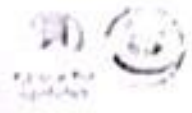
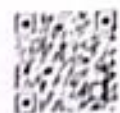
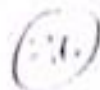
### INTRODUCTION

Border security is the most significant part of India we should always update our security policies, and ideas to defend and use new technologies to eradicate human loss. Intruder means any unauthorized person who doesn't have any approval or official permission to enter into the territory. Most of the time these intruders lead to heavy damage to our country. We have encountered many attacks from neighbouring countries for many years. This type of attack has become very common.

This is leading to heavy damage to locals, army people, children, and women. Recently we have encountered at least 20 army personnel life loss due to Chinese intrusion in India this occurred in Himalayan areas. this attack happens in extreme conditions where an army cannot withstand the weather yet our army keeps an eye on those areas.



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# IoT Based Spy Control Robot For Military Purpose

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### ABSTRACT

In this project, the Robot car is designed with DC motors and wheels. This robot will be controlled from anywhere in the world with the help of IOT technology. By using a IOT service provider app or website we can control the robotic movements like forward, backward, left, right and stop. In addition the robot is interfaced with obstacle sensor. When any obstacle is detected then the robot will stop and changes the direction. We are using a ESP32 and ESP32 CAM Micro controller with inbuilt Wi-Fi module to interact with IOT server. In addition to the first stage, we will use a metal detector. When any metal is identified then the robot will be stopped. GPS will activate and identify the location in the form of latitude and longitude and the same information will be updated in the IOT cloud platform.

**KEYWORDS:** DC motors, ESP 32 CAM Microcontroller, Battery, Metal detector, GPS module, ESP 32 dual core microcontroller.

### 1. INTRODUCTION

Here an IOT technology is used i.e an IOT describes network of physical objects or things that are embedded with sensors, software and other technology for exchanging the data with devices over the internet. In this project the main protocol is the robot vehicle can operate everything through IOT cloud platform.

Due to lack of security and terrorist activities most of the army people are losing their lives at borders for wars and other attacks, we do not want that to happen so, to overcome this problem we have proposed a system called controlling a robot by applying directions and a camera module which will provide a live streaming. It will help to identify the unauthorized persons. A metal detector is used to detect the mines such as bombs or metal. When a metal detected

immediately GPS will activate and send the information to the user and also we can find the location when the bomb is detected.

That is the reason it is safest and stable spying unit for the battlefield. This robot gives many functionalities in one thing. It is reliable to easily identifying the unauthorized persons by sitting miles away.

### 2. LITERATURE SURVEY

The main idea to construct this robot is for the spying purposes, it for to keep an eye on people maneuvers in the battle ground or in the war days to reduce the chances of takeovers from the enemy side. Army people or entities have to face many dangers on their lives while spying on enemy or opposite entities. To overcome these ideas for this job robot will be more



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## IOT BASED SMART SECURITY AND HOME AUTOMATIONS SYSTEM

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### ABSTRACT

The idea behind the project is to develop a smart security and home automation system using IOT. For smart security we are adding a security feature of fingerprint for biometric verification as it is one such thing which is unique for every individual. For that we need to install an application in user's mobile phone in KODULAR creator. For communication part Bluetooth is used. The information is sent to controller to switch buzzer, red led, green led.

If the fingerprint is matched LCD displays "ACCESS GRANTED". If it is not matched then LCD displays "ACCESS DENIED".

For home automation we need to update the app and tap the button to switch ON/OFF the loads. PIR and LDR sensors are used which sends information to micro controller to automate the loads accordingly.

Keywords: Smart security, Home Automation, Multi-objective, ESP8266 micro controller, HC-05 Bluetooth module

### INTRODUCTION

In the real world, people are more concerned about their safety for their valuable things like jewellery, money, important documents etc. The arrival of growing technologies makes user to have high security systems with electronic identification options.

These identification technologies include intelligent cards, user IDs and passwords and so on. But these are not protected due to hacker attacks, thefts, and forgotten passwords. In spite of all these faults or failure and malfunctions or crash these systems are still existing; however, the biometric or fingerprint based identification is the most efficient and reliable solution for stringent security.



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### MULTIFUNCTIONAL BLIND STICK FOR VISUALLY DISABLE PEOPLE

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#### ABSTRACT

The Project main aim is to help the visually impaired person to remotely locate his stick using a RF remote. This system incorporates with voice module and attached with multiple sensors to provide high security to the visually impaired people while walking. Now a day's safety is main important cause to the peoples while walking or driving and many more places. The system provides the high security and show way to walk, by using this system we can monitor the blind person position using Web application/mobile application and also, we can get emergency alert message along with exact location. The system has obstacle sensor, soil sensor and fire sensors, so that it can detect obstacles/ steps sizes automatically and gives voice alert. By using soil moisture detector used to detect the moisture in the soil and gives voice command accordingly. It is used for the measurement of the volumetric water content in the soil by using the properties of the electrical resistance, dielectric constant and for proxy for the moisture content the interaction with neutrons. So that this system can be very useful to peoples to show correct path while walking on the floor or steps and many more places. The system can be interconnected with the microcontroller and alert the respective persons when any emergency occurs. This tracking system is composed of a GPS receiver, Microcontroller and a GSM Modem. The Microcontroller processes this information and this processed information is sent to the respective numbers using web page.

**Keywords:** Arduino UNO, GSM, GPS, Fire Sensor, Soil Moisture Sensor, Voice Module

#### I. INTRODUCTION

The proposed system provides efficient navigation and low-cost aid for the blind which gives a sense of artificial vision by providing them information about the environmental scenario of objects around them. The device will be capable of detecting obstacles and moisture, by using ultrasonic sensors, Arduino Uno, moisture sensors and other devices that employ audio commands to alert the user of what is on the path of movement can construct better devices. Future the device is linked with GPS and GSM to find the location of visually impaired person and the system has one more advanced feature integrated to help visually impaired person to remotely locate his stick if misplaced using a wireless RF remote.

#### II. METHODOLOGY

The working principle of the project is categorized into two parts one is Detecting the obstacle and location of Visually Impaired Person and the second part is Remotely locating the stick using RF module and detecting fire and moisture of soil.

**Part 1:** - Detecting the Obstacle and location of Visually Impaired Person:

The system uses two Ultrasonic sensors to detect the obstacle around 360. The GSM and GPS whose navigation range is 5Hz and is connected with a voice play black module. Ultrasonic sensors can detect the object by sending ultrasonic sound waves and converting reflected sound waves into electrical signals also it can measure the distance of that object Whenever an object/intruder comes near the ultrasonic sensors it will send the signal to the microcontroller, this will inform to visually Impaired person through voice module. LCD is used to see which side at what distance the intruder is detected. Using GPS can find the location of Visually Impaired person and a message is sent through GSM.

**Part 2:** Remotely locating the stick using RF module and detecting fire and moisture of soil.

This is the most important part of the project. Here we are using an Arduino UNO board to which two ultrasonic sensors, an LCD, voice module, Moisture sensor and a fire sensor are connected. When the stick is misplaced can be locate using wireless RF remote. Soil Moisture Detector used to detect the moisture in the soil and gives



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## IOT BASED SMART FARMING SYSTEM

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### ABSTRACT

Smart farming is an emerging technology. Nowadays the major aim of the agriculture is to enhance the growth of the plants and get maximum yield as the population has been increasing. But in order to get this farmer often waters the crops more or less. This may result in wastage of water or insufficiency of water to the crops. so this project helps in automatic control of motor pump. This project also has a security system which helps farmers to prevent the loss of crop from intruders like predators(pets) and animals. Also, by using IOT integration i.e. by using an interface Blynk App. we can monitor the parameters of the farm anywhere in the world and we can also manually turn ON and OFF the motor using Blynk App and this app also notifies the user whenever the animals or predators(pests) entered the farm.

**KEYWORDS:** Agriculture, Monitoring, Animal Detection, Automatic, Security System, IOT integration, Farming System, Blynk App.

### 1.INTRODUCTION

India's major source of income is from agriculture sector and 70% of farmers and general people depend on agriculture. In Indian irrigation system, the farmers have chosen most of the methods manually such as grip, terraced, ditch irrigation system etc. In order to improve the crop productivity there is an urgent need to change manual method to automation. Also, considering the water availability throughout India, it is one of the valuable resources to protect and save for future needs. Embedded based automatic irrigation system is suitable for farmers since it is available at low cost and can easily be installed.

This system helps the farmer by providing water to crops at suitable time and quantity. Automation irrigation system observes the moisture sensors and temperature variations around the crop area that takes the precise time to turn the motor ON or OFF. This automation avoids human errors and also it checks the soil moisture level. Internet of things allows us to control the systems from remote areas over the internet. It can control the sensors which are used at various areas at shopping malls, railway grids and water control systems.





## AUTOMATED NAVIGATION SYSTEM FOR UNMANNED SURFACE VEHICLE

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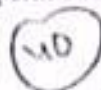
### ABSTRACT

Unmanned surface vehicle refers to no human intervention in operation of vessel in water. This could be achieved by integrating a GPS with onboard computer, which executes route path with suitable and efficient way. User can pre select the coordinates in map using ground control station. This application is most useful to coast guard as they do regular patrolling over the same path repeatedly this reduces man power and operations done with greater accuracy. Unmanned surface vehicles (USV) are vehicles that operate on the surface of the water without a crew. USVs are remotely operated "drones". USV it's also called as Autonomous surface vehicles (ASV). The use of USVs for tasks such as shallow-water surveying, weapon delivery, environmental data gathering, surveillance, anti-submarine warfare, bottom of sea investigation, mine search etc. Functionally, USV are much simpler than Autonomous Underwater vehicles (AUV) and yet quite versatile for the kinds of mission that they are able to perform. The development of USV started in 1990 almost world war second by US Navy and the US Navy much strong focus on ocean warfare and anti-terrorism missions. Successful missions of USVs in the second Gulf war.

### INTRODUCTION

In line with the growing interest in the ocean for civilian and military applications, there has been an increasing demand for the autonomy of unmanned surface vehicles (USVs) with advanced automatic navigation systems (ANSs). USVs are intelligent unmanned platforms which perform tasks independently in a variety of cluttered sea environments and have highly nonlinear dynamic characteristics. The development of USVs has brought many advantages, such as improved personnel safety and reduced operation costs, as well as increased autonomy and flexibility in sophisticated environments. However, now only semi-autonomous USVs are used rather than fully-autonomous USVs. This is due to the complex and hazardous sea environment. The ANS in this paper is designed for fully-autonomous USVs in order to minimize both the need for human control and the effects due to human error. To ensure that a fully-autonomous USV travels in a realistic sea environment, the ANS is composed of a path planning subsystem (PPS) and a collision avoidance subsystem (CAS). The PPS can generate a shorter path according to the current environment in a collision-free and smooth manner. In the local environment, the CAS not only follows the reference path points, but also has the control capacity to avoid collision in a timely manner. In terms of USVs, there are an increasing number of algorithms in the research focusing on path planning as a fundamental aspect of ANSs. These include Dijkstra's algorithm the Voronoi diagram





## AUTOMATED NAVIGATION SYSTEM FOR UNMANNED SURFACE VEHICLE

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### ABSTRACT

Unmanned surface vehicle refers to no human intervention in operation of vessel in water. This could be achieved by integrating a GPS with onboard computer, which executes route path with suitable and efficient way. User can pre select the coordinates in map using ground control station. This application is most useful to coast guard as they do regular patrolling over the same path repeatedly this reduces man power and operations done with greater accuracy. Unmanned surface vehicles (USV) are vehicles that operate on the surface of the water without a crew. USVs are remotely operated "drones". USV it's also called as Autonomous surface vehicles (ASV). The use of USVs for tasks such as shallow-water surveying, weapon delivery, environmental data gathering, surveillance, anti-submarine warfare, bottom of sea investigation, mine search etc. Functionally, USV are much simpler than Autonomous Underwater vehicles (AUV) and yet quite versatile for the kinds of mission that they are able to perform. The development of USV started in 1990 almost world war second by US Navy and the US Navy much strong focus on ocean warfare and anti-terrorism missions. Successful missions of USVs in the second Gulf war.

### INTRODUCTION

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## COLOUR HISTOGRAM BASED IMAGE RETRIEVAL TECHNIQUES FOR DIABETIC RETINOPATHY & ANAEMIA DETECTION

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### ABSTRACT

Diabetic Retinopathy (DR) is the critical and most common eye related disease. Early detection of DR is the best solution to prevent from this disease. This project proposes an Image Retrieval technique that search and retrieve the query image from retinal Database.

Anaemia occurs when there are not enough healthy red blood cells to carry oxygen to your body's organs. Having anaemia, also referred to as low haemoglobin level in a humans body. Major symptoms of anaemia are tiredness, weakness, fatigue, dizziness, shortness of breath, headaches, and a reduced ability to exercise. At first, anaemia can be so mild that you don't notice it. But symptoms worsen as anaemia worsens.

**Keywords :** Diabetic Retinopathy, Anaemia, Image Retrieval Technique, Query Image

### INTRODUCTION

In recent years, with the rapid development of digital image proc, helping the user to find the multimedia information what they need quickly and effectively becomes a hot research topic at present. Image retrieval is a major component of multimedia information retrieval technology, and also one of the basic theory of video information retrieval, it play a significant role in the field of information retrieval.

Image retrieval is based on users' query requests, extract an image or image set that related to the query image from the image dataset. The Minority-based image retrieval has been proposed in the early 1990's. This approach is to retrieve images using low-level







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# Metal Detector Robot With Location Coordinates Through Message

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## ABSTRACT

The idea behind the project is to develop a robotic vehicle that can detect the metals underneath the ground which can be used to reduce the manual work in many applications. We are introducing a robotic system that can allow the user to manipulate and control robot.

Our project is used for the detection of metals, and sending the alert message and location to the operator, we use GPS for tracking the location and we use GSM for sending the alert message and location to the operator. Then we are using a fire sensor to detect the fire such that it sends alert message to the operator when the fire is detected. This project makes a huge difference in landmines, military, disposal squad by eliminating manual work.

**KEYWORDS:** Metal detection, GSM, GPS, Location tracking, Message sending.

## 1. INTRODUCTION

We know that metals are used in everyday life for many uses. But detecting metals or finding them has been a difficult task. Even though there are many techniques to extract metals but detecting metals from mines include harmful tasks. Mines contain explosives that have certain physical and chemical properties. The existence of mines buried in the ground is difficult to know without the aid of tools. One of the tools used to detect the presence of mines is a metal detector.

Metal detectors contain a coil of wire known as a transmitter coil. When electricity flows through the coil, a magnetic field is created around the coil. When metal detectors are moved above the ground, the magnetic field will also move. When held close to a metal object

the magnetic field will affect the atoms inside the metal, even changing the way electrons move. The weakness of this metal detector is the high risk of victimization to users because its use still relies on direct human intervention.

Ease of doing a job is now a human need in carrying out its activities so that humans develop a breakthrough in utilizing technology. Utilization of technology to save time and costs. One solution to meet these needs is to use robotics technology that will help even replace some aspects of human work.

But our project reduces manual work by detecting metal underneath the ground without any digging. In general, to bombs and explosive materials has been a





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## Controlling Various Parameters in Agriculture Sparyer Rope Way

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### ABSTRACT

Rope way for agriculture spraying is a new method in agriculture with multiple benefits compared to presently available options. It is very efficient and cost-effective method compared to tractors and drones presently available in market. It has various functional elements to be synchronized with each other to perform accurately all these devices are remotely connected to each other and yet to operate in time and position sync to each other this is achieved by using a master radio controller with multiple receiver whose time delays are pre-set with this adjustment's rover along with all its functional devices work together to achieve even and precise spray pattern across the agriculture field.

**Keywords:** Spraying Rope way, Pixhawk, BLDC motor, Electronic Speed Controller, Transmitter and Receiver

### 1. INTRODUCTION

Rope way for agriculture spraying is a new method in agriculture, which prevent direct contact of pesticide, saves farmers health. Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. Pesticide spraying is an essential activity done by a farmer to control pest. 6,600 farmers die of pesticide poisoning every year in INDIA, more than 40% of the farmers infected with skin diseases. Pesticides are widely used in agricultural production to prevent or control pests, diseases, weeds, and other plant pathogens in an effort to reduce or eliminate yield losses and maintain high product quality. Exposure of the general population to pesticides occurs primarily through eating food and drinking water contaminated with pesticide residues, w

here as substantial exposure can also occur in or around the home. Regarding the adverse effects on the environment (water, soil and air contamination from leaching, runoff, and spray drift, as well as the detrimental effects on wildlife, fish, plants, and other non-target organisms), many of these effects depend on the toxicity of the pesticide, the measure taken during its application, the dosage applied, the adsorption on soil colloids, the weather conditions prevailing after application, and how long the pesticide persists in the environment.

Rope way for spraying is an innovative approach to solve the current drawbacks of existing systems, it is designed and built to meet Indian agriculture conditions. The rope way system basically consists of two poles which are connected using a rope. A receiver is placed on the rope for spraying of pesticides from one end of the crop to the other. A main controller is embedded on the top of the rover to control the functions like movement of the rover, pipe re-winder and pump on/off. The master pole consists of gear box which is used to tighten the rope according to requirement. Single transmitter is used to control the all the operations like rover movement, gear box control, pipe re-winding etc. receiver is connected to the main controller to receive the commands from the pilot. The height of the rover calculated and adjusted to the user requirement according to the crop. The whole system is powered by the lithium-ion battery which helps us to design low operating cost system. Rope way system gives cutting edge over the existing system by its characteristics like low cost, portability and less complex.





## VISUAL AID FOR BLIND PEOPLE USING RASPBERRY PI AND CAMERA

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**Abstract:** According to statistics from the World Health Organization (WHO), at least 285 million people are visually impaired or blindness. Blind people generally have to rely on white canes, guide dogs, screen-reading software, magnifiers, and glasses for navigation and surrounding object detection. Therefore, to help blind people, the visual world has to be transformed into the audio world with the potential to inform them about objects. In this paper, we propose a real-time object detection system to help visually impaired people in their daily life. This system consists of a Raspberry Pi in which YOLO (You Only Look Once) deep learning algorithm is employed. We will use YOLOv3 real-time Object Detection algorithm trained on the COCO dataset to identify the object present before the person. Then the label of the object is identified and then converted into audio by using Google Text to Speech (gTTS), which will be the expected output.

### I. INTRODUCTION

According to the study conducted worldwide by the World Health Organization (WHO), about 285 million people suffer visually impaired, of whom 39 million were blind, 246 million had low vision. The number of visually impaired people is exploding with the growth of the newborn population, eye diseases, accidents, aging, and so on, and every year, this number grows by up to 2 million worldwide [1][2]. The abilities of the visually impaired for performing daily tasks are limited or influenced. For that reason, many visually impaired people will bring a sighted friend or family member to help navigate unknown environments. These social challenges limit a blind person's ability to meet people [3]. Previous research has suggested many strategies to overcome the issues of visually impaired people (VIPs) to live normally. These strategies have not been able to fully address the safety measures when VIPs walk on their own and the proposed ideas are generally high in complexity, and not cost-effective etc [4]. We suggest a system based on image processing and machine learning breakthroughs. The system comprises a Raspberry Pi in which the YOLO (You Only Look Once) deep learning algorithm is employed, whereby the device includes a camera module and an audio jack. The camera will capture the object's image that is in front of the person. Thereafter, it gets processed using deep learning methods and, in turn, the output, which is the name of the object, will be converted into audio for the user through the audio jack. A system is proposed aids visually impaired people in dealing with day-to-day activities like walking, working, and doing house chores.





## INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCART)

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# Solar Powered Autonomous Multipurpose Agricultural Robot Using Bluetooth

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**Abstract:** In India nearly about 70 percentage of people are depending on agriculture. Numerous operations are performed in the agricultural field like seed sowing, grass cutting, ploughing etc. The present methods of seed sowing, pesticide spraying and grass cutting are difficult. The equipment's used for above actions are expensive and inconvenient to handle. So the agricultural system in India should be encouraged by developing a system which will reduce the man power and time. This work aims to design, develop and design of the robot which can sow the seeds, cut the grass and spray the pesticides, this whole system is powered by solar energy. The designed robot gets energy from solar panel and is operated using Bluetooth/Android App which sends the signals to the robot for required mechanisms and movement of the robot. This increases the efficiency of seed sowing, pesticide spraying and grass cutting and also reduces the problem encountered in manual planting

**Keywords:** Agriculture, autonomous, grass cutting, pesticide spraying, robot, seed sowing, solar powered

### I. Introduction

The history of agriculture spans thousands of years, and various climatic conditions, cultural traditions, and technological advancements influenced and shaped its growth. The agricultural system therefore should be improved to lessen the farmers' labor. The model created to mechanically plant seeds and spray Using pesticides and cutting the grass. The prototype is an example of modern technology for enhancing agricultural processes, including planting seeds, trimming grass, and applying pesticides based on robotic support.

The document is structured in the manner described below. Section II displays comparable works that have already been published. The suggested layout of Section III introduces a versatile agricultural robot. Section IV talks about how the algorithm is put into practice. In Discussion of the work's prototype results from Section V. In The work on Section VI is complete.





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# Face Recognition Based Smart Attendance System

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**ABSTRACT:** In this digital era, face recognition system plays a vital role in almost every sector. Face recognition is one of the mostly used biometrics. It can be used for security, authentication, identification, and has got many more advantages. Face recognition system can also be used for attendance marking in schools, colleges, offices, etc. This system aims to build a class attendance system which uses the concept of face recognition as existing manual attendance system is time consuming and cumbersome to maintain. And there may be chances of proxy attendance. Thus, the need for this system increases. This system consists of four phases: database creation, face detection, face recognition, attendance updating. Database is created by the images of the students in class. Face detection and recognition is performed using Haar-Cascade classifier and Local Binary Pattern Histogram algorithm respectively. Faces are detected and recognized from live streaming video of the classroom. Attendance will be mailed to the respective faculty at the end of the session. It is biometric technology to identify or verify a person from a digital image or surveillance video. Face recognition is widely used nowadays in different areas such as universities, banks, airports, and offices. We will use pre-processing techniques to detect, recognize and verify the captured faces like Eigenfaces method. We aim to provide a system that will make the attendance process faster and more precisely.

**KEYWORDS:** Haar Cascade Classifier, LBPH algorithm

## I. INTRODUCTION

In this paper Facial recognition is a way of identifying or confirming an individual's identity using their face. Facial recognition systems can be used to identify people in photos, videos, or in real-time. Face recognition is the identification of

human by the unique characteristics of their faces. face recognition technology is the least intrusive and fastest bio-metric technology.

Facial recognition is a category of biometric security. Other forms of biometric software include voice recognition, fingerprint recognition, and eye retina or iris recognition. The technology is mostly used for security and law enforcement, though there is increasing interest in other areas of use.

Face Recognition is a recognition technique used to detect faces of individuals whose images saved in the data set. Despite the point that other methods of identification can be more accurate, face recognition has always remained a significant focus of research because of its non-meddling nature and because it is people's facile method of personal identification.

## II. EXISTING SYSTEM

### Signature based System

Speaking about manual attendance systems, these are traditional systems that require employees to fill in their attendance sheets manually. These are generally used by small scale companies where there is less number of employees. However, such attendance systems require fair and consistent execution. Besides, HR managers face enormous pressure when it comes to collecting details about employees' working hours with these systems.

### Fingerprint based System

In commonly used biometric time and attendance systems, a fingerprint scan of an individual becomes the unique code of entry into or exit from the workplace. Biometric scans of irises (got by scanning the eye), faces, typing cadence, voices, etc., are also used to create unique patterns for individuals that cannot be replicated in any manner whatsoever by another individual.



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## RFID BASED EMBEDDED SYSTEM FOR VEHICLE TRACKING AND ROAD ACCIDENTS USING ARDUINO

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### ABSTRACT

Automatic vehicle accident detection is a life-saving application that is vital in today's high-speed motorways. In case of motorway accidents, notification to the proper authorities must be done efficiently and expediently. The main objective of this paper is to create a Accident Detection System using Wireless Sensor Network (WSN) like GSM, GPS and Radio-Frequency Identification (RFID) Technologies.

This paper explains the hardware prototype setup for Accident Detection System, the algorithms used, the advantages and the limitations of the entire system. Also, the configuration of the setup and application software is elaborated. Sensors installed in a vehicle detect the accident's location, the vehicle's speed just before the accident and the number of passengers in the vehicle. The sensors then send an alert signal to a monitoring station. The monitoring station, in turn, tracks the location where the accident has occurred and directs casualty alert to the authorities concerned.

**Keywords:** LCD, GPS, RFID, EMSLED, GPRS, Wireless Sensor Network.

### I. INTRODUCTION

Wireless sensor networking is an emerging technology that has a wide range of potential applications including environment monitoring, smart spaces, medical systems and robotic exploration. Each node in the WSN has one or more sensors, embedded processors, and low-power radios; and is normally battery operated.

Sensors make discrete, local samples (measurements) of the phenomenon, i.e. in this approach we will have heterogeneous topology as the measurements include different types of phenomenon. These sensors communicate over wireless medium forming a wireless sensor network. Finally, these sensors disseminate information about the phenomenon to the observer. The radio frequency identification (RFID) technology allows automatic identification of objects with RFID tags. These objects' data stored in RFID tag can be accessed by RFID readers. Hence objects in real world can link to a digital identification through the RFID technology. These identifications can be connected to each other in the cyber space, forming a connection mapping of the corresponding real objects. Consequently, the RFID technology is a key technology that enables the internet of things.

In today's world as the population increases day by day the numbers of vehicle also increase on the road and highways. This result in more accident that leads to the traffic jams and public not get help instantaneously. This problem is due to rider's poor behavior such as speed driving, drunk driving, riding with no helmet protection, riding without sufficient sleep etc. So, road safety is one issue that needs special attention.

### II. METHODOLOGY

**Traffic flow control system that uses Wireless Sensor Networks (WSN)**

There exists a traffic flow control system that uses Wireless Sensor Networks (WSN) to control the traffic flow sequences. WSN is used as a tool to instrument and control traffic signals while an intelligent traffic controller is developed to control the operation of the traffic infrastructure supported by the WSN. The Traffic density is increasing at an alarming rate in developing countries which call for the need of Advance Intelligent Traffic signals to replace the Conventional manual and time-based Traffic signal system. Experimental system in existence involve image processing-based density identification for routing of traffic which might be inefficient in situation like fog, rain and dust etc. The Other Conceptual System which is based on interaction of vehicles and cannot be practically implemented in countries like India which have almost more than 100 million



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# IoT Based Smart Agriculture Monitoring System

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**ABSTRACT:** Agriculture is an integral part of Indian economy. Over 60% Indian population based upon agriculture and one third of income of nation arises from agriculture practices. Hence it plays a vital role in the development of the country. Various issues are continuously hampering the development of country. Possible solution is to opt for modernized agriculture. Hence agriculture can made smart using IOT and other technologies. Smart agriculture increases crop yield, decreases of water wastage

The aim / objective of this project is to propose IoT based Smart Farming assisting farmers in getting Live Data (Temperature, Soil Moisture) for efficient environment monitoring which will enable them to increase their overall yield and quality of products. The IoT based Smart Farming System being proposed via this report is integrated with Arduino Technology mixed with different Sensors and a WIFI module producing live data feed that can be obtained online from Thingspeak.com. The product being proposed is tested on Live Agriculture Fields giving high accuracy over 98% in data feeds.

**KEYWORDS:** LCD,MCU,LED,IOT,LDR

## 1. INTRODUCTION

Agriculture is the primary occupation in India and is the backbone of Indian economic system. Agriculture provides employment opportunities to rural people on a large scale in underdeveloped and developing countries in addition to providing food.

It is the process of producing food, fiber and many other desired products by the cultivation and raising of domestic animals. Agriculture is the primary source of livelihood for about more than 58% of India's population. Climate changes will have significant impact on agriculture by

increasing water demand and limiting crop productivity in areas where irrigation is most needed. Irrigation system, rain fed agriculture, groundwater irrigation is some of the methods introduced to produce healthier crops which may not use water efficiently. In order to use water efficiently a smart system is designed. In the system farmer need not make the water flow into fields manually, but the system automatically does that efficiently. The traditional methods practiced by people may result in huge wastage of water. Hence, the concept of robotized farming with mix of IoT has been developed.

The technological advancements began to increase the efficiency of production remarkably thus, making it a reliable system. The knowledge of properties of soil determines the water supply to be driven in a smart way. The practice of agriculture in a smart way helps to acquire knowledge of soil and temperature conditions.

Developing the smart agriculture using IoT based systems not only increases the production but also avoids wastage of water. The soil moisture sensor, humidity and temperature sensor continuously monitor the soil and environmental conditions, sends the live data to smartphone via cloud service. While raining, the moisture content may increase several times. A rain-drop detecting sensor intimates the controller if there is rainfall, making the water supply to reduce or stop depending upon the moisture content at the moment. The crop requirements such as amount of humidity, temperature and moisture content are to be studied and can be installed again in the controller to meet its circumstances. In this paper, the system uses few sensors

which gives the amount of moisture in the soil, the humidity and temperature of the region, and a rain detecting sensor which and can be used in deciding whether the crop is suitable for growing.



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# P5G New Radio Evaluation against IMT-2020 Key Performance Indicators

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**ABSTRACT:** This project work provides a detailed analysis and performance evaluation of 5G NewRadio (NR) against a set of Key Performance Indicators (KPI), as defined in the International Mobile Telecommunications 2020 (IMT-2020) guidelines, and provides an overview about the fulfillment of their associated requirements. This project gives the detailed explanation about two most significant Key Performance Indicators (KPI) is Spectral Efficiency (SE) and Energy Efficiency (EE) are contributed by the Third Generation Partnership Project (3GPP).

**KEYWORDS:** Massive MIMO, zero forcing (ZF), Phased Zero Forcing (PZF), Maximum Ratio Combining (MRC)

## I. INTRODUCTION

A 5G Technology is a new wireless standard cellular technology after 4 existing standards. Cellular communication is continuously enhancing to keep up with the rapidly increasing demand for wireless data services. 5G expands the mobile communications concept to new industry sectors. 5G aims at supporting three major service types with different kinds of requirements like enhanced mobile broadband, Ultra-reliable low latency communication and massive machine type communication. 5G is expected to satisfy a wide set of high-demanding requirements. 5G was specified for the first time in the third generation partnership project (3GPP) structured in three phases. 5G enables a new kind of network that is designed to connect virtually everyone and everything together including machines and objects. 5G opens up many possibilities like it allows more users to connect to one tower, avoiding network congestion during conventions and mass gatherings. 5G is critical because it will

enable unprecedented levels of connectivity, upgrading 4G networks with five key functional drivers like superfast broadband, ultra-reliable low latency communication, massive machine-type communication, high reliability and efficient energy usage. Commercial 5G networks have been deployed in 378 cities across 34 countries. 5G can be significantly faster than 4G, delivering up to 20 Gbps peak data rates. 5G has more capacity than 4G. 5G is designed to support a 100x increase in traffic capacity and network efficiency. 5G has lower latency than 4G.

## II. METHODOLOGY

### Zero Forcing (ZF)

It is a method of spatial signal processing by which a multiple antenna transmitter can nullify the multi-user interference in a multi-user MIMO wireless communication system. It is also called "null-steering". It has a disadvantage called "noise-amplification" (Inverse filter may excessively amplify noise at frequencies where the folded channel spectrum has high attenuation).

### Maximum Ratio Combining (MRC)

It is a method of diversity combining in which the signals from each channel are added together, the gain of each channel is made proportional to the RMS signal level and inversely proportional to the mean square noise level in that channel. It is also known as "Ratio-Squared Combining and Pre-detection Combining".

### Phased Zero Forcing (PZF)

The phased zero forcing is used to overcome the limitations of zero forcing, because in the zero forcing inverse filter is utilized. By using this filter complete noise amplification will be happen and it includes some attenuation in the signal or information.





# IoT Based Smart Device for Women Safety

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## ABSTRACT:

At present we have many security systems like GPS Tracker to track women in danger. But our system not only tracks the women in danger but also alerts the guardian or nearby police station by an alert message and the location of women is tracked and it is sent to the above said recipients and GPS will calculate the latitude and longitude coordinates of that area. Our developed system is 100% secure and will try to overcome majority of the above said crimes, thereby ensuring the safety

**KEYWORDS:** IOT, GSM, GPS, ARDUINO UNO, Switch, LCD, LED

## I. INTRODUCTION

The purpose of this project is to design and construct women security system. This system is designed to detect the location of women in danger. The security system is designed to help women for self-defence and at the same time acknowledging guardians and even gaining attention of residents at that location. Women Security System is designed to detect the location of women in dangerous situation. The security system automatically reads the location of women when switch is pressed. In the present times, we can find this system in places where women are supposed to work, and we can use this system for working places and even for personal use and we can use to handle so many security situations. The proposed device is more like a safety system in case of emergency. This device can be fitted in a jacket (like a blazer for women). It is an easy to carry device with more features and functions. The emergency push button is held to one of the buttons of the jacket. The main purpose of this device is to intimate the parents and police about the current location of the women. A GPS system is used to trace the current position of the victim and a GSM modem is used to send the message to the pre-defined numbers. As the women feel insecure at that time, she can press the button. GPS will calculate the latitude and longitude coordinates of

of women. The women Safety system comprises of an Arduino UNO Microcontroller and a standard SIM900A based GSM/GPRS modem. The whole system can be provided from any 9v DC power supply unit/battery. The developed system alerts the guardian number given by the woman at the time of purchasing the unit of danger. The location of the victim is sent to the number given ad to the local police station. The module sends the location of the victim once the danger is detected. that area. The controller read this value and sends those data to the pre-defined number which is already saved in program. This model is also useful for small children's, elderly aged people also. The programming of Microcontroller is done using Embedded 'C'

## II. OBJECTIVE

The project aim is to design an IoT based safety device that provides security to women by emergency switch based method of connectivity to the device and alerting nearby people and police when a woman is not safe.

## III. PROPOSED SYSTEM





# Development of Robo Child Rescue System from Borewell

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**ABSTRACT** This project aims to rescue a child who got trapped in an open borewell. Nowadays child often falls in the borehole which is left uncovered and get trapped. It is difficult and also risky to rescue the trapped children to aid in such rescue we proposed a system of designing robots to rescue a child in a borehole. The robot structure consists of a power supply, switch pad, gear motor, Oxygen concentrator, camera, and Microcontroller. The condition of the trapped child is captured with a camera and monitored on a screen. When the child is secure, the lifting rod is contracted to its maximum position. The motor is then reversely operated to unclamp the system. Simultaneously, it is lifted out of the well using a gripper. Here we are using a gripper mechanism. The programming language is written in Embedded C. Less time of operation and increased chance of survival.

## I. INTRODUCTION

Nowadays, in India, the major problem faced by people is water scarcity, and to overcome this issue borewells are dug. This case is encountered in rural areas where they start to dig borewells for groundwater, but groundwater is easily not available because of which they go slip down. However certain borewells are abandoned and do not provide with ground water. Sometimes the borewell are dug and would be providing ground water but due to climate change or no rain these borewell ends up drying. So, what happens in this case, the borewell is left uncovered and which becomes a death pit for children and animals in rural area. At times these borewell are covered with mud but due to rain and other calamity, the borewell still remains open and becomes a spot for accidents to occur. The children playing and animals wandering around the borewell unknowingly get trapped in this uncovered borewell. Parents unaware about this situation get

delayed to rescue their child on time and safety. The help which will be provided to the child at times will be so late that they end up losing their life. Our Project titled as "Child rescue development system from open borewells" has been undertaken with the aim to save a life. Borewell accidents are common due to uncovered openings of borewell. It is very difficult and risky to rescue the trapped children. A small delay in the rescue can cost the child his or her. The expected number of wells and bore wells in India is now around twenty seven million, with bore wells accounting for more than 50 percent. Growing water scarcity is being simulated as the most important problem in India. Since the water level is decreasing day by day so a greater number of people are affected. Bore wells are constructed to fulfil the needs. These bore wells are left uncloned after finding that ground water is not abundant in the place. Bore wells water and subsequently get depleted are left uncovered. The bore wells in turn have started to take many innocent lives. Small children without noticing the bore well slip inside and get trapped. There is no proper technique to rescue method for such accidents. In most cases a parallel hole is dug up and then a horizontal path is made to reach to the baby. It mostly fails.

## II. EXISTING SYSTEM

### Parallel Pit Method

Now a day's robots are designed to help the human operators in the rescue mission. Rescue team normally follows the parallel pit process to save the child. The parallel pit method is shown in fig. First the team will find the depth of the child in the bore well by using a rope. Then earth moving vehicles are used to dig the parallel pit next to the bore hole. This particular step may take time. During this process the child may suffer due to lack of oxygen and the lack of visualization may turn the situation worst to the rescue team.





# Robotic Arm Control with Arduino

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**ABSTRACT:** The aim of this work is to present a simple, inexpensive, light weight and easily controlled robotic arm based on Arduino Uno. The peculiarity of the arm is it responds to the instructions given by the human operator through WiFi.

module. Although there are many approaches available in the market without controlling it manually but still in the approach this approach offers more accuracy and efficiency than other robotic perform delicate tasks. Our goal is to develop a robotic arm which works in assisting people in their daily activities by picking and placing things. It also deals with sensing fire & temperature in surroundings and gives a buzzer. The robotic arm is made up of three modules: The arm, the Arduino, and the WiFi module. In this we could see an IP address named .org when we turn on phone WiFi. As soon as phone WiFi is connected to IP address then we use an app called TELNET. Through this app we enter IP address and port number of kit, according to that operation will be done by giving commands. These commands include \*10 to \*90 where each command has a particular direction. Finally, microcontroller will take desired controlling action on robotic arm.

**KEYWORDS:** LCD, MCU, LED, ROM, PCO LAN, DVD, VCC

## I. INTRODUCTION

In this paper, Humans interact in the physical world by the means of the five senses. However, gestures have been an important means of communication in the physical world from ancient times, even before the invention of any language. In this era of machines taking control of every complex work, interactions with machines have become more important than ever. Robots are classified into two types: Autonomous robots like Line sensing or edge sensing robots, and Remote-controlled robots like Gesture controlled Robots. Since this paper deals with gesture-controlled robots, the primary focus will be on the remotely controlled robots only. Undoubtedly, the output and the function

ing done here will be more intuitive with the gestures communicated using human gestures. A gesture is a hand communication in a non-verbal manner by using visible body movements to express one's intentions. There are several ways to capture human gestures that are much easier for the user to understand. The gesture can be captured using a camera, or a dataglove. Gestures can also be captured via fiberoptic or infrared waves. Acoustic, Tactile, optical, vibration technological means. The embedded systems designed for specific control functions can be optimized to reduce the size and cost of the device, and increase the reliability and performance. With the advent of Smartphones and other modern technologies, operating machines have become more flexible. The smartphone is equipped with an in-built accelerometer which may be used for gesture recognition and such other tasks.

## II. EXISTING SYSTEM

### Remote based robotic arm

The robotic arm is a technical device that consists of the number of components, which are connected to each other using servo motors. The robotic manipulator can perform a variety of simple tasks, such as grabbing and moving objects from one position to another. The robotic arm, according to the way it is controlled, belongs to one of the two subtypes: devices, which require human involvement to perform their task or autonomous ones. Autonomous robotic arms are extensively utilized for assembly lines. Such usage of robotic manipulators takes human errors out of the equation and leads to the improvement in the quality and complexity of production. The robotic arms are also used for accomplishing tasks in the unreachable or dangerous conditions for humans, including but not limiting to the radioactive environment and space exploration. First models of robotic arms didn't include any sensors and were expected to do only one specific task. However, throughout the time, the manipulators have become complex devices.





# Smart Traffic Light Controller Using Verilog

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## ABSTRACT

Traffic control is a challenging problem in metropolitan and developed cities. This is due to the large number of vehicles and the high dynamics of the traffic system. Even traffic systems are the big reason for accidents, time losses. At some places due to the absence of traffic police, people would prefer jumping the traffic signal which leads to severe accidents and sometimes it may take the life of people. In this project the traffic light controller is designed as an automatic traffic controller system in which IR sensors and cameras will be installed in the four directions of roads (north, east, west and south). IR sensor senses the density of the traffic. FPGA computes the density values and gives the green **KEYWORDS:** IR sensors, camera module, Traffic Light Controller, Xilinx, Lab VIEW software.

## 1. INTRODUCTION

Traffic jamming is a critical predicament in many of the cities and towns all over the world. Traffic congestion has been causing many setbacks and challenges in the major and most occupied cities all over the globe. This traffic jam directly impacts the productivity of the workers, traders, suppliers and in all affecting the market and raising the prices of the commodities in a way light. The problem of heavy jam is happened because of never configure the level of jam in each way and set the delay time. Another problem represents when there is no jam, but the waiting still continues. The solution for these problems is to determine the level of jam and set the delay time. This problem needs of evaluation of the traffic policeman, and then there is need for manual control of the traffic. The target of this paper is to propose system provide solution for all above problems with least possible cost.

Traffic light controller (TLC) can be implemented using microcontroller, FPGA, and ASIC design. FPGA has many advantages over microcontroller, some of these advantages are: the speed, number of input/output ports and

signal to the high density road. When the green signal is given in any one of the roads then the other three roads will be on red light. During this time period if any vehicle jumps the red signal, its motion is detected by the IR sensors. These sensors in turn trigger the camera so that it takes the image of that vehicle. The IR sensors here serves the two main purposes, one is triggering the camera while jumping the signal and the other one is measuring the density of vehicles. The project is being carried out using FPGA interfaced in IR sensors, camera module, Traffic Light Controller, Xilinx, Lab VIEW software.

performance which are all very important in TLC design, at the same time ASIC design is more expensive than FPGA. Nowadays, FPGA becomes one of the most successful of today's technologies for developing the systems which require a real time operation. FPGA is a reconfigurable integrated circuit that consists of two-dimensional arrays of logic blocks and flip-flops with an electrically programmable interconnection between logic blocks. The reconfiguration property enables fast prototyping and updates for hardware devices even after market launch. Most of the TLC implemented on FPGA are simple ones that have been implemented as examples of Finite State Machine (FSM).

The VHDL language has been selected for programming the FPGA to fill two important needs in the design process. Firstly, it gives full description of the structure of a design that is how it is decomposed into sub-designs, and how those sub-designs are interconnected. Secondly, it allows simulating the design before starting the manufacturing. Accordingly, the designers can quickly compare alternatives and test for correctness without the delay and expense of hardware prototyping.

In this paper, a traffic light system is





# Automated Electronic Covid Protection System

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## ABSTRACT:

COVID-19 is a virus taking the lives of thousands of people throughout the world. It has created a huge impact on people lives in every aspect, even though many organizations developed vaccines and vaccinating people in a phased manner, the spread of corona is reduced only upto to certain period of time. The main objective of this work is to provide solution for COVID-19 indoor safety for industries, offices and commercial places where public number is high. The work focus on automation of social distancing, temperature sensing, automatic switch and automatic sanitization which is usually carried out by a person. Elimination of human intervention reduces the risk of contradiction and spread of virus and avoids mistakes due to human negligence.

**KEYWORDS:** Arduino NANO, Ultrasonic sensor, IR sensor, temperature sensor, servo motors, LCD.

social distancing remainder, it helps in knowing the body temperature of people around us from certain distances with the help of temperature sensor, it helps in operating switches without touching physically with the help of touchless switch, it helps in sanitizing the hands without touching sanitizer dispenser with the help of touchless sanitizer dispenser. This automatic protection system is highly useful in public places, commercial places etc.. It helps all the individuals without any physical interference with the objects. Therefore the usage of automatic social distancing remainder, automatic switch, automatic sanitizer dispenser and temperature sensor has shown positive results when it comes to disease spread reduction. Due to these facts, many protection and safety measures were taken by our government in order to reduce the disease spread, such as social distancing, proper sanitizing, temperature sensing and handling switch within public places, offices. In this paper, cost-effective automated electronic covid protection system aiming to help public to follow COVID-19 guidelines and safety rules in order to reduce the spread of corona virus. We focus on handling things without touching physically and alerting people. Our project uniqueness is, it is the combination of social distancing remainder, temperature sensor, touchless switch and sanitizer dispenser.

## I. INTRODUCTION:

The occurrence of novel infectious respiratory disease COVID-19 caused by coronavirus has a huge effect on every aspect human's lives globally since the end of the year 2019. The world health organization declared COVID-19 as a global pandemic. Soon the virus has been spread to all over the world. The virus is extremely contagious and transmitted from person to person very easily. The WHO has provided some guidelines to reduce its community transmission in various ways. Some of the recommended actions are maintaining social distancing, sanitizing the hands, no physical contact and measurement of temperature because prevention is better than cure. In the present scenario the social distancing, proper sanitization, measurement of temperature and touch less switch may reduce the spread of virus. This automated covid protection system helps in alerting people when others come closer with the help

## II. OBJECTIVES

The project is to handle the devices without touching them in order to protect themselves. The project is used to reduce the transmission of the coronavirus at indoor places as well as public places. An automatic covid protection system is used can help the individuals to maintain social distancing and handle devices





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# Wireless Sensor Based Automatic Vehicle Accident Detection System

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## ABSTRACT:

Now-a-days, technology rapidly grows but also people do not survive his/her life after road accident because there is no emergency facilities available in our country. So, we design a technology which facilitates the emergency facilities. This project informs about a vehicle to rescue team and the family members of the travelling persons. This uses MEMS sensor which can detect the abrupt vibration when an accident is occurred and also used ultrasonic sensor for distance calculation. More advantages of this system is information send to the rescue team by using IOT technology and locate the position by GPS receiver modems in the form of latitude and longitude. The development in the field of automobiles is highly increasing and which leads to the accidents and so many hazards due to traffic. People's life is under high risk. This situation prevails, just because there is a lack of emergency facilities in our country.

**KEYWORDS:** Arduino UNO, MEMS Sensor, Ultrasonic Sensor, GPS, GSM, LCD, Antenna and Power supply.

## I. INTRODUCTION

In this paper, we are learning about One of the most important research efforts in Intelligent Transportation Systems (ITS) is the development of systems that automatically monitor the flow of traffic at intersections. Such systems would be useful both in reducing the workload of human operators and in warning drivers of dangerous situations. Not only would the systems automatically monitor current situations at intersections but, if the systems could reliably assess those situations and predict whether they might lead to accidents, they might be able to warn drivers and thus reduce the number of accidents. One of the most important research efforts in

Intelligent Transportation Systems (ITS) is the development of systems that automatically monitor the flow of traffic at intersections. Such systems would be useful both in reducing the workload of human operators and in warning drivers of dangerous situations. Not only would the systems automatically monitor current situations at intersections but, if the systems could reliably assess those situations and predict whether they might lead to accidents, they might be able to warn drivers and thus reduce the number of accidents. Providing Accident Detection in Vehicular Network through OBD-II Devices and Androidbased Smart phones, here the researcher develops an accident detection and report system that chain Smartphone with vehicle through base on generation On-Board-Diagnostics (OBD-II) that works as an interface to accomplish smart vehicle modeling, providing the user emergency facilities. The researchers have established an android application that deploys an SMS to pre-stored address with relates information about the accident location. Tracking at intersections is often impeded by the occlusion that occur among vehicles in crowded situations.

Everyone needs a safe and secured travelling. The advancement of technology also plays a significant role. With the improvement of the growth of traffic and thus road accident count has reached to an enormous scale. Nowadays it became very difficult to know that an accident has occurred and to locate the position where it has happened. And there is no system to identify it. The main cause of the death is due to lack of immediate medical facility provided to the victim.

## II. OBJECTIVE

This project informs about an accident that is occurred to vehicle to rescue team and family members of the travelling persons. It uses





# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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## IOT BASED AIR AND WATER MONITORING USING RASPBERRY PI

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**Abstract:** With the tremendous increase in the level of population and mechanization, pollution has increased many folds. This results in deterioration of individual health. There by directly affecting health of entire population. An IOT Based Air and Water Monitoring System using Raspberry pi is proposed which will monitor the level of pollution over a web server using internet. Sensors can be deployed at various locations which can sense and collect data. The big data can be uploaded on the Google cloud which facilitates monitoring from any part of the globe. The presence of harmful gases like Smoke, CO, Butane and LPG above a particular limit may turn fatal which can lead to severe accidents. This type of accidents can be prevented by implementing an effective pollution monitoring system. The air quality and water Ph is displayed on the webpage which makes environment monitoring easy and whenever the air quality goes high, it triggers an alarm. So, here in my project, the main aim is to monitor various gases which are responsible for pollution and to monitor Water ph.

**Index Terms –** Pollution, population, Iot, Raspberry pi, Monitoring, Internet, Sensors, Google Cloud, Web Page, Environment, Gases.

### 1. INTRODUCTION

With the tremendous increase in the level of population and mechanization, pollution has increased many folds. This results in deterioration of individual health. There by directly affecting health of entire population. An IOT Based Air and Water Monitoring System using Raspberry pi is proposed which will monitor the level of pollution over a web server using internet. Sensors can be deployed at various locations which can sense and collect data. The big data can be uploaded on the Google cloud which facilitates monitoring from any part of the globe. The presence of harmful gases like Smoke, CO, Butane and LPG above a particular limit may turn fatal which can lead to severe accidents. This type of accidents can be prevented by implementing an effective pollution monitoring system. The air quality and water Ph is displayed on the webpage which makes environment monitoring easy and whenever the air quality goes high, it triggers an alarm. So, here in my project, the main aim is to monitor various gases which are responsible for pollution and monitoring the Water ph.

The Internet of Things (IoT) is nothing more than a combination of sensors and software with embedded electronics, and Wireless Sensor Network (WSN) is the location where there is a lot of work being done. The work is not limited to one application but has many, including fire detection, smoke detection, water or gas leak detection, air pollution, humidity measurement, and many more.

The data gathered from local sensors can be sent to any distance where it can be seen, and further controlling action can be initiated if necessary. The WSN-based air monitoring system gathers information from the sensors' deployment area and displays it on the computer screen. Computer data can be sent to any terminal that is associated to the Internet. Thus, using IoT, long-distance data transmission can be accomplished, and analysis can be displayed by uploading information to the vendor of IoT services using various plots in URIDOTS.

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### GARBAGE MANAGEMENT SYSTEM USING IOT

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#### ABSTRACT

We present the garbage Management through IOT system that looks for the amount of waste in the bin. Dustbin containers are used for collecting the household as well as human society waste from all around the world. Our system is designed such that it continuously collects real-time data to maximize the operational time and deliver this data through a wireless mesh network. It also gives the daily seasonality information to the Municipal Corporation which enables them to make better & organized collection for recyclable, organic, and plastic waste. Human society disposes of a variety of waste materials daily and mainly this waste is categorized as dry waste, plastic waste, recyclable waste, sewage wastes, domestic wastes, etc. Our project focuses mainly on outdoor dustbins placed outside every corner of the street and societies that maintained by the Municipality. Household dustbins are used to collect wastes of a particular family, later that collected waste is disposed into the common dustbins of society. Since waste in roadside dustbins are not monitored and collected properly most of the times, hence our main motive is to efficiently organize and manage outdoor dustbins for a clean and hygienic environment.

**Keywords:** Accidents, Sensors, Vehicle, Speed Controlling.

#### I. INTRODUCTION

In today's generation of swift urbanization, managing garbage has become a great issue in most of the cities and villages. These problems can be addressed by the design of smart dustbins. The entire system proposed is powered by solar energy by the help of solar panels. A smart trash bin is a self-monitoring garbage collection bin that can monitor its own waste level and, as a result, determine when garbage in it should be collected. It also sends a notification to the garbage collecting truck driver and publishes the observed data on the server. It's possible that the bin isn't completely full all of the time. The collecting of garbage would be superfluous and inefficient in that circumstance. The smart trash bins notify the driver when the garbage bins are filled with garbage or when they are not filled. This makes the garbage collection system well organized. Solar power in recent trends is leading and being in use as it is easily available, vast and eco - friendly form of energy. It has all of the characteristics of a perfect energy source, and it simple to convert solar energy into useful electrical energy and thermal energy with the help of solar panels. Therefore, in this project, we power the system by the help of the most abundant source of energy, that is the solar energy. This energy can be used to charge the battery and in turn power the system, making the smart trash bins and the waste management system eco - friendly.

#### II. LITERATURE SURVEY

A Smart Dustbin proposed by based on IoT in which the smart bin was built on a platform which was based on Node MCU (wifi) , blynk app and an ultrasonic sensor. The sensor was placed on the top of the bin. A threshold level was set as 3cm. As the garbage reaches the level of threshold, the led is light up , the which alerts the associated authority till the garbage in the bin is emptied. At the end a conclusion was made that various issues like affordability, maintenance and durability were addressed when these smart bins were designed. It also contributed towards a hygienic and clean environment in the process of building a smart city

#### III. WORKING MODULE

- o In this project we used NODE MCU, ultrasonic sensor and led as main component and also 3 bins are used.
- o Here ultrasonic sensor are works using sound wave technology using triggering of sound wave calculate time, how much time is taken by the sound wave to travel.







# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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## RESERVATION BASED VEHICLE PARKING SYSTEM USING GSM AND RFID TECHNOLOGY

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**Abstract:** This paper is to develop a Reservation based vehicle parking reservation system to overcome the problem of unnecessary time consumption in finding parking spot in commercial parking areas. In this proposed system, we reserve the parking slot in shopping malls, theatres and offices by using short message service (SMS). User reserves the slot by sending a message to GSM modem placed at the parking end. GSM modem gives slot number and a password if the slots are available which is used to allow or deny access to the parking area at the entrance and exit. IR sensor is used for the indication of empty slot with a green LED. User can park the vehicle at the given zone, and this is valid up to a certain grace period only after that the priority will be given to next user. RFID technology is used for entering and exiting parking area and also used to debit the amount for parking charges through RFID tag. The main contribution is the system has more security. Thus users can just reserve the parking slots using the SMS.

**Index Term:** ATMEGA 328P Controller, LCD Display, Power Supply, LED Display, GSM Modem, RFID Module, IR TX, IR RX, Keypad, Stepper Motor, ULN 2003, MAX 232.

### 1. INTRODUCTION

In the existing parking system searching for parking space is always been a difficult process. In metropolitan cities it became a major issue due to space problem, no parking zones etc, hence comes the need of such a system which can automatically assists us to search the nearest available parking space in the surrounding area. Thus it will help us in saving time, petrol & money [1]. Most of them are manually managed and a little inefficient. All the work is done by staff of the parking slot. Drivers give the money to the staff directly. Many people are not satisfied with the current management of the parking system and the flexibility of finding empty space to park their vehicles.

Considering the present day car parking tollows job where not only the number of cars are increasing but also the parking space is very limited. Thus it is not only a cumbersome task to find out the available slot and this includes the car movement across the multiple slots and there by even wasting a considerable amount of fuel as well. The movement of the car along the parking slots may also damage the other cars which are parked and even resulting in the traffic slowdown and congestion. Considering the present day parking systems where the user don't even have an idea of the available parking Slots though there some available slots as we they lack the monitoring system for the same. Thus the situation where a user faces the traffic congestion in parking areas is very much obvious.

Parking demand is routinely high at theaters, shopping malls and offices. The problem that always occurs at the vehicle parking is time being wasted in searching for the available parking spaces. Users will keep on circling the parking area until they found an empty parking spot. That is, people often "circle around" looking for a good parking space then a traffic jam may occur [2]. Parking is an ever-growing challenge in cities and towns across the world. So the demand for Reservation based parking System is expected to grow rapidly in the near future to eliminator reduce this problem with parking facility by just reserving their parking slot using the SMS without having to go online.

The main objective is to design a parking system with ATMEGA 328P microcontroller which can run on an embedded system. By using GSM and RFID technology the parking problem in big cities, especially the mega- cities, has become one of the keycauses of the city traffic congestion. The Reservation based Parking System is considered to be an effective way to improve parking situation



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(11)

## IOT Based Mecanum Wheels Robot

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### ABSTRACT:

The mecanum wheel is a direction. It is a conventional wheel with a series of rollers attached to its circumference. Each roller have an axis of rotation at 45° to the plane of the wheel and at 45° to a line through the center of the roller parallel to the axis of rotation of the wheel. A typical configuration is the four platform. By alternating wheels with left and right handed rollers, in such a way that each wheel applies force roughly at right angles to the wheelbase diagonally, the vehicle is stable and can be made to move in any direction. The present work is to develop a mecanum wheel based robot platform for industrial applications which is equipped with the Infrared (IR) sensor to detect the obstacle around it and move accordingly and also to such type of robot platform is used in the warehouse automation. And this robot integrated with ESP32 Cam which we can observe everything even in low condition.

**KEYWORDS:** IOT, ESP32 CAM, MECANUM WHEELS, IR SENSOR

### I. INTRODUCTION

Omn-directional wheels have been used in robotics, in different industries and in logistics for many years. The first Omni-directional wheel was patented in 1919 by J. Grabowiecki in US, which was not famous. Mecanum Wheels were first invented in 1973 by Swedish inventor Bengt Lion [1]. This wheel is designed in such a way that, the rollers are mounted around the circumference of the wheel at 45 degrees to the wheel plane. This design of wheel allows for in-place rotation which prevents ground friction to a great extent and results into low driving torque. AN AndyMark Mecanum Wheel has been re-designed for better performance and utilization by Helical Robotics. Mecanum Wheel is a complex "Omni-Directional" wheel that currently contains several drawbacks. The drawbacks include complex design, usage of hobby grade material, bumps in rollers, etc. A

comprehensive design of the Mecanum wheel is being presented using Computer Aided Software, CAD and analysis tools, such as Finite Element Analysis, FEA. The different concepts were hand sketched using various parameters and then implemented in a CAD software - CATIA. The Mecanum Wheel's feasibility was thoroughly studied through ANSYS software. Load analysis was performed using various materials and several manufacturing processes carefully, to check the achievability of the wheel. In conclusion, the Mecanum wheel was successfully re-designed and manufactured to meet the requirements and specifications of Helical Robotics. Mecanum-style drive uses 4 wheels from which, 2 are "left" wheels and 2 are "right" wheels. One right and left wheel is on each side of the robot. Each wheel is driven independently which requires 4 individual motors [3]. The Figure 1.1 shows the magnetic climbing robot manufactured by Helical Robotics. This robot is lightweight and portable and the magnet used by the robot also does not touch the work surface. It can climb up to 7 ft. height without using any wireless components. This thesis study only concentrates on the designing of the Mecanum Wheel and analysing its manufacturing process and material.

### II. OBJECTIVE

The main aim of the project is to design an IOT based mecanum wheel robot with Blynk APP to move in all direction adding features like wireless camera and IR Sensor with obstacle detection with auto stop. IR Sensor can measure the heat of the object as well as detects the motion with auto stop. ESP32 Cam is used for live video streaming in order to control the robot.

### III. PROPOSED SYSTEM

ESP32 calculates and displays these distance parameters on the mobile via Blynk android app, it sends these parameters to the Internet using IOT techniques. The process of sending data to the





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## Controlling of Unmanned Surface Vehicle in Free Water

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**Abstract-** Unmanned Surface Vehicles (USVs) are being developed across the world at a rapid rate. The objective is to make an operating model of an unmanned surface vehicle (USV) that's multi-modular in nature, i.e. makes use of multiple modules and sensors so as to sense and actuate the specified functions to suit our desired methodology of travel, conjointly keeping in mind a path-saving algorithmic rule, that takes into consideration GPS reference system to reach out heading and course modification angles. This, in order to capture the desired telemetry and data from the onboard sensors at the specified locations in the path, then return to base for the retrieval of the data for analysis.

**Keywords –** Unmanned Surface Vehicle, Mission planner, GPS, Brushless DC motors

### 1. INTRODUCTION

Unmanned surface vehicles (USVs) are autonomous marine craft that operate on the surface of a body of water without any personnel onboard. They are analogous to airborne unmanned aerial vehicles (UAVs) and subaquatic unmanned underwater vehicles (UUVs) USVs have been widely used to conduct scientific research in the fields of oceanography and meteorology and have their applications in the oil and gas industry also. Within the Defense sector, USVs are currently being developed for several roles including anti-submarine warfare and minesweeping.

One such USV is Halcyon which is currently being developed by Thales UK and ASV Global for autonomous mine clearing missions. The simulation model presented in this paper has been developed to aid in the development, testing and validation of Halcyon's autonomy management system. Using simulation for this purpose reduces the need to conduct time-consuming and expensive sea-trials and

allows for greater flexibility over the environmental conditions in which the boat must operate.

This flexibility offers the additional advantage of being able to test and evaluate several guidance, navigation and control (GNC) systems using the same "random" wave environment. To aid in this, the simulator incorporates a novel sea-surface wave environment model which is an integration of several spectral wave models and is capable of simulating omnidirectional surface waves produced or affected by ocean swell, local wind, surface currents and finite water depth.

### 2. PROBLEM STATEMENT

The Unmanned Surface Vessel (USV) that can be used for observatory purposes. It would travel along a set of given way points and can be utilized to observe a given terrain. Due to its small size and as there are no human lives involved in the process it's a relatively safe method to operate especially during military operations.

During the Sri Lankan civil war Navy vessels carrying passengers and supplies to the Northern peninsula of Sri Lanka were constantly attacked by suicide vessels carrying explosives and controlled autonomously.

The traditional procedure was to dispatch a Navy boat to patrol along the course of the ship before it begins the trip and observe the terrain. However, this could be very dangerous as the patrol boat is highly prone to get attacked by terrorists. Since the protection of the ship which carries many civilian lives and essential supplies to the northern peninsula of the country was at stake the Navy had no option but risk the lives of its sailors in order to save the lives of civilians. USV is developed to provide an effective solution



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## VOICE BASED SPEED AND DIRECTION CONTROL OF DC MOTOR

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### ABSTRACT

It is very difficult to work in hazardous environment in many of the industries. Human can survive only certain amount of humidity, temperature, pressure, etc. Working in environments like this will cause threat to human life, so precautions should be taken against this. To overcome this huge loss voice control was developed. Due to the advancement of wireless technology, there are several connections are introduced such as GSM, Wi-Fi and Bluetooth. Each of the connection has their own unique specifications and applications. The speed control was implemented using Bluetooth technology to provide communication access from smart phone. Communication plays a major role in day today's life and can be used as a better tool in control system. Motor plays an important role in many engineering applications. Engineers always search for an efficient and easy way to control these motors. Some many techniques are available in both AC and DC. Pulse width modulation is used often to control DC motor. Another interesting control is voice-based control. The Voice is recognized by the voice IC and the analog values are stored in the valve that is decoded to binary format and finally stored in IC. The microcontroller needs to be programmed to monitor the speed of the dc motor. When the speech is attained on the speech recognition using Bluetooth module, the valve checks and passes to the microcontroller, according to the program, the code mentioned stage of the pulse width is applied to the dc motor and now the speed is changed and rotates depending upon the signal that is applied to it. You can use the buzzer to indicate every time speed changes. Overall this project can provide higher efficiency and smooth operations control for any industrial plant.

### INTRODUCTION

The main attraction of any automated system is reducing human labor, effort and time. Home automation aims at automating the human lives. Activating the home appliances without conventional switch but by using a smart phone is known as home automation. Upcoming technology is natural language processing which enables us to command and control things with our voice. In modern era more importance is put on wireless technology. Due to wired networks are messy and complicated. These wireless technologies have great impact on human life in a positive manner and human development speed has increased. The main technologies used in home automation are GSM, Internet and Bluetooth. Each technology has its own merits and demerits. But Bluetooth based home automation systems have an upper hand. Devices can be connected from a range of 10m to 100m and this range can be increased. Also the frequency used for Bluetooth is 2.4GHz, which is available globally. The speed that can be fetched for Bluetooth services is up to 3Mbps. So these advantages made way for high development in Bluetooth based home automation. The primitive man realized that an effective way to communicate with one another is through voice. With minimum effort, ideas could be narrated with relative ease. When the first computers came around, achieving the level of sophistication so as to narrate commands using voice to a machine was

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## TIME BASED POWER DISTRIBUTION IN URBAN AND RURAL AREAS IN POWER SHORTAGE CONDITIONS

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### ABSTRACT

This paper is designed around a microcontroller which forms the heart of the project. In our project we are going to make use of a device called RTC which stands for Real Time Clock. This provides the details such as day month year date and time according to which the machines are made ON and OFF. The RTC is interfaced with microcontroller to communicate and hence to get the information such as time etc. and controls the switching of devices. The microcontroller communicates with RTC through a serial synchronous protocol called I2C. And accordingly the lights are made ON and OFF. The control unit consists of a microcontroller with its associated circuitry. According to this project, the day and night timings are found with the help of RTC and lights are switched accordingly. The hardware involved in the project is Power supply, Microcontroller, RTC and light. After set the predefined times, micro controller will control the devices in that predefined interval of time to control the machine and devices.

### INTRODUCTION

The recent growth of inverter-interfaced grid-connected distributed generation (DG) in Australian distribution networks (DNs) has been a contentious issue within the power community of late. There are many advantages of grid-connected DG, including promoting the use of renewable energy resources, improving fault ride-through, reducing losses in the DN and deferring infrastructure upgrades for the utility. However, there are also various potential complications involved with grid-connected DG. Most notably, power quality problems such as over-voltage (OV) may arise as well as protection maloperation [1], [2], [3]. Utilities have recorded instances of OV at the point of common coupling (PCC) of DG units and have subsequently imposed limits on the maximum size of a DG installation [4]. OV incidents generally occur under low local load conditions in networks where a significant short circuit impedance exists between the DG unit and the nearest upstream voltage



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# Temperature and mask scan entry system with sanitization for covid prevention

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## ABSTRACT:

The basic aim of the project is to detect the presence of a face mask on human faces. In this project we are implementing a long-range IR sensor that is used to detect the presence of humans and an ESP32 camera module that will capture the image of a human and detect whether a person wearing a face mask or not.

When the person appears wearing a face mask the ESP32 cam detects and forwards the information to the microcontroller which is an Arduino Mega 2560 and the green LED turns ON. Now the microcontroller will command the relay to release the sanitizer thereafter it commands the servo motor to authorize the entry.

**KEYWORDS:** Object Detection, Mask scan, Temperature scanning, Mask scan, Sanitization, Gating

## INTRODUCTION

The world wide pandemic covid 19 has been the most life-changing event which has startled the world since the year began affecting the health and lives of the masses. Strict measures are followed in order to prevent the disease to monitor the people as their following safety principles or not a strategy was developed. A face mask detector system was implemented to identify whether a person is wearing a mask or not.

To avoid getting infected or spreading it, it is essential to wear a face mask while going out from home, especially to public places such as markets or hospitals. The system is designed to detect the faces and to determine whether the person wears a face mask or not.

This project can be used in the hospital, markets, bus terminals, restaurants, and other public gatherings where the monitoring has to be done.

It consists of a camera that will capture the image of the people entering public places and detect whether the person wears a face mask or not using their facial features.

## EXISTING METHODS

### IOT Temperature & Mask Scan Entry System for Covid Prevention:

The camera is used to scan for mask and temperature sensor for forehead temperature. The raspberry processes the sensor inputs and decides whether the person is to be allowed. In this case the system operates a motor to open the barrier allowing the person to enter the premises. If a person is flagged by system for high temperature or no Mask the system glows the red light and bars the person from entry. Also the face and temperature of person is transmitted over IOT to server for authorities to take action.

## WORKING PRINCIPLE

The aim of the project is to detect the face mask and also check the temperature of a person and determine whether the person wearing a face mask or not and also the person is having the temperature within the limits (below 37 degrees).

In this project we are implementing two microcontrollers they are ESP32 CAM which is used to detect the captured image of human and when a person appears wearing a face mask and the temperature value is below 37 then ESP32 CAM detect the person by receiving the commands from camera and IR sensor and IR temperature sensor will forward the information to the microcontroller which is Arduino Mega 2560 it will process where the green led turns ON. At the same time Arduino Mega 2560 will command the relay to release the sanitizer here after





# Computer-Aided Diagnosis of Chronic Kidney Disease in Developing Countries with Machine Learning Techniques

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### ABSTRACT:

The high incidence and prevalence of chronic kidney disease (CKD), often caused by late diagnoses, is a critical public health problem, especially in developing countries such as Brazil. CKD treatment therapies, such as dialysis and kidney transplantation, increase the morbidity and mortality rates, besides the public health costs. This study analyses the usage of machine learning techniques to assist in the early diagnosis of CKD in developing countries. Qualitative and quantitative comparative analyses are, respectively, conducted using a systematic literature review and an experiment with machine learning techniques, with the k-fold cross-validation method based on the Weka software and a CKD dataset. These analyses enable a discussion on the suitability of machine learning techniques for screening for CKD risk, focusing on low-income and hard-to-reach settings of developing countries, due to the specific problems faced by them, e.g., inadequate primary health care. The study results show that the J48 decision tree is a suitable machine learning technique for such screening in developing countries, due to the easy interpretation of its classification results, with 93.00% accuracy, reaching a nearly perfect agreement with an experienced nephrologist's opinion. Conversely, random forest, naive Bayes, support vector machine, multilayer perceptron, and k-nearest neighbor techniques, respectively, yield 93.33%, 88.33%, 76.66%, 75.00%, and 71.67% accuracy, presenting at least moderate agreement with the nephrologist, at the cost of a more difficult interpretation of the classification result.

### 1. INTRODUCTION

Machine learning (ML) is the study of computer algorithms that can improve automatically through experience and by the use of data. It is seen as a part of artificial intelligence. Machine learning algorithms build a model based on sample data, known as training data, in order to make predictions or decisions without being explicitly programmed to do so. Machine learning algorithms are used in a wide variety of applications, such as in medicine, email filtering, speech recognition, and computer vision, where it is difficult or unfeasible to develop conventional algorithms to perform the needed tasks.

### CHRONIC DISEASE INTRODUCTION

CHRONIC kidney disease (CKD) is a global public health problem affecting approximately 10% of the world's population. According to another study, this percentage has reached 14.7% in the Mexican adult general population. This disease is characterised by a slow deterioration in renal function, which eventually causes a complete loss of renal function. CKD does not show obvious symptoms in its early stages. Therefore, the disease may not be detected until the kidney loses about 25% of its function. In addition, CKD has high morbidity and mortality, with a global impact on the human body. It can induce the occurrence of cardiovascular disease. CKD is a progressive and irreversible pathologic syndrome. Hence, the prediction and diagnosis of CKD in its early stages is quite essential, it may be able to enable patients to receive timely treatment to ameliorate the progression of the disease. Machine learning refers to a computer program, which calculates and deduces the information related to

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# FINGERPRINT BASED ELECTRONIC VOTING MACHINE USING ARDUINO

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**Abstract** In a democratic country, like India voting is an important way where the citizen can cast their vote. Usually voting is done by casting their vote in polling booth. In the technology stream, technology electronic voting machine is used for casting vote. This paper is about an IoT based voting machine with fingerprint verification. The main aim of this project is to make voting using fingerprint verification and also to reduce malpractice. The details of the voter along with their fingerprint is stored in database. If the fingerprint matches with the stored fingerprint, the system checks the number of the vote and if authenticated, it checks if multiple votes have been cast. If the fingerprint matching is not correct "Matching failed" message will be displayed and if number is not correct, then "Auth not match" message will be displayed. Voter can enter higher notice place and vote for the corresponding candidate using thingspeak and the result can be obtained using the same. The Arduino Uno is the controller used in this project. Fingerprint is used to authenticate the user. There is at least a slight difference between the fingerprints of each person. When a malpractice occurs, "Already voted" message will be displayed. The Arduino IDE is used for programming the board and cloud is used to display ballot card and to store the result. System provides an alert on malpractice and only an authorized voter can cast the vote. This project safeguards the citizen's right to vote and guarantee fair election.

## INTRODUCTION

### 1.1 BACKGROUND OF THE STUDY

In a democratic system of governance, election is very crucial and the integrity of the electoral process is sacrosanct. Election is a repetitive operation that occurs every specified period of time. Adding to that is the fact that there are different types of elections and/or different scopes of elections and the need to support multiple elections.

Democracy thus encourages individual freedom according to the rule of law, so that people may behave and express themselves as they choose. This not only gives people a chance to choose their leaders, but also to freely express their views on issues.

Voting through an election booth is an important part of democracy and the success of the election, the voter's participation is a key requirement. Right from voter being registered to voting in the election booth, the election booth facilitates the function must be reliable, trustworthy and free of bias. In addition to providing for the safety of the voter, it also ensures the voter's trust and confidence in an organization or government when it appears efficiently. Security is becoming more and more with a widespread network and various web to the high level of security in the services provided by the private sector and in the Internet in particular, are now beginning to be demanding available for the delivery of services by governments using various electronic delivery methods.

The key concerns of election and success of a voting system is Transparency, ordinary voters should be able to understand and oversee the vote casting and counting process, even with relatively minimal education as well as trust.

The implementation of electronic voting would allow increased access to the voting process for millions of potential voters. Higher levels of voter participation will lead greater legitimacy to the electoral process and should help to reverse the trend towards voter apathy that is fast becoming a feature of many democratic societies. It is also envisaged that most traditional voting methods will exist for some time to come, as a means is needed to make these more efficient and integrate them with the newer electronic methods.

Online voting is an electronic way of choosing leaders via a web driven application. The advantage of online voting over the traditional "paper method" is that the voters have the choice of voting at their own free time within the stipulated election voting period and there is no need to queue up. It also minimizes on errors of vote counting. The individual voters are submitted into a database which can be queried to find out who of the aspirants for a given post has the highest number of votes.

This system is geared towards increasing the credibility and ease of the voting procedure of staff elections in the University of India since it has been noted that with the old voting method (the

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## CHILD RESCUE SYSTEM FROM OPEN BORE-WELL

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### ABSTRACT

In India for past few days people are facing a distressed cruel situation like child have fell in the bore well and struck in the hole which is uncovered and getting trapped. Rescue of trapped child from bore well is very risky and difficult process when compared to the other accidents. The currently available systems to save the child are less effective and costly too. It takes more than a day to save the child. Here, the child who is stuck inside the hole is to be saved by the clipper which pick and place the child with the help of remote controller. The clipper is left inside manually by the rope tied up at its hands. In this alternative scenario there will not be any requirements of digging hole parallel to the bore well. It also consists of camera which is affixed to the clipper which is used for monitoring the child. By this camera we get the visuals of the child and their condition.

### INTRODUCTION

In current framework, growing water scarcity is the major problem which people come across in day-to-day life. Small children without spotting the hole dug for the bore-well slip in and get trapped. These accidents are mainly happened due to inattention or playful activities of the child. The occurrence of latest technique provides pragmatic opportunity for new robot power and awareness of new methods of control theory. The present robot control system can be used for different enlightened robotic applications. Robots have been very successful at manipulation in simulation and controlled environments. If the child fall into open bore-wells and rescue operations was almost end with failure. We are developing a robot machine that can take out the trapped body in a systematic way. It will be a light weight machine that will be setup easily into bore-well and hold the trapped body systematically. In this technology, there will be no requirement of digging any hole parallel to the borewell. With this machine, we can save the child within less time compare to convectional method. and this system named as "Child Rescue System in Open Bore-Well". Very few of the victims have been saved in such accidents. In some of these cases the dead body of the subject could not be collected easily. Even if rescued late, most victims were reportedly injured. To overcome such problems of these rescue operations, we have an alternative (feasible) proposal. We are developing a robot machine that can take out the trapped body in systematic way. This machine assembly will be supported by a cable wire and this will be controlled and supported by a gear assembly. In this alternative scenario, there will be no requirement of digging any whole parallel to the bore-well. The remotely controlled robot will go down the bore well and perform the action. A lot of other hassles will also be avoided by this alternative technique. The rescue of these trapped children in an uncovered bore-well is not only difficult but also risky. A small delay in the rescue operation can lost the life of the child. To lift the child out the narrow confines of the bore wells is also not very easy. Robot for bore well rescue system, offers a solution to these kinds of situations. It is fast, economical and safe.

- The main objective of this project is to design and construct a portable system which is cost effective, quick in action and accurate.





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# Hardware Realization of Low Power and Area Efficient Vedic Mac in DSP Filters

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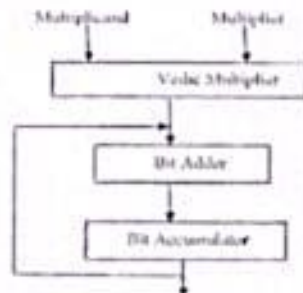
**Abstract:** VLSI experiences a key position in many of the signal process applications. Multiply and Accumulation methodology is one in all told the chiefly used operation. Power, space and speed as the metrics accustomed ensure the efficiency of a MAC unit. Surely each of these metrics plays a key role. In some cases, speed is simply targeted, so the other parameters do not appear to be rich priority in that case. Through the deep analysis of adders, Carry Select Adder has shown less space and power consumption than totally different adders. The processes that square measure involved in MAC are multiplication, addition and accumulation. The addition of Vedic techniques in a MAC is commonly an additional advantage. So, this project includes development of multiply and accumulate unit pattern frightened writing Sanskrit (UrdhvaTiryakbhyam sutra), accumulation unit involving Carry select adder (CSLA) and its implementation in a 4-tap FIR filter

**Keywords:** Accumulator, Adder (Carry Select adder), Multiplier (using Vedic technique).

## I. INTRODUCTION

Vedic arithmetic may well be a name given to the traditional system of arithmetic that was re-discovered kind the Vedas. It offers rationalization of the many mathematical likewise as arithmetic's, geometry, trigonometry and human calculus. It completely was created by Shri Bharathi Krishna (1884-1960), once his eight years of analysis and Vedas. He created 16 main sutras and 16 sub sutras. The beauty of arithmetic is to chop back advanced calculations into straightforward ones. The most of digital signal processing applications, the crucial operations are multiplications and accumulations. The main DSP operates extensively produce use of multiply accumulate (MAC) operation, for high performance digital signal processing systems

## II. PRACTICAL DESIGN OF PROJECT



General architecture of a Mac unit is shown in to the figure1.

MAC Unit Consists Of

- 1) A Multiplier
- 2) An Accumulator

The sum of the previous successive products. The MAC inputs are obtained from the memory location and given to the multiplier block. Here  $x(n)$  is the input and the coefficients are  $h_0, h_1, h_2, h_3, \dots, h_{n-1}$ . It contains  $n-1$  adders and  $n$  multipliers. It is the direct form, that the delays are placed in between the multipliers



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# Biometric Security Locker for Shared access Using Raspberry PI

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**Abstract**—This project aims to an unlocking process that deals with the design approach of an IoT Real-Time door lock security system for shared access, based on Raspberry Pi 3 for intruder detection that reinforces biometric technology to provide essential security to our houses and associated control. The proposed system here uses a Raspberry Pi 3 for processing along with a fingerprint sensor for capturing templates and accessing of the door by the owner. A buzzer and a GSM are also used. Here, GSM is used to know the users or authorized persons, who entered into the area/occupancy by using the biometric sensor. The SMS with the person details will be sent to the remaining authorized persons through GSM module. If any unauthorized person is detected, the system alerts with the buzzer sound and an alert SMS is sent to the mobile phone of the owners using the Wi-Fi module of Raspberry Pi applying the IoT based software concept. Programming has been developed in Python environment for Raspberry Pi operation in the Raspbian OS.

**Index Terms**—IoT, Raspberry Pi 3, Fingerprint sensor, Buzzer, GSM, Raspbian OS

## I. INTRODUCTION

In this modern world, crime has become ultra-modern tool. Security concerns are increasing every day, in every field of living, be it vehicles, homes or the family members. Security and safety are becoming imperative day by day and getting superior to provide ease in our life. Nowadays, technology has become an integrated part of people's lives, therefore, the security of one's home must also not be left behind. For this concern various approaches are in place to address the problem. Most of the major door lock security systems have several loop holes which could be broken down to gain access to the desired place, and it creates a concern for a secure life style

and proper working environment. Additionally, terrorism and unauthorized access to places have become a major issue now-a-days, and there is a need for a secure system to prevent unauthorized access especially in shared access environment.

Doors serve as entrances to our homes, offices and many other kinds of enclosure; they may also provide access for strangers, criminals, and offenders. Doors are meant to be secured and to prevent intrusions from unwanted persons. Individuals and cooperate bodies are becoming more aware of the dangers associated with relying on keys and parameter fencing to provide security to exclusive areas of their apartments and organization because criminals and fraudsters can forge keys or make master keys that can be used to break into such rooms or offices. So, the security does matter in this daily life. Implementation of a reliable security system is essentially required to safeguard our assets and in the best and safest way possible. Traditional security systems require the user a key, a security password, an RFID card, or ID card to have access to the system. However, these security systems have deficiencies; for example, they can be forgotten or can be stolen by unauthorized people. As a result, there is a need to develop a home or door locking system that guarantees a higher security level. Fingerprint recognition is one of the most popular methods of biometric technology. When compared to other biometrics such as face, voice, and retinal scan, fingerprint recognition can be considered more natural. Focusing on home security, this paper proposes a system which provides a fingerprint-based smart door unlocking system. This system is based on the technology of Internet of Things (IoT), due to its wide use in the development of new systems with ease of implementation and low cost. The main focus



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**Design and Optimization of CNN for Lane Detection**

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**ABSTRACT** One of the research study concerns that have been raised by the widespread promotion of intelligent transportation and self-driving cars is lane detecting. Convolutional Semantic Network (CNN), the top algorithm for this purpose, has been the subject of numerous studies aimed at enhancing its performance. This study proposes the Dynamic Mode Disintegration (DMD) approach to minimize the complexity of CNN for lane detection. The task involves employing a CNN model for lane discovery and optimizing thinking time by reducing the number of layers while maintaining variation precision with the help of DMD. Through variant implementation using the Tensor Circulation library, the enhanced version achieved precision levels comparable to those of the normal version. When the two designs were compared, it was found that the recommended design performed faster than the traditional because it requires fewer computations because there are fewer layers. In order to optimize the layers in a deep semantic network trained to recognize irregular information in images; this research demonstrates how DMD may be utilized as a background foreground breaking apart device.

**Keywords:** DMD, SAE, ADAS, CNN, ANN.

**I. INTRODUCTION**

In a paper published in 2014, the Society of Automotive Engineers (SAE) defined various levels of driving automation for self-driving cars and trucks. These standards establish six levels of automation, from Level 0 to Level 5, where Level 0 denotes complete automation without the need for any type of human interaction and Level 5 denotes complete automation. Self-driving automobiles are now a possibility thanks to improved computer technology and stronger noticing systems. Today's Level 3 autonomous vehicles can find their environment and do the majority of driving tasks, but human intervention is still required. The Advanced Chauffeur Support System is just one of the many aspects that make automation possible (ADAS). It has components like the Lane Separation Care System (LDWS) and Lane Maintaining Aid that aid in identifying lanes and ensuring that the truck stays in them (LKA). This cutting-edge auto technology allows the driver of the automobiles and trucks to access online assistance and informs him when his vehicle veers off the lanes of the road. The research literature shows how lane searching for technology has advanced, from early systems that rely on conventional image processing methods as well as a combination of side exploration formulas and also variation suited formulae to much more modern methods that use deep semantic networks.

After the electronic cameras have captured images of the highways, the lanes are tracked using algorithms for image preprocessing, lane discovery, and lane monitoring. The traditional methods of image editing and upgrading for lane discovery involved the removal of characteristics based on the colour of lanes, edges in the image, and structure, followed by layout appropriate where the lanes are approximated as straight, allegorical, or spline forms. As a result of the explosion of machine learning formulas and, more recently, deep understanding due to advancements in computer power and the massive amount of data being created by all the sensing unit devices in a vehicle, learning-based approaches have truly become the new industry standard.

When the lane markers are clearly visible, the standard operating procedures are typically precise enough to recognize the lanes and are also computation-wise and efficient. Aly uses the Wise side detector with the Hough Transform to identify the straight portions of the road lanes. She used the RANSAC formula to carry out the Bezier spline fitting technique as well. However, they are prone to errors when the lighting varies due to factors like the time of day, the weather, and so forth. The main advantage of using deep finding formulae is the ability to fully understand something. Convolutional semantic networks (CNNs), which are used to perform calculations for preprocessing, feature removal, and category, are trained using enormous datasets like CULane, UAHDriveset, KITTI, and others. These data sources offer information for many uses, including item and lane finding. In accordance with studies like these, CNN-based models perform better when images have shadows or other occlusions, increasing accuracy from 80% to 90% compared to earlier methods.

However, this increase in precision comes at a cost of using deep semantic network models with large memory footprint that learn more standards, investing more time to train on the dataset, as well as more time for the experienced model's reasoning on a target device. Despite using a lot of sources, the authors clearly demonstrate how deep neural networks have improved precision for practical applications. Metrics like memory usage, diversity of discovered criteria, thinking time, power usage, and processing issue have not improved. This work offers a method for increasing the layer variation of the CNN for lane discovery. The side information from the extracted using the Dynamic Mode Decay (DMD). The detailed details are provided in the full paper.



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## IOT BASED HOME SECURITY AND AUTOMATION USING GOOGLE ASSISTANT

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**Abstract-** Internet of Things (IoT) is an important technology that affects the internet and communication technology. IoT allows people and objects to be connected anytime, anywhere, in any way/shape and function. Earth's mechanical systems have become very popular in the last few decades and improved living conditions. This project provides the structure and model of an automated earth system. The most important feature is the Raspberry pi, which has an internal Wi-Fi module that allows you to control your device over the Internet. It supports a variety of earth tools, such as energy management systems. Besides, the application is built where the user can control the device using Google Assistant. The IoT project also aims to build a wireless home protection system that uses the ESP32 camera Node MCU module to send alerts to owners if anyone takes a picture of the door and sends it to the owner.

**Keywords:** Home Automation, Raspberry pi, ESP32 camera Node MCU, IFTTT (If This That) Application, Blynk Application, Internet of Things (IoT), Google Assistant, Smartphone.

### INTRODUCTION

A home is a place where you dream or want to be in a long day of sorrow. People return home after a day of work. Be a small device/technology that helps them turn off the lights and turn off and play their favorite music to make the earth feel better. This project is a simple pricing system. It uses Google Assistant, IFTTT software, Blynk software, and Raspberry pi Controllers as vital devices, as well as a relay panel. Native language sounds are used to enable Google Assistant. All components are connected to the Internet via Wi-Fi, which allows the system to work on IoT. The IoT project also aims to create a wireless earth care system that uses the ESP32 CAM Node MCU module to send notifications to owners when people stand at the door and take pictures. It uses the Google Assistant, the Blynk [1] application, the IFTTT [2] application, the Raspberry pi [3], and the ESP32 camera

Node MCU [4] as the major components along with relay board comprising of 4/8 relays. Natural language voice is used to give commands to the Google Assistant [5]. All of the components are connected over the internet using Wi-Fi which puts this system under the IoT [5].

#### 1. Internet of Things (IoT):

The Internet of Things (IoT) is the environment of physical objects connected to the Internet. By providing more information and new presentation models, IoT streamlines our global operations, allowing us to create new values for our specific needs through a voice response system that takes all devices or devices on earth. Goods that have an IP address and can collect and send data over the Internet without assistance and interference from hands. The system should be affordable, easy to install, easy to use, and simple.

#### 1.1 Embedded Systems:

The installed system is designed to perform specific tasks, but not as a purposeful computer. There are real-time limits that must be met for security and reason use; others can simplify system tools to reduce costs and reduce or eliminate operational requirements.

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**Weapon Detection Using Deep Learning**

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**ABSTRACT** Protection in addition to protection is a big hassle for modern-day-day cutting-edge-day global. For a country to be economically strong, it needs to ensure a comfy and moreover safe environment for financiers and travelers. Having stated that, Closed Circuit Television (CCTV) cams are being made use of for protection and additionally to keep an eye on sports activities i.e. Robberies however these video cameras even though require human steerage in addition to remedy. We require a device which can right away find out these prohibited responsibilities. Despite reducing aspect deep learning algorithms, brief refining hardware, similarly to advanced CCTV video cameras, weapon detection in real-time is still a excessive hassle. Observing thoughts-sat differences, occlusions by using the issuer of the weapon and people spherical it even greater boosts the problem of the hassle. This painting concentrates on imparting a relaxed place using CCTV snap shots as an aid to choose out dangerous weapons thru the use of the cutting-edge open-deliver deep mastering formulation. This paper presents a device for gun further to knife discovery based totally on the Faster R-CNN technique. Two techniques have simply been contrasted taking as CNN base a Google Net similarly to a Squeeze Net structure respectively. The very top notch very last outcomes for gun detection come to be gotten making use of a Squeeze Net structure undertaking a 80.5.Forty 5% AP50. For knife detection, the Google Net approach attained a 98.88% AP50. Both results enhance upon previous literature outcomes evidencing the performance of our detectors. 2 techniques are made use of i.e. shifting window/class and also region idea/object detection. Some of the algorithms done are VGG16, Inception-V3, Inception-ResnetV2, SSDMobileNetV1, Fastor-RCNN Inception-ResnetV2 (FRIRv2), YOLOv3, in addition to YOLOv4. Accuracy similarly to remember rely quantity the most in preference to precision at the same time as topics detection is finished so those whole components had been checked in terms of them. Yolov4 stands apart best among all exceptional algorithms and furnished a F1-score of ninety one% at the component of an average ordinary accuracy of ninety one. Seventy three% greater than formerly completed.

**Keywords:** CNN, Deep Leaning, Yolo, CCTV,

**I. INTRODUCTION**

Making use of guns in public places has come to be a large trouble in our society. These situations are greater everyday in International places where guns are legitimately sold or their utilization isn't controlled [10] Crowded places are mainly willing. However, mass shootings have in reality have become considered one in every of one of the most big troubles we encounter in recent times [20] Video clip monitoring structures, usually based totally on traditional close to circuit television (CCTV) are especially beneficial for intruder detection and moreover a long way off alarm device confirmation [6] Nevertheless, the ones structures require to be constantly managed via a human cause pressure. In this respect, its miles approximated that the eye of a protect searching a video digital camera panel lowers catastrophically after 20 mins. Security may be improved utilizing synthetic vision algorithms on images obtained from video protection systems. Another advantage of those algorithms is the possibility of retaining an eye steady on massive regions the use of a bargain a good deal much less gear consequently wanting a good deal an entire lot a whole lot much less reliance at the human detail. Machine studying techniques had been considerably applied in the area of video clip monitoring. The vast paradigm of deep discovering has but boosted the functionality of tool getting to know in automatic video surveillance. The motive of this undertaking is the advancement of novel device detectors, for guns similarly to knives, the usage of deep expertise techniques further to check their performance.

**II. LITERATURE STUDY**

The programs of the deep know-how widespread for tool detection are nevertheless as an opportunity constrained. The seminal work of Almost et al. [14] supplied an automatic hand gun discovery tool for video surveillance. This tool changed into primarily based absolutely upon a Faster R-CNN with a VGG16 structure informed the use of their very private gun database. Results provided virtually no incorrect positives, a hundred% don't forget and additionally a precision (You= zero. Five) fee of 80.4, 21%. In Valdo et al. [17] a weapon detector for application to social media became supplied. The detector employed a Faster R-CNN and furthermore a Creation v2 network for feature removal. A public database of photographs having numerous firearms come to be through hand recognized and used for schooling. Benchmarking has end up finished on the COCO dataset getting a ROC curve that confirmed beneficial consequences. Vera et al. [18] made use of the Web Film Gun Data Source (IMFDB) to create a transportable weapon detector. For that characteristic, a Faster R-CNN based on a VGG16 style modified into carried out simplest for function extraction. Classification have become performed the use of 3 several classifiers; an Assistance Vector Device (SVM), a K-Nearest Neighbor (K-NN) and a Ensemble Tree classifier. The very great in accuracy attained have become 90 three.1% accuracy using the ensemble classifier. We ought to use the IMFDB



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## Artificial Intelligence Methods to understand and improve Employee Experience

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### Abstract

The success of an organization depends on the performance of its employees. In this ultra-competitive job market, organizations are forced to quickly understand the intrinsic and extrinsic factors that concern employees. Organizations have historically depended on various surveys to understand what their workforce is thinking about different aspects of their employment. Though effective, employee surveys often follow a boilerplate template and often fail to capture the emerging socio-economic changes. Capturing employees' feedback using text allows workers to express themselves and provides excellent insight into the latent themes. This paper offers a three-step framework to understand employee experience using Indeed reviews as a proxy. We leverage Natural Language Processing techniques such as N-gram analysis, sentiment analysis, and topic modeling to bring forward latent topics of discussion.

### 1. Introduction:

Organizations and business leaders have always favored data-driven decision-making. The two popular dimensions of data-driven decision-making are the information at hand and the process of generating insights (Provost & Fawcett, 2013).

The process of valuing information has significantly evolved over the years. As the first commercial databases were launched in years 1968, organizations started to think about storing data in a well-organized format (Fry & Sibley, 1976). In the early days, companies limited themselves by only storing the most business-critical data. In the next few decades, innovations in database storage helped organizations store much of the non-business critical information in the databases. The next significant innovation in the data storage space happened with the invention of Hadoop in early 2000's (Shvachko et al., 2010). The idea of storing the data, agnostic of the data type in its rawest format, and being able to define the metadata at a later time, changed the paradigm of data storage and retrieval. Organizations

started storing non-traditional data such as reviews, video footage, job descriptions, resumes, emails, sensors, and log data.

Another dimension of data-driven decision-making is the insights generation process. Modern research overwhelmingly suggests that data-driven organizations are innovative when compared to their peers (Ghasemaghani & Calic, 2019). There are three significant phases in generating insights – descriptive, predictive, and prescriptive analytics (Lepenioti et al., 2020). Spreadsheets and charts used to be the gold standard for generating descriptive insights. They provide a straightforward way to consume and visualize information. Business intelligence and data visualization tools have provided a convenient way for decision-makers to analyze historical data. Statistics, machine learning, deep learning methods are popular methods that are helping organizations generate predictive and prescriptive insights.

But, as organizations accumulated a wealth of non-traditional data assets such as text, they started thinking about leveraging insights from this data to make critical business



## Multi-Task Discovery Method Based on Concept Network for Data Mining

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### Abstract

Business and data understanding, that aims to identify multiple mining tasks, is the most primary phase in planning a practical data mining project. However, traditional tasks determination problem could only be solved by experienced analysts, which suffers from high communication cost and low efficiency. In this paper, we study the automatic task discovery method following the problem solving theory. First, we establish the concept network (CN) model to represent human knowledge and experience in the problem solving process. Then, we propose and demonstrate the structure of two major mining tasks (clustering and classification) in a CN. Finally, a data mining tasks discovery method (DMTD) is put forward, followed by two analysis subject evaluation algorithms. Experiment results illustrate that the DMTD is able to discover all the potential mining tasks from a predefined concept network, filtered by the important or interesting analysis subjects. Moreover, these tasks defined by the DMTD are proven to be available and valuable by fifty published papers.

### 1. INTRODUCTION

Rapid development of data processing techniques (e.g., extraction, transformation, loading) enables us to acquire huge amount of data in various types automatically. However, without further data analysis work, valuable information and knowledge hidden in the original dataset could be easily ignored. To solve these problems, researchers and academic communities are working rigorously on developing data analysis methods for decades,

including mining tasks determination, algorithm design, result evaluation etc. Up to now, most achievements (such as data preparation methods, algorithms, and evaluation metrics) have developed into a kind of computing technique, and various programming tools could be employed directly. While only the tasks determination still fully depends on people due to their intangible prior knowledge and experience. Over relying on people might cause low efficacy and high communication cost. For example, lacking communication between business and data specialists affects the correctness of problem description;

### 1.1 Motivation:

The problem solving theory in cognitive psychology focuses on the thinking activity when people deal with unfamiliar issues, especially the representation of problems within our brain [4]. Following these research, several modeling techniques have been presented and successfully applied for thinking training, meaningful learning, such as the mind map and concept map [5], [6]. In this paper, we focus on the automatic multi-tasks discovery problem based on the problem solving theory. The main contributions are as follows. Firstly, we propose a structural knowledge representation model, concept network (CN). Compared to other classic representation model (the mind map and concept map model) in cognitive psychology, the CN has great advantages in modeling how people determine a mining task via business and data understanding. Secondly, we demonstrate the clustering and classification judgment theorem, which describe the structure of mining tasks in



## DEEPPAKE DETECTION USING LSTM AND RESNEXT

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**ABSTRACT:** Deepfakes are synthetic media in which a person in an existing image or video is replaced with someone else's likeness. Generative Adversarial Networks, or GANs, are a deep-learning-based generative model. More generally, GANs are a model architecture for training a generative model, and it is most common to use deep learning models in this architecture. In the case of GANs, the generator model applies meaning to points in a chosen latent space, such that new points drawn from the latent space can be provided to the generator model as input and used to generate new and different output examples. Thus we can easily use GANs to create deepfakes which can then be mined in a number of places. Deepfakes are concerning everyone out there in the digital world. The project deals with detection of deepfakes using Resnext and LSTMs and packages the benefits of deep learning to detect deepfakes in the form of a Django web Application. To detect deepfakes we gather the frames from the video uploaded and split the video into desired number of frames. Following that we make use of python face recognition libraries and other C++ visual libraries to detect the face of the character from the video. We then apply our models, which are trained for different number of frame sequences to predict if the video is a deepfake or Real.

The increasing sophistication of smartphone cameras and the availability of good internet connection all over the world has increased the ever-growing reach of social media and media sharing portals have made the creation and transmission of digital videos more easy than ever before. The growing computational power has made deep learning so powerful that would have been thought impossible only a handful of years ago. Like any transformative technology, this has created new challenges. So-called "DeepFake" produced by deep generative adversarial models that can manipulate video and audio clips. Spreading of the DF over the social media platforms have become very common leading to spamming and peddling wrong information over the platform. These types of the DF will be terrible, and lead to threatening, misleading of common people. To overcome such a situation, DF detection is very important. So, we describe a new deep learning-based method that can effectively distinguish AI-generated fake videos (DF Videos) from real videos. It's incredibly important to develop technology that can spot fakes, so that the DF can be identified and prevented from spreading over the internet. For detection the DF it is very important to understand the way Generative Adversarial Network (GAN) creates the DF.

### I. INTRODUCTION



# IMPLEMENTATION OF WEIGHTED ROUND ROBIN LOAD BALANCING ALGORITHM FOR GRPC

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## Abstract:

GRPC is a modern open-source high performance Remote Procedure Call (RPC) framework that can run in any environment. It can efficiently connect services in and across data centers with pluggable support for load balancing, tracing, health checking and authentication. It is also applicable in last mile of distributed computing to connect devices, mobile applications and browsers to backend services. A load balancer is a device that acts as a reverse proxy and distributes network or application traffic across a number of servers. Load balancers are used to increase capacity (concurrent users) and reliability of applications. They improve the overall performance of applications by decreasing the burden on servers associated with managing and maintaining application and network sessions, as well as by performing application-specific tasks. In this project we intend to develop a simple load balancer based on java that works efficiently with GRPC using weighted round robin algorithm.

## I. INTRODUCTION

GRPC is a modern open-source high performance Remote Procedure Call (RPC) framework that can run in any environment. It can efficiently connect services in and across data centers with pluggable support for load balancing, tracing, health checking and authentication. It is also applicable in last mile of distributed computing to connect devices, mobile applications and browsers to backend services. A load balancer is a device that acts as a reverse proxy and distributes network or application traffic across a number of servers. Load balancers are used to increase capacity (concurrent users) and reliability of applications. They improve the overall performance of applications by decreasing the burden on servers associated with managing and maintaining application and network sessions, as well as by performing application-specific tasks. In this project we intend to develop a simple load balancer based on java that works efficiently with GRPC using weighted round robin algorithm.

A load balancer is a device that acts as a reverse proxy and distributes network or application traffic across a number of servers. Load balancers are used to increase capacity (concurrent users) and reliability of applications. They improve the overall performance of applications by decreasing the burden on servers associated with managing and maintaining application and network sessions, as well as by performing application-specific tasks.



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# Deduplication in Cloud with Secure Access Control

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**Abstract-** Cloud computing provides a new way of service by offering various resources over Internet. One of the important service provided by cloud service is data storage. In order to preserve the privacy of users, these data are stored in cloud in an encrypted form. Deduplication becomes crucial and a challenging task when the data is stored in encrypted form, which also leads to complexity in storing large data and processing in cloud. A traditional deduplication method does not work on encrypted data. Existing solutions available for deduplicating encrypted data has various security issues. They does not provide access control and revocation in terms of storage. Hence, the deduplication schemes are not mostly deployed in practice. In this paper, we propose a technique to deduplicate encrypted data stored in cloud based on access control thereby avoiding redundant storage. It integrates cloud data deduplication with access control. The result of our scheme shows superior efficiency and has potential for practical deployment in the case of huge data storage.

**Keywords** – Deduplication; Encrypted data; Secured Access Control; Cloud computing

## INTRODUCTION

Cloud computing provides various services by rearranging the resources over the Internet. The important cloud service is data storage. In order to preserve the security of these data, they are often stored in an encrypted form. Encrypted data create new challenges for cloud deduplication which becomes crucial for big data storage and processing in cloud. A traditional deduplication scheme does not work on encrypted data. Therefore in this project we introduce a scheme to deduplicate encrypted data in cloud based on ownership to deduplicate multiple copies of same data. We aim to solve the issues in deduplication that are being faced by data holders by providing privacy for accessing the file. The results show superior efficiency and effectiveness of the scheme for practical deployment in cloud. The contributions of this paper can be summarized as follows. We propose methods to save cloud storage without revealing the privacy of data holders by providing a scheme to deduplicate and manage encrypted data. The scheme manages data deduplication with data sharing even in the absence of the data holder while preserving their privacy. We combine cloud data deduplication with data access control in a simple way.

## II. LITERATURE SURVEY

In previous deduplication systems cannot support differential authorization duplicate check, which is important in many applications. In such an authorized deduplication system, each user is issued a set of privileges during system initialization. The overview of the cloud deduplication is as follow:

### POST-PROCESS DEDUPLICATION

With post-process deduplication, new data is first stored on the storage device and then a process at a later time will analyse the data looking for duplication. The benefit is that there is no need to wait for the hash calculations and lookup to be completed before storing the data thereby ensuring that store performance is not degraded. Implementations offering policy-based operation can give an ability to defer optimization on "active" files, or to process files based on size and location. One potential drawback is that you may unnecessarily store duplicate data for a short time which is not ideal if your system is near full capacity.



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# Secure Internet of Battlefield from Malicious Software Using Deep Eigenspace Learning

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**Abstract.** In military cases, the Internet of Things (IoT) is normally made of a variety and nodes for the Internet (e.g. Portable military jackets as well as diagnostic equipment). This IoT system and network is an important target for malicious, especially for individuals funded by the state or indeed the political entity. Malware usage is a popular access point. This paper introduces a method of bugs information to install malicious on the Internet of Battlefield (IoBT) or the Internet of Military Things (IoMT) through the OpCode sequence of both the system. They transform OpCodes in a vector field and implement a profound methodology for studying to distinguish hazardous and successful software. The specificity of certain suggested malware analysis strategy and the sustainable development towards injection of garbage software threats are indeed demonstrated. Finally, we have our Github malicious analysis, that they believe will help ongoing studies (e.g. to promote assessment of potential contributor to malware detection).

**Keywords.** internet of things, IoBT, deep learning, eigenspace, malware, op-code, classifier

## INTRODUCTION

A standard IoT (Internet) implementation involves a large infrastructure of (intelligent) computer equipment, Internet-related automobiles, built-in networks, sensors, etc., which individually detects, stores, transfers and processes data [1]. Security systems are gathered by the medical field including health, farming, the industrial IoT, and logistics and sustainability networks. Network of Frontline staff was related to as the use of IoT technologies for combat activities and activism apps [2, 3].

It was the first profoundly dependent Machine code approach towards IoT & IoBT malware identification, [4, 5] to something like the state of the art. Then we explain the rigidity of the suggested solution toward current malware detection mechanisms focused on Machine code. They often illustrate how sustainable our method to garbage software injection threats is. In particular, a group attribute selection strategy is employed in our method to supersede less significant OpCodes to avoid targeting junk-code insertion. In addition, we have all Eigenspace components to improve classification performance and sustainable.

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## COUNTERFEIT CURRENCY DETECTION USING DEEP CONVOLUTIONAL NEURAL NETWORK

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**ABSTRACT:** The one important asset of our country is Bank currency and to create discrepancies of money miscreants introduce the fake notes which resembles to original note in the financial market. During demonetization time it is seen that so much of fake currency is floating in market. In general by a human being it is very difficult to identify forged note from the genuine note instead of various parameters designed for identification as many features of forged note are similar to original one. To discriminate between fake bank currency and original note is a challenging task. So, there must be an automated system that will be available in banks or in ATM machines. To design such an automated system there is need to design an efficient algorithm which is able to predict whether the banknote is genuine or forged bank currency as fake notes are designed with high precision. In this paper six supervised machine learning algorithms are applied on dataset available on UCI machine learning repository for detection of Bank currency authentication. To implement this we have applied Support Vector machine, Random Forest, Logistic Regression, Naive Bayes, Decision Tree, K-Nearest Neighbor by considering three train test ratio 80:20, 70:30 and 60:40 and measured their performance on the basis various quantitative analysis parameter like Precision, Accuracy, Recall, MCC, F1-Score and others. And some of SML

algorithm are giving 100 % accuracy for particular train test ratio.

### 1. INTRODUCTION

As many qualities of a fake note are identical to those of an authentic, it is generally exceedingly impossible for a human to distinguish between the two without the use of certain criteria. Differentiating between counterfeit bank notes and genuine notes is a difficult undertaking. Therefore, there must be an automated system accessible at banks or ATMs. To create such an automated system, an effective algorithm that can determine if a banknote is real or counterfeit is required since counterfeit banknotes are meticulously created. So, now a days it is required that bank or ATM machines, must have some system that can identify the forged note from the genuine note. To determine the legitimacy of the banknote artificial intelligence and Machine learning(ML) can play a vital role to design such a system that can identify forged note from the genuine bank currency. On a dataset from the UCI machine learning repository, six supervised machine learning algorithms are used in this research to determine the authenticity of bank cash. Using three train test ratios of 80:20, 70:30, and 60:40, we applied Support Vector Machine, Random Forest, Logistic Regression, Naive Bayes, Decision Tree, and K-Nearest Neighbor to implement this. We

## AUTHENTICATION OF PRODUCT & COUNTERFEITS ELIMINATION USING BLOCK CHAIN

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**ABSTRACT:** Blockchain technologies have gained interest over the last years. While the most explored use case is financial transactions, it has the capability to agitate other markets. Blockchain remove the need for trusted intermediaries, can facilitate faster transactions and add more transparency. This paper explores the possibility to deflate counterfeit using blockchain technology. This paper provides an overview of different solutions in the anti-counterfeit area, different blockchain technologies and what characteristics make blockchain especially interesting for the use case. We have developed three different concepts and the expansion of an existing system concept, is pursued further. It is shown, that reducing counterfeits cannot be achieved by using technological means only. Increasing awareness, fighting counterfeiters on a legal level, a good alert system, and having tamper-proof packaging are all important aspects. These factors combined with blockchain technology can lead to an efficient and comprehensive approach to reduce counterfeiting.

*Keywords – Authentication, Blockchain, Encryption.*

### 1. INTRODUCTION

We are surrounded by a lot of counterfeits, despite the fact that it may appear like a farfetched concept.

The cost of counterfeiting in the United States is estimated to be approximately \$600 billion per year, ranging from fashion and retail products to software, digital media, electronics, piracy, and intellectual property. By 2022, the International Chamber of Commerce estimates that the negative effects of counterfeiting and piracy will drain US\$4.2 trillion from the global economy and threaten 5.4 million genuine jobs. In the pharmaceutical business, the counterfeit drug market now accounts for roughly 1 million deaths each year, in a \$75 billion industry. In fact, it is projected that the counterfeit drug sector is developing at twice the rate of legal pharmaceuticals, making it up to 25 times more profitable than the worldwide narcotics trade. In all dealings, trust is essential. It becomes difficult to send money or exchange items-if there is a lack of confidence between the parties involved. It gets much more complicated because other parties, such as banks, are engaged in many transactions. A transaction frequently involves not just one, but several third parties. An international money transfer involves not only the sender's and receiver's banks, but also a number of intermediary firms such as clearing houses. Not only do the people participating in the transaction have to trust each other, but they also have to trust third parties. By eliminating these third



## A Strategy for Near-Deduplication Web Documents Considering Both Domain & Size of the Document

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**Abstract:** The alike and near-duplicate abstracts are breeding a boundless botheration for seek engines, appropriately decelerate or access the amount of confined answers. Elimination of near-duplicates save arrangements bandwidth and reduces the accumulator amount and advances the superior of seek indexes. It aswell decreases the amount on the limited host that is confined such web documents. Server applications are aswell benefited by identification of abreast duplicates.

**Keywords:** Near-Duplicate, TF-IDF, NLTK.

### 1. Introduction

The advice on the web is exponentially advanced in massive volumes and appeal to use this abundant advice calmly and effectively. The web consists of added no. of assorted copies of aforementioned agreeable. Some advice repositories are mirrored artlessly to accommodate back-up and admission reliability. The seek engine faces a huge botheration due to the all-inclusive bulk of advice and it leads to extraneous answers. The alike and near-duplicate abstracts accept produced an added aerial for the seek engines alarmingly affecting their performance. The apprehension of abreast alike abstracts has afresh become a claiming and a area of abundant interest. A lot of studies accept brought calm on the Apprehension of Near-Duplicate Documents. Several methods and algorithms for Near- Duplicate Apprehension accustomed by advisers are available. Thus partially or absolutely alike web abstracts frequently arise on the web.



## CYBER THREAT DETECTION BASED ON ARTIFICIAL NEURAL NETWORKS USING EVENT PROFILES

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### ABSTRACT:

One of the major challenges in cybersecurity is the provision of an automated and effective cyber-threats detection technique. We present an AI technique for cyber-threats detection, based on artificial neural networks. The proposed technique converts multitude of collected security events to individual event profiles and use a deep learning-based detection method for enhanced cyber-threat detection. For this work, we developed an AISIEM system based on a combination of event profiling for data pre-processing and different artificial neural network methods, including FCNN, CNN, and LSTM.

The system focuses on discriminating between true positive and false positive alerts, thus helping security analysts to rapidly respond to cyber threats. All experiments in this study are performed by authors using two benchmark datasets (NSLKDD and CICIDS2017) and two datasets collected in the real world. To evaluate the performance comparison with existing methods, we conducted experiments using the five conventional machine learning methods (SVM, k-NN, RF, NB, and DT).

Consequently, the experimental results of this study ensure that our proposed methods are capable of being employed as learning based models for network intrusion-detection, and show that although it is employed in the real world, the performance outperforms the conventional machine-learning methods.

**Key Words:** CNN, AI-SIEM, LSTM

### 1. INTRODUCTION:

The default mode of the average organisation with respect to their security preparedness is to be 'reactive' that is they only become conscious of their 'cyber safety' deficiency after a damaging negative event occurs. This current project aims to assist organisations with its unique 'cyberthreat-detection' model to enable them to become 'pro-active' in their approach.

It helps by finding out dangers to their IT infrastructure-as early as possible and in dealing with them appropriately. This way, companies could potentially decrease their risks of doing business and avoid total disasters.





# A STUDY IN TO THE WEB MINING APPLICATIONS TODAY- RISKS AND MODERN TRENDS

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**Abstract**—The World Wide internet is an interactive and widespread manner to modify the knowledge. A huge quantity of records is available over cyber web. Now-a-days web mining is one amongst the sizable material in statistics mining, that is accustomed extract facts from internet documents. It's for the most part classified into three kinds, significantly, web content mining, internet form mining and web usage mining. It's accustomed produce several web packages, which could be enjoying a necessary operate in our daily lifestyles. This paper is particularly aimed to analysis internet mining categories and its web applications.

**Keywords**—Web mining, Web content mining, Web structure mining, Web usage mining.

## 1. Introduction

Data mining techniques area unit applied to internet data that refers internet data mining or net mining. net mining is one among the very important technique in facts mining. It's accustomed extract helpful records from the web that incorporates a hefty amount of documents. It's been explored with huge degree and distinctive ways, that has been projected for a range of applications like net search, question sort and personalization [1]. The matter components of internet facts consist unstructured data alongside loose texts, semi-structured statistics kind of like markup language documents, and more responsible records - records within the tables or information generated via markup language pages.

Web mining copes with semi established data and unstructured data. It is the toughest obligations for statistics mining and information management students as a result of their unit heterogeneous, less based totally statistics offer

on Infobahn and easily crush with data, primarily internet mining are often divided into the following four step methodology - Resource finding and Retrieving, data different and pre-processing, Patterns and recognition, and Validation and interpretation [2].

Resource locating is used to urge stunning files and offerings at the net. The strategy of aid finding is, to extract the data from the web every from on-line or offline with the assistance of the person. Data different and pre-processing unit a way, that may choose and pre-manner the facts robotically, that's retrieved from the net resources. It are typically classified into five varieties they'll be, facts cleansing, shopper identity, user consultation identity, get right of entry to route supplement and human action identification. Data cleansing is that the methodology to urge obviate the unwanted statistics that's up the scope of the facts inside the net report. User identification identifies the purchasers in my opinion from Infobahn log server. User consultation identity methodology is used to understand the person access statistics from the net server. Access path estimation may well be a because of estimate the client get admission to log documents from the web server. Human action identification may well be a method that depends all at the person session identification technique. Pattern discovery has automatically placed the designs from a computing device to boot to acrts quite one websites [3].

Its split into 5 kinds in particular, course analysis, association rule, serial sample, category and agglomeration. Path Analysis may well be a graphical reasonably any websites. Association Rule is in the main targeted to hunt association among the web pages.



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## Performance Analysis of Diabetes Mellitus Using Machine Learning Techniques

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**ABSTRACT** : Diabetes is a common disease in the human body caused by a set of metabolic disorders in which blood sugar levels are very long. It affects various organs in the human body and destroys many-body systems, especially the kidneys and kidneys. Early detection can save lives. To achieve this goal, this study focuses specifically on the use of machine learning techniques for many risk factors associated with this disease. Technical training methods achieve effective results by creating predictive models based on medical diagnostic data collected on Indian sugar. Learning from such data can help in predicting diabetics. In this study, we used four popular machine learning algorithms, namely Support Vector Machine (SVM), Naive Bayes (NB), Near Neighbor K (KNN), and Decision Tree C4.5 (DT), based on statistical data. people. adults in sugar. , preview. The results of our experiments show that the C4.5 solution tree has greater accuracy compared to other machine learning methods.

**Keywords:** Support Vector Machine, Naive Bayes, Near Neighbor K and Decision Tree C4.5

### 1. INTRODUCTION

Diabetes mellitus, also known as sugar, affects the hormone insulin, which causes abnormal carbohydrate metabolism and increases blood sugar. These blood sugar levels affect the human body in many organs, which interferes with many causes of the body, especially the blood vessels and kidneys. The causes of diabetes have not been fully elucidated and many researchers believe that heredity and environmental factors play a role. In any case, diabetes can be common in adults, as it is called adult diabetes. It is now believed that sugar is associated with aging. According to the Diabetes Association of Canada (CDA), the number of people with diabetes in Canada will increase from 2.5 million to 3.7 million between 2010 and 2020. The current world situation is no different. According to the International Diabetes Federation, the number of people with diabetes in 2013 was 382 million or 6.6% of adults worldwide. According to the World Health Organization, the number of people with diabetes is expected to increase from 376 billion to 490 billion by 2030. Besides, sugar can be an independent factor that causes mild inflammation. Diabetics are unable to cope with the risk of damage to small cells, and chronic complications of heart and heart disease are the leading causes of death. It damages small cells and cardiovascular disease rapidly leading to mental illness, nephropathy, and neuropathy. Early detection of the disease can be controlled and saved. To achieve this goal, this study focuses primarily on early diabetes prognosis, taking into account several risk factors associated with the disease. For research purposes, we collected observational data on 16 characteristics in 200 patients with diabetes. These characteristics include age, nutrition, blood pressure, vision problems, genetics, and so on. We will discuss these services and their value later. Based on these properties, we created a sugar forecasting model using different machine learning methods. Machine learning techniques to advance science by creating predictive models based on available medical diagnostic data from diabetics to achieve optimal results. Learning from such data can help in predicting diabetics. Different machine learning methods allow you to predict sugar. However, it is very difficult to choose the best forecast method based on such services. Therefore, we examined four well-known machine learning algorithms, namely Vector Machine (SVM), Naive Bayes (NB), Neighbors K-Nearest (KNN), and C4.5 Decic Tree (DT) for the adult population.

### 2. LITERATURE SURVEY

#### Estimating continuous distributions in Bayesian classifiers

When we created the potential distribution with the Bayesian network, we solved the problem as it evolved. Much previous work solved problems with models or assumed data created by Gaussian. In this document, we leave out conventional assumptions rather than using statistical methods to measure unmeasurable violence. For simple Baesi mediation, we present the results of experiments in a natural and artificial environment by experimenting with two methods of saturation estimation: standard calculations and models for each country distribution and Gaussia; and calculate the level of language equipment without measurement. We see error

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# Detection of Cyber Attacks Using Machine Learning

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**Abstract.** Cyber security professionals pay greater regard to risk evaluation and propose techniques for mitigating. Throughout the area of cyber defense, designing successful strategies was a plain set. Machine learning also increasingly became an important concern in data protection although machine learning is successful in cyber defense. The rapid expansion in Cloud Computing, networking and evolutionary computation has been the result of unprecedented developments in computing, storage and computational technology. The planet is rapidly being digitized - there is a growing want of comprehensive and sophisticated information security and privacy issues. And Strategies to fight security threats, which are becoming more complicated. Cyber terrorism is spreading worldwide using all kinds of computer weakness. Machine learning algorithms were used to address global computer security threats such as malware detection, ransom ware recognition, fraud detection and spoofing identification. It research analyzes how cyber training is used in defense as well as offence, providing details about cyber threats on machine learning techniques and The such more popular kinds of cyber security risks are evaluated using machine learning algorithms which describe how machine learning is used for computer defence such as the identification and avoidance of attacks, vulnerability scanning and recognition and public internet risk assessment.

**Keywords.** Cyber security, Malware detection, Machine learning, cyber threat intelligence, Cyber attacks.

## INTRODUCTION

The planet is rapidly digitized and global safety is also a primary priority. Advancements of communication based on the internet have made access to public inventions and scientific discoveries very simple through regular publications of scientific articles and growing openness in the Modern Western world [1 - 3]. The intelligence researcher and cybercriminals with different motivations in the need for these tools and knowledge are nally equally accessible to utilizing advanced science and technological advancements. Analysis and progress in the fields of machine learning have led to models and applications to improve safety strategies that can recognize potential risks and interact with them effectively [4].

Internet barriers refer to either a discipline of technology, procedures and activities aimed at preventing threats, disruption or unwanted access to technology, computers, services and records [4]. Cyber protection should also be indicated that safety is attributable to a number of advances in the field of machine learning, such as personality vehicles, verbal connectivity, healthcare and reasonable virtual assistants, in 2016. These would be used to find useful information from different audit repositories that are used to identify intruders [3]. In the cyber war, cyber attacks have an important benefit, because they have to do so only once out of several ones. The optimal survival rate for defense, but in the other side, must be 100%. Study shows that while in 2017, cyber attackers have been victimized by numerous organisations, enterprises, people and apps. The details compromised contained confidential confidential information, accounting documents and private info [5]. The use of certain data can be devastating, particularly if it is released publicly widely or traded on the underground economy. Many data on the effect of cyber protection on companies, organisations and individuals are.

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## A border surveillance system to sense terrorist outbreaks

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## ARTICLE INFO

**Keywords:**  
Border surveillance system (BSS)  
WSN  
Activation scheduling strategy  
UAV  
□

## ABSTRACT

Wireless Sensor Networks (WSN) are widely used in military applications such as border surveillance. This research focuses on developing a WSN network for implementing in the India-Pakistan border. The traditional approaches used for border surveillance has challenges such as energy efficiency, low cost, latency, information integrity, computation, and communication limitations and needs manual intervention. The conventional method of employing military personnel, fencing, and building bulletproof walls and excavation caves at borders are replaced by WSN based sensor, radar, surveillance cameras and Unmanned Aerial Vehicles (UAV) by creating a virtual fence. A hybrid WSN based Border Surveillance System (BSS) architecture using activation scheduling strategy for high energy efficiency, load balancing capabilities, and network lifetime increment is proposed. The proposed integrated BSS architecture reduces manual intervention to a high extent by deploying sensors, radars, cameras, and UAVs in place of humans. The results show that the proposed structure and activation methodology are accurate and precise in surveillance and require less maintenance, involve low-cost deployment and provide improved reliability. The experimental analysis shows that the system outperforms the other alternatives in detecting intrusion in boundary fields and has an increased lifetime via effectively handling the network resources.

## 1. Introduction

WSN (Wireless Sensor Network), due to its efficiency in multiple environments, is a trending approach in research area these days. The wireless nature of WSN eliminates the hassles of a wired network by giving a distributed network connections in the wireless devices. WSN consists of a group of spatially distributed sensors that are dedicated to monitoring the external environment area, gathering and recording information, and finally organizing and sending those data to the central location for processing.

The sensors employed in the WSN are self-configured, self-diagnosed, self-healed, and self-deployed in the environment. The

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## A proficient technique for recognizing the online digital signature in Project Registration System (PRS)

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### Abstract

In recent education system, project submission is crucial for college students to complete their respective studies. The understudies needed to propose their undertaking before finishing the pre-last year. One of the critical assessment forms like course Project Registration System (PRS) helps the students and their education board to enhance the knowledge and skill level required for competitive world. During project submission, authentication is important to prevent the unauthorized submission of proposal and contrast the signature utilizing classification techniques such as Kernel Based Artificial Neural Network (K-ANN), Kernel Based K-Nearest Neighbor (K-KNN), Kernel Based Self Organizing Map (K-SOM) and Kernel based Support Vector Machine (K-SVM). The data collection based on online digital signature with various students and the proposed classification techniques gives better performance and accuracy compared with other techniques.

**Keywords** Project Registration System (PRS) · Online digital signature · Authentication · Classification techniques

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### 1 Introduction

Now-a-days, online digital signature recognition was being considered as one of the authenticating criteria to evaluate the e-documents (Shankar et al. 2012). Also, in present education system, there exist a number of student's evaluation criteria (Ibrahim et al. 2010). Computerized marks are frequently used to actualize electronic signatures, a more extensive term that alludes to any electronic information that conveys the goal of a mark, however not every single electronic mark utilize advanced marks (Sae-Bae et al. 2012). One of the majority important valuation processes such as PRS that helps the students to increase their knowledge based skills (Shankar et al. 2012). The benefits of utilizing such a validation procedures are signatures are broadly acknowledged by society as a type of recognizable proof and check (Rabotka and Mannan 2016). Data required isn't delicate. In light of this instructive framework, the vast majority of the last year students need to enroll (Velez et al. 2009) and complete their examinations with course-ventures. The understudies needed to propose their undertaking before finishing the pre-last year (Batista et al. 2012). These are the current issues in the current instructive framework. Along these lines, PRS was utilized to take care of the issues at the period (Batista et al. 2012)

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# ENERGY EFFICIENT NODE COOPERATION IN UNDERWATER DATA COLLECTION NETWORK

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## ABSTRACT

Under water acoustic sensor network with one mobile surface node to collect data from multiple underwater nodes, where the mobile destination requests retransmission from each under water node individually employing traditional automatic-repeat-request (arq) protocol. Then, proposed a practical node cooperation (nc) protocol to enhance the collection efficiency, utilizing the fact that underwater nodes can overhear the transmission of others. To reduce the source level of underwater nodes, the underwater data collection area is divided into several sub-zones, and in each sub-zone, the mobile surface node adopting the nc protocol could switch adaptively between selective relay cooperation (src) and dynamic network coded cooperation (dnc). The difference of src and dnc lies in whether or not the selected relay node combines the local data and the data overheard from undecided node(s) to form network coded packets in the retransmission phase. The nc protocol could also be applied across the sub-zones due to the wiretap property. In addition, investigate the effects of different mobile collection paths, collection area division and cooperative zone design for energy saving. The numerical results show that the proposed nc protocol can effectively save energy compared with the traditional arq scheme.


## I. INTRODUCTION

Underwater acoustic sensor networks (UWASNs) have end up a promising research region because of their huge applications consisting of underwater environment monitoring and tactical surveillance. One research trouble is to format effective techniques for one big sensor node to build up the records from more than one underwater sensors. For the UW-ASNs, the under-water nodes are commonly battery-powered; as a result, it isn't always clearly the power, but the strength consumption that topics specifically for long-term observation. To deal with this challenge, numerous protocols had been proposed to shop strength for the UW-ASNs, consisting of adaptive modulation and coding, optimizing MAC protocol, cross-layer routing format and MIMO-OFDM, which can be classified into kinds for strength saving: developing the transmitting bit fee and minimizing the amount of retransmissions. Transmitter-cooperation strategies adopting coding had been proposed to decorate the device universal overall performance in underwater channels. The adaptive network coded cooperation and the generalized adaptive network coded



Proceedings of Second International Conference on Advances in Computer Engineering and Communication Systems pp 565–574

## A Novel CNN-Based Classification and Prediction of COVID-19 Disease Using Deep Learning

[Talluri Sunil Kumar](#) , [Sarangam Kodati](#), [Sagar Yeruva](#) & [Talluri Susan](#)

Conference paper | [First Online: 22 February 2022](#)

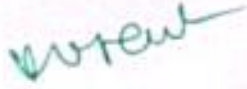
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Part of the [Algorithms for Intelligent Systems](#) book series (AIS)

### Abstract

In present days, one of the most deadly and dangerous diseases to the human beings is COVID-19, and it is commonly known as coronavirus attack. Entire world has been affected by this coronavirus attack through the community spread. The death rate of the patient may be decreased with early detection of disease even in the asymptomatic situations through accurate diagnosis. Therefore, there is requirement for designing of automatic detection system which eliminates the spreading of coronavirus with its fast and accurate results. Medical imaging like chest X-



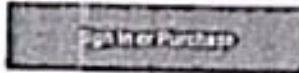
  
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# Securing SDN Enabled IoT Scenario Infrastructure of Fog Networks From Attacks

Publisher: IEEE

Cite This

A Venkata Prasad Mohan, Sarangam Koduri, V A

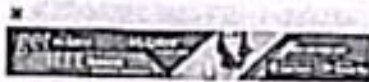


40  
Full  
Text Views

Abstract Authors Figures

Abstract Nowadays, lives are very much easier with the help of IoT. Due to lack of protection and a greater number of connections, the management of IoT becomes more difficult. To View more

Metadata



## Contents

### 1 Introduction

Internet of Things (IoT) becomes more important part of our daily lives from smart homes to smart cities [1]. One of the big challenges for network administrator is managing the greater number of connections. Moreover, the IoT objects generally have limited resources. The essential computing of innovative security methods are anti-virus software and encryption, which cannot be positioned directly on them [2]. So with the help of a network infrastructure, the IoT devices can be managed during the period.

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## ANALYSIS OF FLIGHT DELAYS WITH ERROR CALCULATION USING MACHINE LEARNING

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**Abstract** -In the aviation industry, flight delays are a significant issue. With the expansion of the aviation industry over the past two decades, a severe issue of flight delays that might result in aircraft collisions that can be disastrous for both airlines and passengers has evolved. In addition to losing time, passengers often lose faith in airlines. This will lead the airline to suffer a big financial loss, as well as significant losses for other airlines that operate commercial flights. In order to prevent or avoid flight delays and cancellations, they thus take all reasonable precautions. We forecast whether a specific flight's arrival will be delayed or not using machine learning models including Linear Regression, Decision Tree Regression, Random Forest Regression, and Gradient Boosting.

**Keywords** -Random forest Regression, Decision tree regression, Linear regression, Gradient Boosting

### 1. INTRODUCTION

There is a big issue with flight delays for both airlines and customers as air travel grows quickly. In addition to losing time, passengers often lose faith in airlines. The airline businesses will suffer a significant financial loss as a result, and they will also lose their good name. Therefore, it is crucial to properly monitor and anticipate aircraft

delays. Therefore, to simulate the flight arrival delays in

our study, we primarily concentrated on departure delay time, distance, and weather data. This foreseen outcome minimizes both the difficulty for passengers and the loss experienced by airlines.

# Fire Detection using Deep Learning Algorithms and Image Processing

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## ABSTRACT:

Instead of employing sensors and additional equipment for the most fundamental stage in fire prevention for communities, apartments, and smaller shops and enterprises, image processing can be used to create a Fire Detection System that will operate as the early warning phase. Using the current cameras as an input device, the model will evaluate and determine whether a fire is burning in its field of vision and provide the user a notification. Anyone can install and use the model/software with ease.

The InceptionV3 deep learning model, which is the foundation of the suggested model, uses convolutional neural networks (CNN). In image analysis and object detection, this approach is quite helpful. It has a deeper neural network, which aids in limiting the growth of parameters. GoogleNet architecture is the foundation of the InceptionV3 model. The ImageNet and AlexNet topologies served

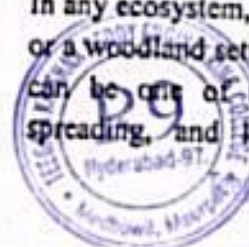
as inspiration for this design. We are able to identify the required item presence in the input because it takes numerous layers and structures from these sources.

The model applies data pre-processing to the images it receives as input. Deeper neural networks attempt to locate the fire zone present in the image after receiving the processed image from the model. As it goes through this process, it honed its ability to detect flames more precisely as it encountered multiple photos.

**Key Words:** CNN, Image processing, OpenCV

## 1. INTRODUCTION:

In any ecosystem, whether it is a concrete jungle or a woodland settlement, left unprotected A fire can be one of the most dangerous, quickly spreading, and life- and property-destructive



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# Social Distancing Detection with Deep Learning Model

Dr.Sarangam Kodati<sup>1\*</sup>, Mohammed Shariq Saaduddin Ahmed<sup>2</sup>, Vade Sushmitha Reddy<sup>3</sup>, Jujjuri Shanmukh Goud<sup>4</sup>

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## Article Info

Received: 20 May 2022; Accepted: 20 June 2022; Published: 22 June 2022.

## ABSTRACT

COVID-19 originated from Wuhan, China, has affected many countries worldwide since December 2019. On March 11, 2020, the World Health Organization (WHO) announced it a pandemic diseases as the virus spread through 114 countries, caused 4000 deaths and 118,000 active cases On October 7, 2020, they reported more than 35,537,491 confirmed COVID-19 cases, including 1,042,798 deaths. The latest number of infected people due to pandemic is shown in. Many healthcare organizations, scientists, and medical professionals are searching for proper vaccines and medicines to overcome this deadly virus, although no progress is reported to-date. To stop the virus spread, the global community is looking for alternate ways. The virus mainly spreads in those people; who are in close contact with each other (within 6 feet) for a long period. The virus spreads when an infected person sneezes, coughs, or talks, the droplets from their nose or mouth disperse through the air and affect nearby peoples. The droplets also transfer into the lungs through the respiratory system, where it starts killing lung cells. Recent studies show that individuals with no symptoms but are infected with the virus also play a part in the virus spread. Therefore, it is necessary to maintain at least 6 feet distance from others, even if people do not have any symptoms.

**KEYWORD:** Deep Learning, COVID-19, YOLOv3.

## 1. INTRODUCTION

Social distancing is not a new concept. Social distancing is a method used to control the spread of contagious diseases. As the name suggests, social distancing implies that people should physically distance themselves from one another, reducing close contact, and thereby reducing the spread of a contagious disease (such as corona virus). COVID-19 belongs to the family of corona virus caused diseases, initially reported at Wuhan, China, during late December 2019. Several health care organizations,

medical experts and scientists are trying to develop proper medicines and vaccines for this deadly virus, but till date, no success is reported [1]. The rampant Corona virus disease has brought a global crisis with it's deadly spread to more than 180 countries. It is found that the lack of immunity against Covid-19 increases the vulnerability to the population. This is the reason that social distancing is being encouraged even after the development of vaccines, because it is the only feasible approach to stay completely safe. This situation forces the global community to look for alternate ways to stop



## ANALYSIS OF BUILDINGS DAMAGE CAUSED BY EARTHQUAKES USING MACHINE LEARNING

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### ABSTRACT:

A natural disaster is considered to be an earthquake because of the devastation it causes to both living systems and man-made structures, such as homes, bungalows, and buildings, to name a few. Seismometers, which detect vibrations caused by seismic waves entering the earth's crust, are used to measure earthquakes. In this paper, earthquake-related damage was rated according to its severity using a scale from one to five. A previously acquired data set was employed, and a number of characteristics were taken into account in order to predict the damage grade of a particular building, which is associated with a 33 entirely unique identifying String. The prediction was made using an analysis of current device learning classifier methods. Datasets for earthquakes are sourced from Kaggle. Logistic Regression, Naive Bayes Classifier, Random Wooded Area Classifier, and okay-Nearest Friends were the system analysis techniques employed in this work. The most appropriate set of regulations was taken into consideration after an evaluation of a set of rigid criteria. Logistic Regression, Naive Bayes Classifier, Random Forest Classifier, and K-

# IoT Based Smart Grid on Smart Cities

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**Abstract**—Smart grid is the supporting features of the smart town or city model. It is energy utilization observing and the management system. Smart grid depends on the communication between the supplier and the customer. Internet of Things based smart grid is a progress of the accessible power grid. Advancement in rapid communication and low price sensor combined with the expanded sending of the progressed furnish utilities with better data to deal with the grid. Smart grid and IoT are two technologies that turned out to be profoundly grown of late. In the viewpoint of power save, the smart grid is an outstanding result for improving the power utilization through the IoT can be a solution to offers purchasers the ease of having an ongoing strategy to manage and monitoring power utilize in a house. IoT encourages Smart grid to help different system network works all through the generation, transmission, utilization, and sharing of power by incorporating IoT devices, (for example, actuators, and sensors), just as by giving the availability, mechanization and following for such tools and devices. In this paper, propose the design about a smart grid system power generation, transmission, distribution, consumption design based concerning IoT for a challenges in the system configuration and security analysis.

**Keywords:** Internet of Things, Smart Grid, Sensors

## 1.INTRODUCTION

Internet of Things is presently the talk of every city. It witnessed a tremendous growth in every sector. IoT is connected cars, medical devices, street to smart grids for energy management. When we converse about energy management, smart grid is the first thing to appear. Internet of Things can play a significant role in developing smart grids which eventually leads to energy saving. In spite of the fact that the electric network is viewed as a building wonder, we are extending its interwoven nature to its ability. To push ahead, we need another sort of electric network, one that is developed from the base to deal with the groundswell of advanced and electronic gear and innovation reliant on it and one that can robotize and deal with the expanding multifaceted nature and necessities of power in the further feature.

Internet of Things empowered smart grids are more about the energy proficiency and the maintaining of energy utilization at the most reduced expense. Consistently we experience articles incorporate the electronic gadgets as well as the results of higher technological improvement, for example, vehicles and tools yet things that we don't customarily consider as electronic at all such as food and clothing. The "things" of this present reality will coordinate into the virtual world, empowering whenever, anyplace connectivity. The quantity of regular physical objects and devices associated with the Internet was around 12.5 billion in 2010. The number of value expected to twofold to 25 billion out of 2015 as the number of more smart devices per individual increments to the extent to a further 50 billion by 2020 IoT is an model



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Intelligent Systems and Sustainable Computing pp 243–254

## Efficiency Optimization of Security and Safety in Cooperative ITS Communication for QoS Service

M. Mohan Rao, Sreenivas Mekala, Rajaram Jatothu, G. Ravi & Sarangam Kodati

Conference paper | First Online: 29 May 2022

72 Accesses

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 289)

### Abstract

Technology like Internet of things (IOT) has gradually become a trending hotspot for research. For social network, communication services like communication enterprises are the crucial one. The cooperative intelligent transport system (C-ITS) is a leading technology which is useful to enable safety and security while traveling on roads by utilizing wireless communications. This is only possible only when we improve the quality standards and efficiency of communication services that enhance the reliability of communication. Basically, vehicle flow is regularly shared with the mobil...



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# Hybrid Cryptography Approach for Providing Advanced Security on Cloud

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## Article Info

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## ABSTRACT

Cloud computing is used in many areas like industry, military, colleges etc., to store huge amounts of data. We can retrieve data from the cloud at the request of the user. To store data on the cloud, we have to face many issues. To give the solution to these problems, there are several number of ways. Cryptography is more popular nowadays for data security. The use of a one algorithm is not as effective for high-level security to information in cloud computing. In this paper, we are introducing a new security mechanism using a Symmetric key cryptography algorithm. We expect to safely store data into the cloud, by parting information into a few pieces and putting away pieces of it on the cloud in a way that jolly information privacy, respectability and guarantees accessibility. Sharing information securely while safeguarding information from an untrusted cloud is as yet a difficult issue. Our methodology guarantees the security and protection of customer touchy data by putting away information across a single cloud, utilizing AES, Triple DES and Blowfish algorithms using Hybrid Cryptography.

**KEYWORDS :** Hybrid, Blowfish, AES, Triple DES, Cryptography, Symmetric key, data security, privacy.

## 1. INTRODUCTION

Nowadays cloud computing is used in many areas like industry, military colleges etc. to store huge amounts of data. We can retrieve data from the cloud on request of the user. To store data on the cloud we have to face many issues. To provide the solution to these issues there are n number of ways. Cryptography is more popular nowadays for data security. Use of a single algorithm is not effective for high level security to data in cloud computing. In this paper, we have introduced a new security mechanism using symmetric key cryptography algorithm. Cryptography method makes an interpretation of unique information into

garbled structure. Cryptography method is separated into symmetric key cryptography and public key cryptography. This procedure utilizes keys for make an interpretation of information into muddled structure. So just approved individual can get to information from cloud worker. Symmetric key cryptography calculations are AES, DES, 3DES, IDEA, BRA and blowfish. Hybrid cryptography algorithm present by author A. Shaded. AES and RSA algorithms are used into hybrid algorithm. AES algorithm require a single key. In hybrid algorithm three keys are used. For data upload on cloud mandatory keys are AES secret key and RSA public key. Private Key of RSA and AES secret key are essential to

# Effect of Security Protocols on the Presentation of SNMP

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**ABSTRACT :** Since the first 1990s, there are several attempts to secure the straightforward Network Management Protocol (SNMP). The third version of the protocol, published as full standard in 2002, introduced the User-based Security Model (USM), which comes with its own user and key-management infrastructure. Since then, network operators have reported that deploying another user and key management infrastructure to secure SNMP is dear and a reason to not deploy SNMPv3. These protocols can profit of already deployed key management infrastructures that are used for other network management interfaces and hence their use can reduce the operational costs related to securing SNMP. Our main contribution may be a detailed performance analysis of a prototype implementation, comparing the performance of SNMPv3 over SSH, TLS, and DTLS with other versions of SNMP. We also discuss the differences between the assorted options to secure SNMP and supply guidelines for selecting solutions to implement or deploy.

### Keywords:

USM(User Based Security Model),SSH(Secure Shell Hashing),TLS(Transport Layer Security),DTLS(Data Gram Transport layer Security),SNMP(Simple Network Transfer Protocol).

## 1.INTRODUCTION

### Motivation

For networks with packet loss, it's crucial to grasp how SNMP retransmission algorithms compare to TCP retransmission algorithms. The NET-SNMP package utilized in this study uses by default a rather simple retransmission algorithm (linear back off with a default 1 second timeout), which is definitely out-performed by TCP algorithms. It's known that other SNMP implementations use

smarter retransmission algorithms that dynamically adapt to measured round-trip delays, to some extent approximating TCP behavior. Unfortunately, there's little documented knowledge about SNMP retransmission strategies that on the one hand adapt well to delays and on the opposite hand behave better than TCP in high packet loss situations. This is often a region where more research is required.

### Objective of Project

SSH, TLS, and DTLS are all three viable alternatives to USM for attaining SNMP. However, there are some notable differences. The SNMPv3/TSM/SSH transport integrates well with authentication systems employed by instruction interfaces and authentication, authorization and accounting (AAA) system like RADIUS. The SSH transport makes it trivial to derive a security name needed for access control. By looking forward to TCP, it is simple to support large message sizes and TCP's retransmission algorithms are found to work well for small packet loss rates. For top packet loss rates, TCP might be problematic. While the message encoding efficiency of SSH is incredibly good, SSH suffers from a fashionable handshake procedure requiring many round-trips. The dearth of a session resumption mechanism requires that applications maintain long-lasting sessions.

## II.ARCHITECTURE

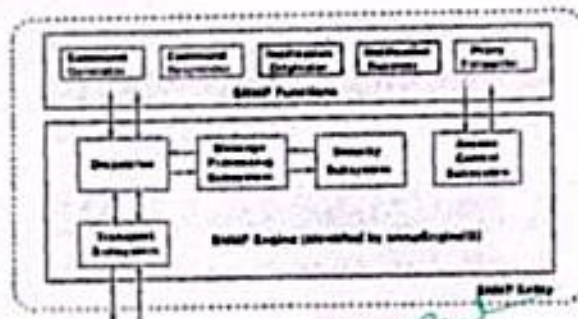


Fig1. An architecture for describing Simple Network Management Protocol (SNMP) management frameworks



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# EXTRACTION OF PDU USING SNMP IN NETWORK GRID

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*Abstract— Simple Network Management Protocol is a networking protocol used for the management and monitoring of network-connected devices in Internet Protocol networks. The main purpose of an SNMP message is to control or monitor parameters on an SNMP agent. In SNMP, a parameter is an instance of a more generic object. Every SNMP agent has an address book of all its objects, called the MIB or Management Information Base. A protocol data unit (PDU) is an open-system interconnection (OSI) term used in telecommunications that refers to a group of information added or removed by a layer of the OSI model. In this project intend to establish a socket and bind it between host and agent and deliver a UDP datagram to host and retrieve PDU from the host using the OIDs available in the MIB. . SSL-Secure Socket Layer and its successor, TLS-Transport Layer Security, are protocols for establishing authenticated and encrypted links between networked computers. Our project fully implements SSL handshake before establishing sockets.*

**Keywords:** SNMP, Management Information Base, Protocol Data Unit, User Datagram Protocol, TLS.

## INTRODUCTION

SNMP was introduced in 1988 and now includes three distinct versions SNMPv1, SNMPv2, and SNMPv3. SNMP is the protocol that allows an SNMP manager (the controller) to control an SNMP agent (the controllee) by exchanging SNMP messages. An SNMP message is a packet sent over UDP/IP to port 161. UDP/IP is the User Datagram Protocol over IP. An SNMP node that replies to requests for information is known as an SNMP agent. The network node doing the SNMP querying is known as the manager. The main purpose of an SNMP message is to control (set) or monitor (get) parameters on an SNMP agent. In SNMP, a parameter is an instance of a more generic object. For example, an SNMP agent may have several instances of a microphone mute object -- one instance for each microphone input. An SNMP manager can set or get the value for each instance (each parameter). In an SNMP agent, parameters are arranged in a tree. SNMP uses an Object Identifier (OID) to specify the exact parameter to set or get in the tree. An OID is a list of numbers separated by periods. For example, the OID addressing the microphone mute parameter in a Ranc NM 1 is '1.3.6.1.4.1.2680.1.2.7.3.2.0'. This OID is actually a combination of two values. The first value is the OID of the generic object '1.3.6.1.4.1.2680.1.2.7.3.2'.

The second is the instance value, which specifies the particular instance of the microphone mute object. Every SNMP

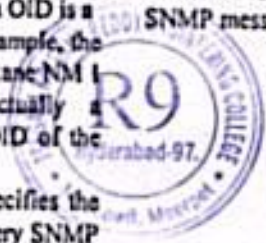
agent has an address book of all its objects, called the MIB or Management Information Base. The MIB provides the name, OID, data type, read/write permissions, and a brief description for each object in an SNMP agent

SNMP versions : SNMP has three official versions, SNMPv1, SNMPv2 and SNMPv3. SNMPv1 made its first appearance in 1988 in a collection of RFCs starting with RFC 1065 (updated in RFC 1155). SNMPv2 was introduced in 1993 with RFC 1441. SNMPv2 expanded on the basic information, starting with RFC 1442 (currently RFC 2578), and also introduced improved techniques for managing tables. SNMPv2 also included a proposed security mechanism, but it was largely rejected by the marketplace. Ultimately, a version of SNMPv2 known as SNMPv2c that used the SNMPv1 "community" security mechanism was introduced. SNMPv3 then finally delivered a model for reasonably effective security. The "User-based Security Model" or USM was first proposed in 1998 in RFC 2264.

ASN.1 : All SNMP devices must understand an SNMP message, which presents a couple problems. The first problem exists because different software languages have slightly different sets of data types (integers, strings, bytes, characters, etc.). For example, an SNMP manager sending a message full of Java data types may not be understood by an SNMP agent written in C. To solve this problem SNMP uses ASN.1 or Abstract Syntax Notation One to define the data types used to build an SNMP message. Since ASN.1 is independent of any particular programming language, the SNMP agents and managers may be written in any language. Constructing a message requires some knowledge of the data types specified by ASN.1, which fall into two categories: primitive and complex. ASN.1 primitive data types include Integer, Octet (byte, character) String, Null, Boolean and Object Identifier. To expand the programmer's ability to organize data, ASN.1 allows primitive data types to be grouped together into complex data types.

Complex data types include Sequence (a list of data fields) and SNMP PDU (Protocol Data Unit) which contains the body of an SNMP message. Below are some of the ASN.1 data types:

1. Integer
2. Octet String
3. Object Identifier
4. Null



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# AN ENHANCED MULTI-MODAL BIOMETRIC AUTHENTICATION

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## Abstract:

A multi-modal biometrics (MMB) system incorporates information as of more than one biometric modality for enhancing each biometric system's performance. The recognition system encompasses robustness, accuracy, along with recognition rate issues. The model deals with biometric authentication and its implementation in a 3-tier multimodal architecture which works on the basic principle of identification and authentication. As the applications of computers are increasing in every sector, the requirement of a dependable authentication plan to affirm the character of an individual is immense. The proposed MMB system is on FLSL fusion method and Modified Deep Learning Neural Network (MDLNN) to enhance the performance. The face, ear, retina, fingerprint, and front hand image traits are considered. This comprises image enhancement, segmentation, feature extraction, feature reduction, rule generation, and identification phases. The Viola-Jones Algorithm (VJA) segments the facial parts, and the Penalty and Larson Correlation-based Watershed Segmentation (PPWS) algorithm eliminates the unwanted information in the ear, finger traits and also the blood vessel of the retina image. The features are extracted as of images, and are inputted to the MDLNN to classify the person as genuine or imposter.

## I. INTRODUCTION

A biometric system that utilizes the information of biometrics as of one person aimed at authentication along with verification is a biometric system. Biometrics could be found anywhere from unlocking of mobiles to airport border control. MMB systems can manage the issues of non-universality and can limit imposters from spoofing biometric attributes of authentic people, for improving the recognition's accuracy. The main method involved in MMB is a fusion of different traits.

The proposed model deals with biometric authentication and its implementation in a 3-tier multimodal architecture which works on the basic principle of identification and authentication. As the applications of computers are increasing in every sector, the requirement of a dependable authentication plan to affirm the character of an individual is immense. Cases of such applications need to have a secure access to PC frameworks, workstations, PDAs, ATMs and even buildings to say a few. Without appropriate and strong authentication checking, these frameworks are vulnerable to the guiles of an attacker.

Generally, passwords and ID cards (token-based security) are a common and most used methods of confirming access to different applications. However, these systems are not completely secure as it can be breached when a secret key is revealed to an unapproved client or identification is pilfered by a fraudster.

Biometric frameworks make utilization of fingerprints, geometry of hands, iris, retina, facial features, hand vein structure, mark, facial thermograms or even voiceprint to confirm a person's identity. These are

## Automatic Age and Gender Estimation using Deep Learning and Extreme Learning Machine

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**Abstract:** Age and gender classification has become applicable to an extending measure of applications, particularly resulting to the ascent of social platforms and social media. Regardless, execution of existing strategies on real-world images is still fundamentally missing, especially when considered the immense bounced in execution starting late reported for the related task of face acknowledgment. In this paper we exhibit that by learning representations through the use of significant Convolutional Neural Network (CNN) and Extreme Learning Machine (ELM). CNN is used to extract the features from the input images while ELM classifies the intermediate results. We experiment our architecture on the recent Adience benchmark for age and gender estimation and demonstrate it to radically outflank current state-of-the-art methods. Experimental results show that our architecture outperforms other studies by exhibiting significant performance improvement in terms of accuracy and efficiency.

**Keywords:** Age Estimation, Gender Recognition, Convolutional Neural Network (CNN), Extreme Learning Machine (ELM)

### 1. Introduction

Age and gender assume essential parts in social between activities. Dialects hold distinctive greetings and grammar rules for men or women, and frequently diverse vocabularies are utilized while tending to senior citizens compared to youngsters [1]. In spite of the essential parts these characteristics play in our everyday lives, the capacity to consequently assess them precisely and dependably from face image is still a long way from addressing the requirements of business applications [5]. This is especially puzzling while considering late claims to super-human capacities in the related errand of face recognition. (e.g. [48]). Past ways to deal with assessing or ordering these properties from face images have depended on contrasts in facial feature dimensions [29] or "customized" face descriptors (e.g., [10, 15, 32]). Most have utilized characterization plans composed especially for age or gender orientation estimation undertakings, including [4] and others. The past strategies were intended to handle the numerous difficulties of unconstrained imaging conditions [10]. In addition, the machine learning strategies utilized by these frameworks did not completely abuse the huge quantities of image cases and information accessible through the Internet keeping in mind the end goal to enhance characterization capacities.

In this paper, the endeavor is to close the gap between automatic face recognition abilities and those of age and gender classification techniques. To this end, we take after the fruitful sample set around late face recognition frameworks: Face recognition systems portrayed in the most recent couple of years have demonstrated that gigantic advancement can be made by the utilization of profound convolutional neural networks (CNN) [31]. To the best of our knowledge, SVM, Naive Bayes [7], and Extreme Learning Machine (ELM) [8] are three important classification algorithms at present while ELM has been proved to be an efficient and fast classification algorithm because of its good generalization performance, fast training speed, and little human intervene [9]. When ELM is combined with CNN it gives a good performance [10]. We show comparative results, composed by considering the somewhat constrained accessibility of precise age and gender classification names in existing face information sets. The remainder of this paper is organized as follows. Section 2 reviews the related work. Section 3 discusses architecture of CNN-ELM model. The experiments and results are illustrated in Section 4 and 5. Finally, it is concluded in Section 6.



## HOME AUTOMATION AND SECURITY SYSTEM WITH NODEMCU USING IOT

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### ABSTRACT

This project presents the overall design of Home Automation System (HAS) with low cost and wireless system. It specifically focuses on the development of an IOT based home automation system that is able to control various components via internet or be automatically programmed to operate from ambient conditions. In this project, the development of a firmware for smart control which can successfully be automated minimizing human interaction to preserve the integrity within whole electrical devices in the home. Node MCU, a popular open source IOT platform, to execute the process of automation. Different components of the system will use different transmission mode that will be implemented to communicate the control of the devices by the user through Node MCU to the actual appliance. The main control system implements wireless technology to provide remote access from smart phone. The status of the appliance would be available, along with the control on an android platform. This system is designed to assist and provide support in order to fulfil the needs of elderly and disabled in home. Also, the smart home concept in the system improves the standard living at home.

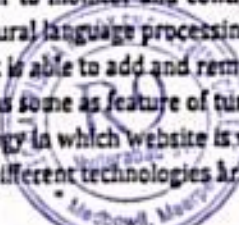
**Keywords:** Home Automation, Node Mcu, Esp2866 Wi-Fi Module, Relay, Android Application, Smartphone.

### I. INTRODUCTION

Internet of Things is a concept where each device is assign to an IP address and through that IP address anyone makes that device identifiable on internet. Basically it started as the "Internet of Computers." Research studies have forecast an explosive growth in the number of "things" or devices that will be connected to the Internet. The resulting network is called the "Internet of Things" (IoT) [1]. The recent developments in technology which permit the use of Bluetooth and Wi-Fi have enabled different devices to have capabilities of connecting with each other. Using a WIFI shield to act as a Micro web server for the Arduino which eliminates the need for wired connections between the Arduino board and computer which reduces cost and enables it to work as a standalone device. The Wi-Fi shield needs connection to the internet from a wireless router or wireless hotspot and this would act as the gateway for the Arduino to communicate with the internet. With this in mind, an internet based home automation system for remote control of home appliances is designed.

### II. LITERATURE SURVEY

In developed and developing countries the more and more technologies are arriving every year. And of the most important is the IOT. IOT can be used in many sectors of the technology. IOT is also used in home automation which helps to make life easy as well as it is time saving. Smartphone Application can be utilize for the IOT communication protocols. Application can be used to monitor and control local switches via mobile phone. Many systems are reported in the literature based on single monitoring and controlling mode utilizing text, voice or gesture commands. The system has two different operation modes first mode make use of a mobile app interface with virtual switches and slider to monitor and control appliances. The second is chat-based that use text or audio command filter with natural language processing to monitor and control the home appliances. The proposed system is scalable in that it is able to add and remove rooms on demand. Most of the technologies which are in the developed are limited as some as feature of turning light and fan on and off while some has control over the gate. There is one technology in which website is use to control the home appliances and in another one there is only mobile application. Different technologies are developed in different way [1].



# INTELLIGENT VIDEO SURVEILLANCE SYSTEM USING EDGE COMPUTING

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**Abstract-** Nowadays, Surveillance cameras serve a crucial function in security systems and have become an indispensable component. Surveillance feeds are usually only utilized as evidence. With the development of edge computing, real-time surveillance systems focused at crime prevention have a great future. You Only Look Once is indeed the acronym of a proposed model for recognizing and tracking objects. When a suspicious action occurs, the proposed technique sends out an alerts like sending mails and sounding the alarm. This algorithm was found accurate on images, videos and live webcam.

**Keywords:** Surveillance, Crime Prevention, Object Detection, Localization.

## I. INTRODUCTION

Top-notch security alert systems are essential to detect anomaly activities in the real world. In public places like Malls, schools, buses, railways, and airports, where the probability of being robbed or shot is more, our app is used for surveillance. Many reports are filed against chain snatching, carrying bags in malls, knives, Guns, animals entering human living zones, and motorcycles entering indoor places. It is critical to detect these suspicious behaviours in order to keep a safe and secure environment. For better workplace safety, prevention of crimes, monitoring of crowded places, and security purposes surveillance cameras are used.

In the past, Deep learning Neural networks like Fast RCNN, Faster RCNN, RCNN, SSD, and CNN object detection algorithms are used to detect various objects like a person vs nonperson, cars, motorcycles, helmet detection, and pills identification. In real-time activity recognition, these algorithms take much time to recognize because of their complexity and require GPUs to run but our laptops and drones are not integrated with GPUs, this is considered a drawback.

It's tough to assess photos captured by surveillance cameras with lower resolution. So it may lead to less accuracy. As a result, extremely accurate techniques are capable of autonomously analyzing suspicious activities and preventing them from happening. As a result, there is a growing demand and necessity for algorithms that can process data automatically.

Edge computing is a kind of computing that occurs near a data source or onsite source, minimising the need for data to be processed in a remote data centre. Edge computing, when compared to traditional types of computing, allows businesses and other organisations to handle data more quickly and efficiently utilising enterprise-grade apps. Edge points used to generate large volumes of data that would often go unused. Decentralised IT architecture provided by mobile computing and the Internet of Things (IoT) allows businesses to gain near real-time insights with less latency and lower cloud server bandwidth demands.

## Scope of the Project

There is no accurate system that alerts the security system when suspicious activity is detected in real-time. The rate at which individuals report criminal activities, animals wandering on roads, and colonies are increasing. Surveillance camera feed is used to spot the suspicious activity. This information is crucial in the detection and localisation of suspicious activities.

Let's list a few suspicious activities that occur in real-time are:

- Animals wandering on roads, entering into human habitat.
- Carrying bags, knives, and Sharp objects.
- Parking motorcycles at "No Parking" zones.
- Entering indoor places with vehicles without permission.
- Wearing helmets at malls, theaters, and temples, hide their faces from CCTV.



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# A Software Defined Network Based Security Assessment Framework For CloudIoT

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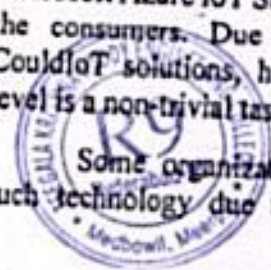
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**ABSTRACT**— The integration of cloud and Internet of Things (IoT), named CloudIoT, has been considered as an enabler for many different applications. However, the suspicion about the security issue is one main concern that some organizations hesitate to adopt such technologies while some just ignore the security issue while integrating the CloudIoT into their business. Therefore, given the numerous choices of cloud-resource providers and IoT devices, how to evaluate their security level becomes an important issue to promote the adoption of CloudIoT as well as reduce the business security risks. To solve this problem, considering the importance of the business data in CloudIoT, we develop an end-to-end security assessment framework based on software defined network (SDN) to evaluate the security level for the given CloudIoT offering. Specially, in order to simplify the network controls and focus on the analysis about the data flow through CloudIoT, we develop a three-layer framework by integrating SDN and CloudIoT, which consists of 23 different indicators to describe its security features. Then, the interviews from industry and academic are carried out to understand the importance of these features for the overall security. Furthermore, given the relevant evidences from the CloudIoT offering, the Google Brillo and Microsoft Azure IoT Suite, our framework can effectively evaluate the security level which can help the consumers for their CloudIoT selection. Due to the complexity of CloudIoT solutions, how to evaluate the security level is a non-trivial task for the consumers. Some organizations will hesitate to adopt such technology due to the suspicion about the security and the incomprehension of risk, which may harm the development of the related business as well as affect the acceptance of the CloudIoT. Conversely, some organizations may just integrated CloudIoT

into their business without considering the security issue, resulting into high risk for them.

## 1. INTRODUCTION

The Internet of Things (IoT) has recently emerged as a novel networking paradigm to connect a large amount of smart objects for data sharing and exchanging, so that we can measure, communicate and interact with the real physical world. On the other hand, cloud computing has been accepted as a cost-effective approach for providing high performance computing and virtually unlimited storage resource. Therefore, the integration of these two complementary technologies, the sensor-capability from IoT and the computing-capability from Cloud, has been accepted as a novel IT paradigm, named CloudIoT for many different applications, including smart grid, smart cities, healthcare, video surveillance, environmental monitoring etc. Actually, the CloudIoT is playing an important role for the current IT system, especially for the critical infrastructure. Considering the fact that information security has become increasingly important for current IT environment while we can observe many cyber attacks these years, for example, the Ukraine Power Grid Attacks in December 2015 resulting into power lost for a few hours electricity lost for around 1.4 million populations, the security of CloudIoT is no doubt an urgent issue for both industry and academic. On the other hand, with the prosperity of the cloud and IoT these years, some CloudIoT solutions, such as Google Brillo2, Microsoft Azure IoT Suite3, have been developed for the consumers. Due to the complexity of the CloudIoT solutions, how to evaluate the security level is a non-trivial task for the consumers. Some organizations will hesitate to adopt such technology due to the suspicion about the



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# PREDICTING DRUG RISK LEVEL FROM ADVERSE DRUG REACTION USING MACHINE LEARNING

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**Abstract** - Adverse drug reaction (ADRs) are unintended and harmful reactions caused by nominal uses of drugs. Predicting and preventing ADRs in the early stage of the drug development pipeline can help to enhance drug safety and reduce financial costs. Methods In this paper we developed machine learning models including a deep learning framework which can simultaneously predict ADRs and identify the molecular substructures associated with those ADRs without defining the substructures a priori. We evaluated the performance of our model with ten different state-of-the-art fingerprint models and found that neural fingerprints from the deep learning model outperformed all other methods in predicting ADRs. Via feature analysis on drug structures, we identified important molecular substructures that are associated with specific ADRs and assessed their associations via statistical analysis. The deep learning model with feature analysis substructure identification and statistical assessment provides a promising solution for identifying risky components within molecular structures and can potentially help to improve drug safety evaluation.

**Index Terms** -SMOTE and machine learning approaches



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# Real Time Phishing Attack Detection using Machine Learning

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## ABSTRACT

Today, there is an exponential growth of e-services requiring the exchange of personal and sensible information over the Internet. Phishing techniques are emerging as the easiest solution to break the weakest link of the security chain: the end user. Social engineering attacks are deployed by financial/cyber criminals at a very low cost to induce naïve Internet users to reveal user ID, passwords, bank account and credit card numbers. This problem needs to be addressed in the mobile field as well, due to the large diffusion of mobile platforms such as smartphones, tablet, etc. To overcome this problem we propose a framework for phishing detection in Android mobile devices which, on the one hand exploits well-known techniques already implemented by popular web browsers plug-in, such as public blacklist search, and, on the other hand, implement a machine learning based engine to ensure zero-hour protection from new phishing campaigns.

**KEY WORDS:** Machine learning, Google API

## 1. INTRODUCTION

### Motivation:

Social Engineering based attack leverages psychological manipulation of people, tricked into performing actions or disclosing confidential information. Phishing is one of the more known social engineering attack and aims at exploiting weaknesses in system processes caused by users' behavior. Indeed, a system can be secure enough against password theft (e.g. the client-server communication channel is encrypted), but nothing can be done against a naïve user threatening the security of the system by revealing her/his password to a fake Web site reached, for example, via an email-embedded HTTP link.

### Objective of Project:

Many of the approaches proposed in literature, regardless of their effectiveness, still have a strong verticality and focus on specific aspects such as: attack techniques; existing security context; systems and protocols used to capture data; methodological approaches used for phishing detection (black lists, heuristics, machine learning, etc.); devices on which deploy the developed solution. To the best of our knowledge, none of the solutions proposed so far, shown a unified approach across different environments (such as mobile and desktop) and across subjects of the above mentioned aspects. This is mainly due to the fact that, each solution often needs a number



## SECURE PHRASE SEARCH FOR INTELLIGENT PROCESSING OF ENCRYPTED DATA IN CLOUD-BASED IOT

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**Abstract:** phrase search allows retrieval of documents containing an exact phrase, which plays an important role in many machine learning applications for cloud-based IOT, such as intelligent medical data analytics. In order to protect sensitive information from being leaked by service providers, documents are usually encrypted by data owners before being outsourced to the cloud. This, however, makes the search operation an extremely challenging task. Existing searchable encryption schemes for multi-keyword search operations fail to perform phrase search, as they are unable to determine relationship of multiple keywords in a queried phrase over encrypted data on the cloud server side. Through security analysis demonstrates the security guarantees achieved it. The evaluation results show that compared with existing multi keyword search schemes, can greatly improve the search accuracy with moderate overheads.

**Keywords:** Phrase search, encrypted data, artificial intelligence, IoT, cloud

### I INTRODUCTION

**P**HRASE search, which allows users to search for sentences or documents containing a specific phrase that consists of a set of consecutive keywords, serves as an important building block in many machine learning applications of cloud-based IoT. For instance, it can be applied to intelligent clinical data analytics collected from medical IoT devices, which retrieves medical records related to a certain disease and feeds machine learning algorithms to obtain pertinent symptoms of the disease. It can also be applied to the emerging entity oriented search, which identifies the records within which the exact description of an entity occurs. The resulting records can be utilized for situation assessment and intelligent decision making. Another application scenario refers to the semantic search in knowledge graphs, which searches for entities with semantic similarity and provides input signals to machine learning models for recommendation of products, news, and advertisements.

The combination of cloud computing and IoT enables powerful processing of data beyond individual IoT devices with limited capabilities, this,

however, raises a great concern about the security and privacy of IoT data stored in the cloud, as untrusted cloud service providers may get access to sensitive data or even result in data leakage accidents. In order to protect data before outsourcing the storage of the data to remote cloud servers. For instance, a healthcare company may store their encrypted patients records in the cloud, and allow only the authorized users to perform phrase search over these records. This naturally imposes a requirement on the cloud-based search engine to perform phrase search operations over encrypted data.

### II EXISTING APPROACH

A secure search construction over encrypted cloud data, but failed to implement and evaluate their proposal in real-world application scenarios. Search scheme with relatively low storage and computational overhead. However, they failed to present a complete threat model, a security definition, reasonable security proof. It remains unclear about the privacy guarantees provided by the proposed method.

### III PROPOSED APPROACH

A new privacy-preserving Phrase search scheme over cloud based encrypted data. To tackle the challenge of determining the positional relationship of queried keywords over encrypted data, we resort search results from a single interaction with the cloud server. As the phrase search is a special case of multi-keyword search, our solution can also perform conjunctive multi-keyword search efficiently. A secure single-interaction phrase search scheme that enables phrase search over encrypted data in cloud-based IoT, without relying on a trusted third-party.

MODULES:



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# DEPRESSION DETECTION FROM SOCIAL MEDIA DATA USING CNN AND LINGUISTIC METADATA FEATURES

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**ABSTRACT:** This project mainly concentrates on the comparison of various machine learning algorithms in predicting depression at an early stage. We take a popular reddit dataset as an input and train various models to find the best one among them. Programming language used is python and hybrid algorithms are helpful for detecting the most accurate algorithm that can be used to predict depression using various linguistic metadata features. Depression is a prevalent mental illness characterized by a depressed mood, stressful life experiences, and a sense of despair. It has an impact on your mood and capacity to operate, and it has the potential to lead to suicide. Depression is a substantial contributor to the worldwide burden of mental diseases and is a main cause of disability. According to studies, women are more likely than males to suffer from depression. Around 700,000 people commit suicide each year. Suicide is the fourth leading cause of mortality among people between the ages of 15 and 29. Depression is a common illness that affects 3.8 % of the world's population, with 5.0 % and 5.7 % of people over the age of 60 suffering from it. We target the early diagnosis of sadness in this study by applying several Machine Learning algorithms based on messages and posts on social media networks. Based on word embedding methods WORD2VEC, GLOVE, the Machine Learning algorithm LOGISTIC REGRESSION and the neural network algorithm CONVOLUTIONAL NEURAL NETWORK(CNN) are trained and compared to a classification-based user-level Linguistic metadata

**INDEX TERMS:** — CNN (Convolutional Neural Network), Logistic Regression, Glove, Linguistic Metadata.

## I. INTRODUCTION:

According to World Health Organization (WHO), more than 300 million people worldwide are suffering from depression, which equals about 4.4 percent of the global population. While forms of depression are more common among females (5.1 percent) than males (3.6 percent) and prevalence differ between regions of the world, it occurs in any age group and is not limited to any specific life situation. Latest results from the 2016 National Survey on Drug Use and Health in the United States report that, during the year 2016, 12.8 percent of adolescents between 12 and 17 years old and 6.7 percent of adults had suffered a major depressive episode (MDE). Precisely defining depression is not an easy task, not only because several subtypes have been described and changed in the past, but also because the term "being depressed" has become frequently used in everyday language. In general, depression can be described to lead to an altered mood and may also be accompanied, for example, by a negative self-image, wishes to escape or hide,

# Web Mining To Detect Online Spread of Terrorism

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**Abstract** - In the recent times, terrorism has grown in an exponential manner in certain parts of the world. This enormous growth in terrorist activities has made it important to stop terrorism and prevent its spread before it causes damage to human life or property. With development in technology, internet has become a medium of spreading terrorism through speeches and videos. Terrorist organizations use the medium of the internet to harm and defame individuals and also promote terrorist activities through web pages that force people to join terrorist organizations and commit crimes on the behalf of those organizations. Web mining and data mining are used simultaneously for the purpose of efficient system development. Web mining even consists of many different text mining methods that can be helpful to scan and extract relevant data from unstructured data. Text mining is very helpful in detecting various patterns, keywords, and significant information in unstructured texts. Data mining and web mining systems are used for mining from text widely. Data mining algorithms are used to manage organized data sets and web mining algorithms can be helpful in mining and extracting from unstructured web pages and text data that is available across the web. Websites built in different platforms have varying data structures and that makes it quite difficult to read for a single algorithm.

## 1 INTRODUCTION

Terrorist organizations are using the internet to spread their propaganda and radicalize youth online and encourage them to commit terrorist activities. In order to minimize the online presence of such harmful websites we need to devise a system which detects specific keywords in a particular website. The website should be flagged inappropriate if the keywords are found for efficient system development. Data mining consists of text mining methods that help us to scan and extract useful content from unstructured data. Text mining helps us to detect keywords, patterns and important information from unstructured texts. Hence, here we plan to implement an efficient web data mining system to detect such web properties and flag them for further human review. Data mining is a technique used to extract patterns of relevant data from large data sets and gain maximum insights to the obtained results. Web mining as well as data mining are used simultaneously for efficient system development. The literature survey shows the previous work that has been carried out on this subject. The existing systems have been explained in detail in the paper. The system that we propose to implement significantly improves the current system and eliminates the flaws that exist in the existing system. The methodology and results that we achieved after the implementation of the proposed system have also been explained in brief further. This system should be helpful in anti-terrorism and cyber security response departments. The system should help the cops to track communication held between terrorists and should detect web pages developed in different platforms.



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# SECURE CLOUD STORAGE WITH DATA DYNAMICS USING SECURE NETWORK CODING TECHNIQUES

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**Abstract-** In the age of cloud computing, cloud users with limited storage can outsource their data to remote servers. These servers, in lieu of monetary benefits, offer retrievability of their clients' data at any point of time. Secure cloud storage protocols enable a client to check integrity of outsourced data. In this work, we explore the possibility of constructing a secure cloud storage for dynamic data by leveraging the algorithms involved in secure network coding. We show that some of the secure network coding schemes can be used to construct efficient secure cloud storage protocols for dynamic data. In this we use SHA algorithm for deleting the dynamic data and it is used for decrypt data. By using Caesar Cipher techniques the pre-processor data will divided in to blocks, and the data will encrypted. The Encrypted data will uploaded to cloud.

## I. INTRODUCTION

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third-party services. These services typically provide access to advanced software applications and high-end networks of server computers. The goal of cloud computing is to apply traditional supercomputing, or high-performance computing power, normally used by military and research facilities, to perform tens of trillions of computations per second, in consumer-oriented applications such as financial portfolios, to deliver personalized information, to provide data storage or to power large, immersive computer games. The cloud computing uses networks of large groups of servers typically running lowcost consumer PC technology with specialized connections to spread data-processing chores across them. This shared IT infrastructure contains large pools of systems that are linked together. Often, virtualization techniques are used to maximize the power of cloud computing. For example, a client having a smart phone with a low-performance processor or limited storage cannot accomplish heavy computation or store large volume of data. Under such circumstances, she can delegate her computation/storage to the cloud server. In case of storage outsourcing, the cloud server stores massive data on behalf of its clients (data owners). However, a malicious cloud server can delete some of the client's data (that are accessed infrequently) to save some space. Secure cloud storage protocols (two-party protocols between the client and the server) provide a mechanism to detect if the server stores the client's data untampered. Based on the nature of the outsourced data, these protocols are classified as: secure cloud storage protocols for static data (SSCS) and for dynamic data (DSCS). For static data, the client cannot change her data after the initial outsourcing (e.g., backup/archival data). Dynamic data are more generic in that the client can modify her data as often as needed.

## Scope of the Project

In a network coding protocol each intermediate node (except sender/receiver nodes) on a network path combines incoming packets to output another packet. These protocols enjoy higher throughput, efficiency and scalability than the store-and-forward routing, but they are prone to pollution attacks by malicious intermediate nodes injecting invalid packets. These packets produce more such packets downstream, and the receiver might not finally decode the file sent by the sender node. Secure network coding (SNC) protocols use cryptographic techniques to prevent these attacks: the sender authenticates each packet by attaching a small tag to it. These authentication tags are generated using homomorphic message authentication codes (MACs) or homomorphic signatures. Due to homomorphic property, an intermediate node can combine incoming packets into a packet and its tag.

# Key Management Scheme for Secure Channel Establishment in Fog Computing

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**Abstract** - Fog computing is a promising extension of cloud computing, and enables computing directly at the edge of the network. Due to the decentralized and distributed nature of fog nodes, secure communication channels have to be supported in fog computing, which are generally realized through secure keys. Key management schemes are usually employed to generate, distribute and maintain the secret keys. In this paper, we propose a key management scheme called dynamic contributory broadcast encryption (DCoBE) for secure channel establishment in fog computing. It allows a group of fog nodes that want to establish a fog system to negotiate a public encryption key and each node's decryption key in one round without a trusted dealer. Any end user may encrypt messages under the public encryption key with short ciphertexts to any subset of the fog nodes in the system. Only selected fog nodes in the system can decrypt the encrypted messages using their respective decryption key. Our new key management scheme also achieves the properties of fog node dynamics, fully collusion-resistant and stateless.

## I. INTRODUCTION

In the past few years, cloud computing has attracted widespread concerns from both commercial circles and academia. It provides flexible and on-demand resources (e.g., storage, computing, networking) to the end users according to their demands at the moment. However, as the fast growth of IoT devices, traditional cloud based methods will be unable to provide adequate services to end users in the near future. Further, for latency-sensitive applications, current cloud computing paradigm can hardly meet their demands for low latency due to limited network bandwidth, long geographic distance between traditional cloud and an end user. In order to guarantee the quality of service (QoS) for above application trends, a new cloud computing architecture has to be developed.

Fog computing is a promising extension of cloud computing, and has been shown to be an effective solution for above issues in traditional cloud. This new architecture enables computing directly at the edge of the network. As fog computing is implemented at the edge of the network, it provides applications that offer better QoS and user experience. In fog computing, fog nodes, e.g., access points, intelligent vehicles, edge routers and cellular base stations, can be distributed geographically and support mobility. End users, fog and cloud are forming a three tier layered network, supporting a series of application scenarios, e.g., intelligent transportation, industrial automation, smart grid, and wireless sensor networks.

## II. LITERATURE SURVEY

**TITLE** : Privacy-Preserving Public Auditing Protocol for Low Performance End Devices in Cloud [1]

**AUTHOR** : J. Li, L. Zhang, K. Liu, H. Qian, and Z. Jong.

**YEAR** : 2016

### DESCRIPTION

Cloud storage provides tremendous storage resources for both individual and enterprise users. In a cloud storage system, the data owned by a user are no longer possessed locally. Hence, it is not competent to ensure the integrity of the outsourced data using traditional data integrity checking methods. A privacy-preserving public auditing protocol allows a third party auditor to check the integrity of the outsourced data on behalf of the users without violating the privacy of the data. However, existing privacy-preserving public auditing protocols assume that the end devices of users are powerful enough to compute all costly operations in real time when the data to be outsourced are given. In fact, the end devices may also be those with low computation capabilities. In this paper, we propose two lightweight privacy-preserving public auditing protocols. Our protocols are based on online/offline signatures, by which an end device only needs to perform lightweight computations when a file to be outsourced is available. Besides, our proposals support batch auditing and data dynamics. Experiments show that our protocols are hundreds of times more efficient than a recent proposal regarding to the computational overhead on user side.

**TITLE** : Enabling Robust and Privacy-Preserving Resource Allocation in Fog Computing [2]

**AUTHOR** : L. Zhang, and J. Li

**YEAR** : 2018

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# Segmentation Technique for Images Using K-means Clustering

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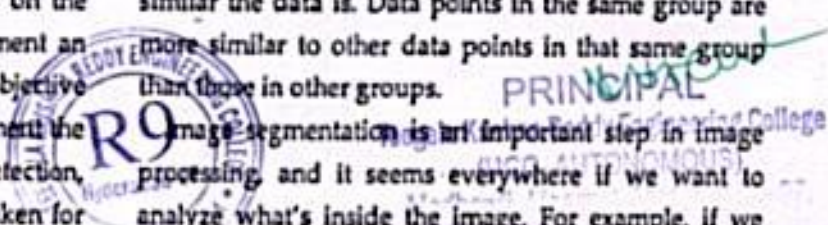
## ABSTRACT

Digital image processing supports strong research program in areas of image enhancement and image based pattern recognition. Among the various image processing techniques image segmentation plays a vital role in step to analyse the given image. Image segmentation is the fundamental step to analyse images and extract data from them. This work deals on the basic principles on the methods used to segment an image. Segmentation has become a prominent objective in image analysis and computer vision. To segment the images, from segmentation techniques edge detection, threshold region growing and clustering are taken for this study. Segmentation algorithms are based on two properties similarity and discontinuity. We intend to apply K-Means to achieve the segmentation. K Means is a clustering algorithm. Clustering algorithms are unsupervised algorithms which means that there is no labelled data available. It is used to identify different classes or clusters in the given data based on how similar the data is. Data points in the same group are more similar to other data points in that same group than those in other groups

## 1. INTRODUCTION

Digital image processing supports strong research program in areas of image enhancement and image based pattern recognition. Among the various image processing techniques image segmentation plays a vital role in step to analyse the given image. Image segmentation is the fundamental step to analyse images and extract data from them. This work deals on the basic principles on the methods used to segment an image. Segmentation has become a prominent objective in image analysis and computer vision. To segment the images, from segmentation techniques edge detection, threshold region growing and clustering are taken for

this study. Segmentation algorithms are based on two properties similarity and discontinuity. We intend to apply K-Means to achieve the segmentation. K Means is a clustering algorithm. Clustering algorithms are unsupervised algorithms which means that there is no labelled data available. It is used to identify different classes or clusters in the given data based on how similar the data is. Data points in the same group are more similar to other data points in that same group than those in other groups. Image segmentation is an important step in image processing, and it seems everywhere if we want to analyze what's inside the image. For example, if we



## Customer Segmentation Using K-means Algorithm in Machine Learning

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### Abstract

Customer segmentation is a detailed Customer Personality analysis of a company's ideal customers. It helps a business to better understand its customers and makes it easier for them to modify products according to the specific needs, behaviours and concerns of different types of customers. Customer personality analysis helps a business to modify its product based on its target customers from different types of customer segments. For example, instead of spending money to market a new product to every customer in the company's database, a company can analyse which customer segment is most likely to buy the product and then market the product only on that particular segment. In the end we intend to provide well classified segmented data by more than 4 clusters. In existing solution, the clusters developed are not refined. Also the data no standard data normalizing techniques are implemented that leaves with some level of inaccuracy. We use K-Means, standard scalar normalizing algorithms to achieve the end result. K-Means, benchmark algorithm for clustering problems, could be most efficient with the data available. The idea behind standard scalar is that it will transform the data such that its distribution will have a mean value 0 and standard deviation of 1. In case of multivariate data, this is done feature-wise

### 1. INTRODUCTION

Over the years, increased competition among businesses and the availability of large-scale historical data has resulted in widespread use of data mining techniques to find critical and strategic information that is hidden in organizations' information.[1] Data mining is the process of extracting logical information from a dataset and presenting it in a human-accessible manner for decision support. Data mining techniques distinguish fields such as statistics, artificial intelligence, machine learning, and data systems. Data mining applications include, but are not limited to bioinformatics, weather forecasting, fraud detection, financial analysis and customer segmentation. The key to this paper is to identify customer segments in a commercial business using the data mining method. Customer segmentation is a group of business customer base called customer segment such that each customer segment has customers who share the

# BONE FRACTURE DETECTION AND CLASSIFICATION USING DEEP LEARNING

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## ABSTRACT

Here we proposed an automated techniques and methods to detect fracture. X-ray images are examined manually but it is time consuming and prone to errors. As X-ray images are more suspected to noise we used many preprocessing steps to remove noise and blur from image. Thus, system is able to detect fracture more accurately. System detects fracture based on the type of fracture. Noise is removed from the image and image is transformed to clearer image so that system can easily detect fracture. We used image processing methodology to track bone. All unwanted as well as smaller objects are removed by the system. Finally based on the connected component, system detects fracture. Automatic fracture detection is an important part of a computerized telemedicine system. Fractures often occur in human spontaneous bones due to accidental injuries such as slips and accidents. In fact, many hospitals lack experienced surgeons to diagnose fractures. Therefore, computer-aided diagnosis (CAD) reduces the burden on the doctor and detects fractures. Also, as with any algorithm, it is not useful to just classify the presence of cracks in an image. This system is only useful if the fracture area can be identified and displayed. This project proposes a new system based on Yolov5 to detect fractures. First, collect and annotate the dataset and use the wide dataset to train the YOLO v5 model. X-ray images are used to evaluate the performance of the proposed system, which shows good accuracy.

## 1. INTRODUCTION

Fractures are common in infants, the elderly and adolescents and are caused by accidents such as falls, falls and fights. Many doctors use medical images to assess whether a fracture has occurred. With the development of advanced medical devices, there are many ways to obtain different types of high quality medical images, including: B. X-rays, computer tomography (CT), magnetic resonance imaging (MRI) and ultrasound. It is common practice to determine the presence and severity of a fracture by visually examining the x-rays and seeking appropriate treatment. Experienced doctors need to spend a lot of time on x-ray examinations when fractures occur. However, many hospitals lack an experienced radiologist to process these medical images. To help physicians detect fractures, computeraided diagnosis (CAD) is widely used in the analysis of medical images and has received increasing attention in recent years. The work to date on fracture detection consists of three main steps: (1) X-ray image denoising, (2) feature extraction, and (3) image classification. What these early works had in common was the focus on classifying images as fractured and non-fractured. This procedure could only detect if the bone image was broken, but could not identify the fracture area. However, in practice, experienced doctors need to detect fractures in different anatomical areas. Therefore, a more practical system will help to properly detect fractures of different types of bones in the human body. Building such a system can be a daunting task due to the large variability between different bone types. We propose a system with this capability.

### 1.1 MOTIVATION

Noise is removed from the image and image is transformed to clearer image so that system can easily detect fracture. We used image processing methodology to track bone. All unwanted as well as smaller objects are removed by the system. Finally based on the connected component, system detects fracture.



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## UNAUTHORIZED ACCESS POINT DETECTION USING MACHINE LEARNING ALGORITHMS FOR INFORMATION PROTECTION

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### ABSTRACT

With the frequent use of Wi-Fi and hotspots that provide a wireless internet environment, awareness and threats to wireless Access Point (AP) security are steadily increasing. Especially when using unauthorized APs in company, government and military facilities, there is a high possibility of being subjected to various viruses and hacking attacks. It is necessary to detect unauthorized APs for protection of information. This project uses Round Trip Time (RTT) value for detecting authorized and unauthorized APs in wired / wireless integrated environment. Here, this work analyzes them using machine learning algorithms such as Support Vector Machine (SVM) algorithm, Decision Tree Classifier algorithm, K Nearest Neighbors (KNN) algorithm, and Multilayer Perceptron (MLP) algorithm. Finally, analysis report says that, Decision Tree Classifier algorithm has produced the highest accuracy.

**Keywords:** Access Point, Round Trip Time, Machine Learning Algorithms.

### I. INTRODUCTION

Due to the rapid development of devices using wireless networks, it is hard to find places without Wi-Fi in our lives. Wi-Fi is readily available in companies, cafes, military facilities, schools and public institutions. Wi-Fi is used by many unspecified users, making it difficult to check every one. And even if you are tethering like a hotspot using authorized Wi-Fi, identification is difficult unless you look directly at the AP (Access Point) list and look at the settings closely. In a wireless local area network (WLAN), an access point is a station that transmits and receives data (sometimes referred to as a transceiver). An access point connects users to other users within the network and can also serve as the point of interconnection between the WLAN and a fixed wire network. In this project, a dataset was created using RTT (Round Trip Time) values. The data set thus constructed is applied to the machine learning algorithm to obtain the result, and then the results obtained are compared, to show which algorithm is more accurate. This is organized as the related research and the existing methods for unauthorized AP classification and we introduce the relationship between the experimental configuration and the attribute values used in the data set which analyzes the results of the experiment and summarizes conclusions and future directions.

### II. METHODOLOGY

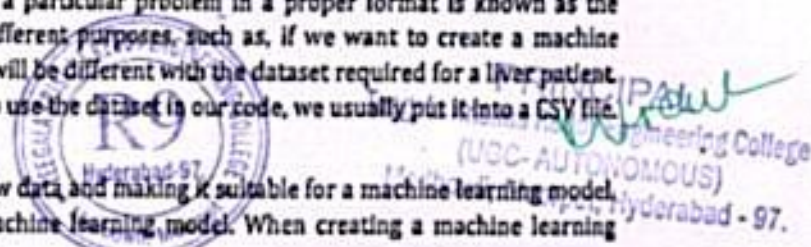
The methodology comprises of five processes: Load Data, Data Analysis, Data Preprocessing, Model Building and Prediction.

#### Load Data and Data Analysis:

To create a machine learning model, the first thing we required is a dataset as a machine learning model completely works on data. The collected data for a particular problem in a proper format is known as the dataset. Dataset may be of different formats for different purposes, such as, if we want to create a machine learning model for business purpose, then dataset will be different with the dataset required for a liver patient. So each dataset is different from another dataset. To use the dataset in our code, we usually put it into a CSV file.

#### Data Preprocessing:

Data preprocessing is a process of preparing the raw data and making it suitable for a machine learning model. It is the first and crucial step while creating a machine learning model. When creating a machine learning



## GEOGRAPHICAL AIR POLLUTION PREDICTION

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### ABSTRACT:

Air quality has been an enormous health concern in recent decades as the place has become further industrialized and more and more citizens have begun driving automobiles. Random Forest Algorithm successfully bring about better accuracy and true positive rate with 92.49 accuracy. In our proposed model we are using Random forest Algorithm. This is a supervised learning algorithm which can be used for both regression and classification problems. Our system takes input of PM2.5, PM10, NO, NO<sub>2</sub>, NO<sub>x</sub>, NH<sub>3</sub>, CO, SO<sub>2</sub>, O<sub>3</sub>, Benzene, Toluene, Xylene and then inferring Air Quality Index (AQI). System produces range of pollution in the city such as severe, Moderate, poor, very poor, satisfactory and ARIMA model predict future values based on past values. Furthermore, there is a greater likelihood of motivating changes in both individual behaviour and public policy, as people want air quality.

### INTRODUCTION

Air pollution is dangerous for human health and should be decrease fast in urban and rural areas so it is necessary to predict the quality of air accurately. There are many types of pollution like water pollution, air pollution, soil pollution etc, but most important among these is air pollution which should be controlled immediately as humans inhale oxygen through air. There are various causes of air pollution. Outdoor air pollution caused by industries, factories, vehicles and Indoor air pollution is caused if air inside the house is contaminated by smokes, chemicals, smell. Two types of Pollutants that is causing air pollution are Primary Pollutants and Secondary Pollutants. Primary Pollutants include: - Carbon dioxide (CO<sub>2</sub>): Carbon dioxide is playing an important role in causing air pollution. It is also named as Greenhouse gas. Global warming a major concern caused by increase in carbon dioxide in air. CO<sub>2</sub> is exhale by Human. CO<sub>2</sub> is also released by burning of fossil fuels. Sulphur oxide (SO<sub>x</sub>): Sulphur dioxide (SO<sub>2</sub>) released by burning coal and petroleum. It is released by various industries. When react with Catalyst (NO<sub>2</sub>),



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## A Study on Employee Job Satisfaction

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**Abstract:** Job satisfaction is one of the most integral however controversial troubles in industrial Psychology and behavioral administration organization. It in the end decides the extent of employee motivation via the development of organizational neighborhood climate or surroundings pleasure is a particular subset of attitudes held by way of organizational members. It is the mindset one has toward his or her job. Stated any different way, it is one's terrific response to the job. Job pleasure in a slender experience functionality attitude related to the job. It is worried about such specific elements as wages, supervision, the study of employment, stipulations of work, social relations of the job, instantaneous contract of grievances, the trustworthy remedy of Enterprise Corporation, and unique related items. Job delight is related to excellent Socioeconomic and personal factors, such as Age, Sex, Incentives, Working Environment, Education, Duration of work, etc.

**Keywords:** Job Satisfaction, Employee, Working Condition, Organization.

### I. INTRODUCTION

Many companies do not realize the importance of the work environment to employee satisfaction, so they face many challenges at work. These organizations are weak internally and therefore cannot bring innovative products to the market to overwhelm their competitors (Aiken, Clarke, and Sloane, 2002). Employees are an indispensable part of realizing the company's mission and vision. Must meet the performance standards set by the organization to ensure the quality of its work. To meet organizational standards, employees need a working environment that allows them to work freely without problems that prevent them from reaching their full potential. The purpose of this research is to analyze the impact of the work environment on employee job satisfaction.

#### A. Job Satisfaction

According to Vroom (1964), job satisfaction is the orientation of employee emotions to their role in the workplace. Job satisfaction is an important part of motivating employees and encouraging them to increase productivity. Over the years, many people have defined job satisfaction. Hoppeck and Spengler (1938) defined job satisfaction as a comprehensive set of psychological, physical, and environmental conditions that make employees admit that they are satisfied or satisfied with their work. It also emphasizes the role of workers in the

workplace because there is an impact. Clark (1997) believes that when workers are dissatisfied with their work, they will begin to worry about factors such as their rights and working conditions. I am not sure if I found myself. Insecurity, colleagues refuse to cooperate, bosses do not respect them, and they are not considered in the decision-making process; in addition, he emphasized that at present, companies cannot afford dissatisfied employees because they do not meet the standards or expectations of their superiors and they are fired. Brings additional costs to the enterprise. Hiring new employees. Therefore, it is beneficial for the company to provide employees with a flexible working environment in which they believe that their opinions are valued and that they are part of the organization. Staff morale ought to be excessive as it will affect their productivity. After all, when morale is low, they will reduce their efforts to improve.

#### B. Work Environment

The work environment includes two broader dimensions, work, and environment. The job includes all the different characteristics of the job, such as B. The method of execution and completion, including tasks such as learning to perform tasks and controlling activities related to the job itself. The sense of accomplishment at work, the diversity of tasks, and the intrinsic value of tasks. Many research articles focus on the internal dimensions of job satisfaction, and the results show that there is a positive correlation between the work environment and the internal dimensions. In addition, they describe the second dimension of job satisfaction, called the environment, which includes physical and social work conditions (Souza-Poza and Souza-Poza, 2000; Gazizoglu and Tansel, 2006; Skalli, Theodosiou, and Vasileiou, 2008 year). Spector (1997) observed that most companies ignore the work environment in the organization, which harms employee productivity. In his view, the working environment includes employee safety, job reliability, good relationships with colleagues, recognition of good work, motivation for good work, and participation in the company's decision-making process. Once employees understand that the company considers them important, they will have a high degree of commitment and a sense of belonging to your company. Various factors in the work environment, such as wages, working hours, authority granted to employees, organizational structure, and internal goods benefit employees.



# PREVENTION OF DATA HACKING WITH BLOCKCHAIN

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**ABSTRACT:** Data is the input for various algorithms to mine valuable features, yet data in Internet is scattered everywhere and controlled by different stakeholders who cannot believe in each other, and usage of the data in complex cyberspace is difficult to authorize or to validate. As a result, it is very difficult to enable data sharing in cyberspace for the real big data. In this we propose the Sec Net, an architecture that can enable secure data storing, computing, and sharing in the large-scale Internet environment, aiming at a more secure cyberspace with real big data and thus enhanced with plenty of data source, by integrating key component: Block chain-based data sharing with ownership guarantee, which enables trusted data sharing in the large-scale environment to form real big data.

## I. INTRODUCTION

All these ideas and solutions above propose to protect data security, by designing a new service paradigm supporting the decoupling of data and application, or by designing a specific blockchain to meet demands of certain applications, or by integrating as a functional component to analyze data security. However, none of them treats the problem of data security from the

view of architecture. To fill this gap, SecNet tries to construct a common and general networking architecture by the power of blockchain at a large scale, which can support dynamic update of all these functional component separately at any time as needed, to efficiently and effectively improve the data security for all applications. With the development of information technologies, the trend of integrating cyber, physical and social (CPS) systems to a highly unified information society, rather than just a digital Internet, is becoming increasing obvious. In such an information society, data is the asset of its owner, and its usage should be under the full control of its owner, although this is not the common case.

## II. LITERATURE SURVEY

With the development of the Internet of Things, a complex CPS system has emerged and becoming a promising information infrastructure. In the CPS system, the loss of control over user data has become a very serious challenge, making it difficult to protect privacy, boost innovation, and guarantee data sovereignty. In this article, we propose Hypernet, a novel decentralized trusted computing and networking paradigm, to meet the challenge of loss of control over data. Hypernet is composed of the intelligent PDC,



# MALARIA DETECTION USING DEEP LEARNING

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**Abstract** - Malaria is one of the deadliest diseases across the globe. This is caused by the bite of female Anopheles mosquito that transmits the Plasmodium parasites. Traditional malaria detection techniques require experts to test blood cells under a microscope. The shortage of skilled technicians and the unavailability of required equipment and infrastructure result in false diagnoses leading to an increase in mortality rate. In existing system detection using Machine learning techniques like Support Vector Machine (SVM) which is tedious and requires hand-engineered features extraction to train data, and the results were not up to the mark. In our proposed system we used deep neural networks to detect the malaria virus in human blood cells. The proposed method shows a system with end-to-end automated models using a deep neural network that performs both feature extraction and classification using blood smear cell images. Models are evaluated based on accuracy, precision, recall and F1-score. Data preprocessing techniques like Data segmentation and Normalization are applied to maximize the model performance and a five layer convolutional network to perform best in class feature extraction.

**Index Terms** - Deep Neural Network, CNN, Image Data Generator.

## I INTRODUCTION

Malaria is a mosquito-borne disease caused by a plasmodium parasite transmitted by the bite of infected mosquitoes. Worldwide, an estimated 300-500 million people contract malaria each year, resulting in 1.5-2.7 million deaths annually. According to the World Health Organization (WHO), approximately 219 million cases were diagnosed with malaria resulting in 435,000 deaths globally in 2017. Malaria is a deadly disease which is more frequently found in rural areas where medical diagnosis and health care options are not easily accessible. Worldwide accepted light microscopy technique is used by the practitioners for the diagnosis of malaria. The conventional light microscopy for malaria diagnosis uses thick and thin stained blood smears for diagnoses. Microscopy is well adapted in areas which are highly prone to malaria. The major drawback of this approach is its dependence on skilled technicians, of which there is a critical shortage. A nationwide study in Ghana found 1.72 microscopes per 100,000 population, but only .85 trained laboratory staff per 100,000 population. This results in a delay in an inaccurate diagnosis. Most of the time, diagnosis is often made based on clinical signs and symptoms alone, which is error-prone and this inaccurate diagnosis leads to higher mortality, drug resistance, and the economic burden of buying unnecessary drugs. Early and accurate malaria diagnosis and prompt treatment can cure a patient and save many lives by preventing severe malaria cases. All around the world, there are millions of people who are still lacking access to malaria prevention and treatment. Therefore, there is a need for a reliable alternative which will help to provide access to high-quality diagnosis routinely that is currently unavailable. This project focuses on designing an accurate malaria diagnosis model that can be implemented without any dependencies on skilled technicians and testing the model accuracy to get high-quality results. Automated image analysis software could remove the most serious limitation of the worldwide accepted microscopy method in general, dependency on human experts for diagnostic accuracy of the results.

## II DNN

The neural network needs to learn all the time to solve tasks in a more qualified manner or even to use various methods to provide a better result. When it gets new information in the system, it learns how to act accordingly to a new situation. Learning becomes deeper when tasks you solve get harder. Deep neural network represents the type of machine learning when the system uses many layers of nodes to derive high-level functions from input information. It means transforming the data into a more creative and abstract component. In order to understand the result of deep learning better, let's imagine a picture of an average man. Although you have never seen this picture and his face and body before, you will always identify that it is a human and differentiate it from other creatures. This is an example of how the deep neural network works. Creative and analytical components of information are analyzed and grouped to ensure that the object is identified correctly. These components are not brought to the system directly, thus the ML system has to modify and derive them.

# PREDICTION OF USER BEHAVIOUR IN SOCIAL HOTSPOTS USING MULTI-MESSAGE INTERACTION AND NEURAL NETWORKS

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**ABSTRACT** The variety of communications under social hot themes in network public opinion analysis play a significant effect in user engagement behaviour. This paper suggests a prediction model of user participation behaviour during repeated messaging of hot social subjects while taking into account interactions between many messages and complex user behaviors. In order to better forecast user involvement behaviour, a multimessage interaction influence-driving mechanism was first presented. It takes into account how multimessage interaction affects user participation behaviour. Second, based on a multimessage interaction-driving mechanism and a BP neural network, this study proposes a user participant behaviour prediction model of social hotspots in light of the behavioral complexity of users participating in multimessage hotspots and the simple structure of BP neural networks (which can map complex nonlinear relationships). Finally, the user behaviour is iteratively guided by the multimessage interaction, which readily leads to overfitting of the BP neural network. A simulated annealing approach is used to optimize the conventional BP neural network to get around this issue and increase prediction accuracy. In evaluation studies, the model not only predicted user participation patterns in real-world scenarios including many messages, but it also quantified the relationships between various messages on trending subjects.

**INDEX TERMS:** — Backpropagation (BP) neural network, multimessage interaction, social hotspots, user behavior.

## I. INTRODUCTION

With the emerging of the Internet era, online social networks such as Twitter and Facebook continue to be popular. People's communication and lifestyle have brought about tremendous changes. The generation and dissemination of hot topics in social media are constantly affecting the daily lives of people. The social hotspots refer to news or topics that are concerned or interested by the public at present. The social network topology and the user's reads and replies to messages in the network promote the dissemination and evolution of information related to the hot topic, that is, the propagation of the network topics.

Therefore, mastering user-forwarding participation behavior is important for evaluating the influence of a microblog topic, monitoring public opinion through networks and information retrieval. At present, the prediction of user behavior in social networks mainly includes the following

# COMPUTER AUTOMATION USING MEDIAPIPE AND GESTURE RECOGNITION

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**Abstract-** Human-Computer Interaction(HCI) has been a multidisciplinary field of study focusing on the design of computer technology and, in particular, the interaction between humans (the users) and computers. There are multiple ways to interact with a computer and are not limited to physical hardware devices. Gesture recognition is a computing process that attempts to recognize and interpret human gestures through the use of mathematical algorithms. Gesture recognition is not limited to just human hand gestures, but rather can be used to recognize everything from head nods to different walking gaits. Computer automation is another area where scientists are trying to automate mundane, time taking tasks. Basic tasks like "Shutting down", "Opening apps", and "Visiting a particular URL" are tedious and can be automated. Utilizing the power of "Hand Tracking" and "Gesture Recognition", we can use our hands to control our system without ever touching a mouse or keyboard.

**Index Terms** – Hand Gesture Recognition, Facial Authentication, MediaPipe, Convolutional Neural Network.

## I. INTRODUCTION

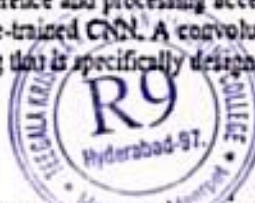
We are now in an era of industry 4.0 or the Fourth Industrial Revolution which requires automation and computerized that are realized from the consolidation between various physical and digital technologies such as sensors, embedded systems, Artificial Intelligence (AI), Cloud Computing, Big Data, Adaptive Robotic, Augmented Reality, Additive Manufacturing (AM), and Internet of Things (IoT). The enhanced digital technology connectivity made technology a crucial requirement in carrying out our daily activities like doing tasks or work, shopping, communication, entertainment, and even searching for information or news. The technology works more using machines and advances in interaction by using a broad range of gestures to recognize, communicate, or interact with each other. The gesture is known as a form of non-verbal communication or non-vocal communication that utilize the body's movement that can convey a particular message originating from parts of the human body, the hand or face are the most commonly adopted. Gesture-based interaction introduced by Krueger as a new type of Human-Computer Interaction (HCI) in the middle 1970s has become a magnetic area of the research. In the Human-Computer-Interaction (HCI), building interfaces of applications with managing each part of the human body to communicate naturally are the great attention to do research, especially the hands as the most effective-alternative for the interaction tool, considering their ability. Currently, many frameworks or library machine learning for hand gesture recognition have been built to make it easier for anyone to build AI (Artificial Intelligence) based applications. One of them is MediaPipe. The MediaPipe framework is presented by Google for solving the problem using machine learning such as Face Detection, Face Mesh, Iris, Hands, Pose, Holistic, Hair segmentation, Object detection, Box Tracking, Instant Motion Tracking, Objection, and KIFT. MediaPipe framework helps a developer focus on the algorithm and model development on the application, then support environment application through results reproducible across different devices and platforms which it is a few advantages of using features on the MediaPipe framework.

## Scope of the Project

The scope of the project is this software provides the facility to use hand gestures to automate a few computer tasks quickly. This project uses a pre-trained "convolutional neural network" to predict the gesture and media pipe to perform hand tracking. The main feature of this project is 'Gesture Recognition' and 'MediaPipe'. MediaPipe offers cross-platform, customizable ML solutions for live and streaming media. End-to-End acceleration: Built-in fast ML inference and processing accelerated even on common hardware. Build once, deploy anywhere: Gesture recognition is done using a pre-trained CNN. A convolutional neural network (CNN) is a type of artificial neural network used in image recognition and processing that is specifically designed to process pixel data. Python is used for this project by Pycharm platform for stimulation.

## II. LITERATURE SURVEY

In recent years, a lot of analysis has been done on Hand Gesture recognition. This recognition technology is split into 2 categories



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# CROP GUIDANCE USING MACHINE LEARNING

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**Abstract** - Agriculture is the field which plays a very important role in improving our country's economy. Agriculture is that the one which gave birth to civilization. India is an agricultural country and its economy is largely based upon crop productivity. Hence, we are able to say that agriculture will be the backbone of all business in our country. Selecting every crop is extremely important in agricultural planning. The choice of crops will rely on the various parameters like market value, production rate and also the different government policies. Many changes are required within the agriculture field to boost changes in our Indian economy. We will improve agriculture by using machine learning techniques which are applied easily within the farming sector. Together with all advances within the machines and technologies employed in farming, useful and accurate information about different matters also plays a big role in it. The concept of this project is to implement the crop selection method so this method helps in solving many agriculture and farmers problems. This improves our Indian economy by maximizing the yield rate of crop production.

**Index Terms** - Crop yield prediction, Machine learning techniques, Random Forest, Decision Tree, Supervised Learning

## I. INTRODUCTION

The impact of temperature change in India, most of the agricultural crops are being badly affected in terms of their performance over a period of the last two decades. Predicting the crop yield before its harvest would help the policy makers and farmers for taking appropriate measures for marketing and storage. This project will help the farmers to understand the yield of their crop before cultivating onto the agricultural field and this will help to suitable findings. It attempts to unravel the problem by building a prototype of an interactive prediction system. Implementation of such a system with an easy-to-use web based graphic program and therefore the machine learning algorithms are administered. The results of the predictions are going to be made available to the farmer. Thus, for such styles of data analytics in crop prediction, there are different techniques or algorithms, and with the assistance of these algorithms we are able to predict crop yield. By analyzing these issues, and problems like weather, temperature, humidity, rainfall, moisture, there's no proper solution and technologies to beat true faced by us. In India, there are some ways to extend the economic process within the field of agriculture. Data preprocessing is additionally useful for predicting crop yield production. Generally, data processing is that the process of analyzing data from various viewpoints and summarizing it into important information. Random forest is that the most popular and powerful supervised machine learning algorithm capable of performing both classification and regression tasks, that operate by constructing a mess of decision trees during training time and generating output of the category that's the mode of the classes(classification) or mean prediction (regression) of the individual trees.

## Scope of the Project

The scope of the project is to determine the crop yield of an area by considering dataset with some features which are important or related to crop production such as temperature, moisture, rainfall, and production of the crop in previous years. To predict a continuous value, regression models are used. It is a supervised technique. The coefficients are preprocessed and fit into the trained data during training and construction the regression model. The main focus here is to reduce the cost function by finding the best fit-line. The output function facilitates in error measurement. During training period, error between the predicted and actual values is reduced in order to minimize error function. Python is used for this project by pycharm platform for stimulation.

## II. LITERATURE SURVEY

Machine learning methods for crop yield prediction and climate change impact assessment in agriculture

Crop yields are highly reliant on the weather. A increasing body of empirical work attempts to simulate this connection in order to forecast the effects of climate change on the industry. We provide a yield modelling technique that employs a semi-parametric version of a deep neural network to account for complicated nonlinear connections in high-dimensional datasets, as well as known parametric structure and undiscovered cross-sectional variability. We demonstrate that this technique is applicable for both traditional statistical approaches and fully-nonparametric neural networks in forecasting yields of years withheld during model training using data on maize





# ADVANCED DATA SECURITY USING HYBRID CRYPTOGRAPHY AND STEGANOGRAPHY

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## ABSTRACT

Maintaining data security is crucial to any successful online presence. With the development of new and advanced technologies, traditional data security methods are becoming less effective in protecting data. Consequently, there is an increasing need for a robust Hybrid Cryptosystem. The efficiency and performance of a hybrid data encryption scheme are investigated in this research. The hybrid crypto-system utilizes a mix of Blowfish, RSA, and AES layers to encrypt data. The system additionally encrypts the keys used and embeds them in an image using LSB Steganography. This study investigates a prospective hybrid-crypto system that may be able to alleviate the disadvantages of present conventional systems.

**Keywords:** multi-layered Hybrid Cryptosystem, Blowfish, RSA, AES layers to encrypt data, LSB Steganography

## 1. INTRODUCTION

Apps and services utilize a wide variety of Encryption Algorithms to keep user information safe. But the development of more complex technology is rendering these older methods useless. As hardware has improved, the time needed to crack a cryptosystem has decreased. The suggested system combines three of the most powerful and widely used algorithms for data encryption. Combination of the symmetric AES and Blowfish algorithms with the asymmetric RSA algorithm. RSA is a popular asymmetric encryption method [1] used for more than only data security because to its ability to employ two different keys for encryption and decryption. In contrast, Blowfish and AES are what are known as Symmetric Ciphers since they only need a single key for both encryption and decryption. While Blowfish is the fastest encryption method [2], Advanced Encryption Standard (AES) is the most safe and efficient. When used together, they may overcome the shortcomings of each individual component.

Compared to its individual components, studies found that the AES-Blowfish Hybrid Cryptosystem was more successful at encrypting data [4]. The use of LSB Steganography to store data in image in the system showed that the system was resistant to attacks because the histograms of both the cover and stegoimage were similar [5]. A similar cryptosystem consisting of RSA and AES combination implemented in Java was also studied and found to provide a high level of security and enhanced integrity.

## DIABETIC RETINOPATHY DETECTION FROM RETINAL IMAGES

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### Abstract:

Diabetic retinopathy is a disease caused by uncontrolled chronic diabetes and it can cause complete blindness if not timely treated. Therefore, early medical diagnosis of diabetic retinopathy and its medical cure is essential to prevent the severe side effects of diabetic retinopathy. Manual detection of diabetic retinopathy by ophthalmologist takes plenty of time and patients need to suffer a lot at this time. An automated system can help detect diabetic retinopathy quickly and we can easily follow-up treatment to avoid further effects to the eye. This study proposes a machine learning method for extracting three features like exudates, hemorrhages, and microaneurysms and classification using hybrid classifier which is a combination of support vector machine, k nearest neighbour, random forest, logistic regression, multilayer perceptron network. From the results of the experiments, the highest accuracy values 82%. Hybrid approach produced a precision score of 0.8119, Recall score of 0.8116 and F-measure score of 0.8028.

**Keywords:** Diabetic Retinopathy, KNN, SVM, Random Forest, Retinal Fundus Images

I

### INTRODUCTION

In the healthcare field, the treatment of diseases is more effective when detected at an early stage. Diabetes is a disease that increases the amount of glucose in the blood caused by a lack of insulin [1]. It affects 425 million adults worldwide [2]. Diabetes affects the retina, heart, nerves, and kidneys.

Diabetic Retinopathy (DR) is a complication of diabetes that causes the blood vessels of the retina to swell and to leak fluids and blood [3]. DR can lead to a loss of vision if it is in an advanced stage. Worldwide, DR causes 2.6% of blindness [4]. The possibility of DR presence increases for diabetes patients who suffer from the disease for a long period. Retina regular screening is essential for diabetes patients to diagnose and to treat DR at an early stage to avoid the risk of

blindness [5]. DR is detected by the appearance of different types of lesions on a retina image. These lesions are microaneurysms (MA), haemorrhages (HM), soft and hard exudates (EX).

Microaneurysms (MA) is the earliest sign of DR that appears as small red round dots on the retina due to the weakness of the vessel's walls. The size is less than 125  $\mu\text{m}$  and there are sharp margins. Michael et al. [8] classified MA into six types, as shown in Fig. 1. The types of MA were seen with AOSLO reflectance and conventional fluorescein imaging.

Haemorrhages (HM) appear as larger spots on the retina, where its size is greater than 125  $\mu\text{m}$  with an irregular margin. There are two types of HM, which are flame (superficial HM) and blot.

Hard exudates appear as bright-yellow spots on the retina caused by leakage of plasma. They have sharp margins and can be found in the retina's outer layers.

Soft exudates (also called cotton wool) appear as white spots on the retina caused by the swelling of the nerve fiber. The shape is oval or round.

Red lesions are MA and HM, while bright lesions are soft and hard exudates (EX). There are five stages of DR depending on the presence of these lesions, namely, no DR, mild DR, moderate DR, severe DR and proliferative DR.

The automated methods for DR detection are cost and time saving and are more efficient than a manual diagnosis [10]. A manual diagnosis is prone to misdiagnosis and requires more effort than automatic methods. This project reviews the recent DR automated methods that use deep learning to detect and to classify DR. The current work covered 33 papers which used deep learning techniques to classify DR images.



## RAILWAY TWEET ANALYSIS USING MACHINE LEARNING

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**ABSTRACT :** In this day and age with such higher crime percentage and severe wrongdoing occurring, there must be some security against this wrongdoing. In this going to take some datasets for wrongdoings and import pandas and numpy information outlines. Grouping will be done dependent on places where wrongdoing happened, posses associated with wrongdoing and the planning wrongdoing occurred. This will assist with foreseeing wrongdoing which will happen in future. To be more ready to react to crime, it is critical to comprehend designs in wrongdoing. In our venture, we break down wrongdoing information, scratched from freely accessible dataset.

At the beginning, the assignment is to foresee which class of wrongdoing is well on the way to happen given a period and spot. The utilization of AI and AI to distinguish wrongdoing through sound or cameras presently exists, is demonstrated to work, and expected to keep on growing. The utilization of AI/ML in foreseeing wrongdoings or a person's probability for carrying out a wrongdoing has guarantee however is still a greater amount of an obscure. The greatest test will most likely be "demonstrating" to legislators that it works. At the point when a framework is intended to prevent something from occurring, it is hard to demonstrate the negative. Organizations that are straightforwardly engaged with furnishing governments with AI apparatuses to screen zones or foresee wrongdoing will probably profit by a positive criticism circle. Upgrades in wrongdoing anticipation innovation will probably prod expanded all out spending on this innovation. We additionally endeavor to make our grouping task progressively important by consolidating numerous classes into bigger classes. At last, we report and consider our outcomes with various classifiers, and harp on roads for future work.

### INTRODUCTION

Sentiment analysis is one of the trendy research domains in natural language processing (NLP). Sentiments or opinions can be defined as a mental situation or feeling of a person in certain circumstances and conditions [1]. These feelings may be a reflection of joy, sadness, discomfort or nervousness. Present world is full of technology and smart devices. Moreover, availability of fast internet and huge storage capability with social media platforms, people can share their feelings online. Twitter [2] is one of the biggest online social media platform followed by billions of people across the world.

The personal account of individual on Twitter may be considered as a microblog [3] as it provides a limited text of 140 characters to share the views. There are a lot of studies on sentiment analysis which takes into consideration air travel, tourism, stay in hotels, restaurants, movies, politics etc. [4-8]. Trains are also one of the popular modes of transport which are time consuming (in comparison to air travel) but more convenient and comfortable for long routes.

India is a country with second largest population in the world after china [9]. In India, people mostly prefer trains to cover the long distances because of convenience of comfort, low fare etc. However, travel in trains may not be always comfortable due to various reasons i.e. food quality, cleanliness, number of people in the coach, quality of Sentiment analysis is one of the trendy research domains in natural language processing (NLP). Sentiments or opinions can be defined as a mental situation or feeling of a person in certain circumstances and conditions [1]. These feelings may be a reflection of joy, sadness, discomfort or nervousness. Present world is full of technology and smart devices. Moreover, availability of fast internet and huge storage capability with social media platforms, people can share their feelings online. Twitter [2] is one of the biggest online social media platform followed by billions of people across the world.

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# Paralysis Patient Health Care Monitoring System Using IOT

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**Abstract** -The noble aim behind this project is to style a health care system which is able to be useful for unfit and mute individuals . A Dumb individual at some point of the planet uses gesture primarily based communication for the correspondence. The progression in established framework will provides a area to arrange and build up an interpreter framework to alter over the communication via gestures into discourse. As linguistic communication primarily employed by deaf however conjointly employed by those who will hear having drawback in speaking therefore the approach utilized in this analysis is vision primarily based. The glove uses square measure fitted with flex device in 3 dimensions to gather the information from each position of figure and hand motion to differentiate and distinguish every and each word from a specific sign. heart failure is that the major reason for death among each gender men and girls. However, its incidence can not be continually foreseeable. The most typical device wont to observe heart connected problems is AN cardiogram machine that is reliable to traditional user, however isn't mobile enough to be used as a monitor for a heart patient endlessly. This project is to develop AN algorithmic program for police work a heart failure and if therefore, then to alert doctors, members of the family and emergency services .Hence here we tend to introduce a wise health care system which is able to pay attention of issues and want of unfit and mute individuals and can conjointly facilitate in detection of heart failure.

## I .INTRODUCTION

Paralysis is that the inability to maneuver muscles on your own and with purpose.It is temporary or permanent. The most common causes square measure stroke, twin (medulla spinalis/neural structure[funiculus) injury, and MS(sclerosis)induration(degenerative disorder). disfunction is an entire loss of movement referred to as plegia, or a big weakness known as paralysis. disfunction is most frequently caused by injury within the system, particularly the spinal cord. different major causes square measure stroke, trauma with nerve injury, acute anterior poliomyelitis, encephalopathy, peripheral pathology, Parkinson's illness, ALS, botulism, birth defect, multiple sclerosis, and Guillain-Barrés syndrome.For example, monoplegia/monoparesis is complete loss of movement or weakness of 1 limb. Hemiplegia/hemiparesis is complete loss of movement or weakness of arm and leg on same facet of the body.

# Implementing Intelligent Traffic Control System for Congestion Control, Ambulance Clearance and Stolen Vehicle Detection

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- **Abstract** -It presents an intelligent traffic control system to pass emergency vehicles smoothly. Each individual vehicle is equipped with special radio frequency identification (RFID) tag (placed at a strategic location), which makes it impossible to remove or destroy. We use RFID reader and microcontroller based system-on-chip to read the RFID tags attached to the vehicle. It counts number of vehicles that passes on a particular path during a specified duration. It also determines the network congestion, and hence the green light duration for that path . In addition, when an ambulance is approaching the junction, it will communicate to the traffic controller in the junction to turn ON the green light. We use microcontroller based system on chip for wireless communications between the ambulance and traffic controller.
- **Index Terms** – NODE MCU , LED Display, RFID Tag, RFID Reader, Infrared(IR) SENSOR

## I. INTRODUCTION

India the second most populous Country in the World and is a fast growing economy , with globalization the problem of congestion on highways and in cities is becoming more and more acute. The goal of intelligent traffic management systems is to achieve improvements in mobility, safety and productivity of the transport system through integrated application of advanced monitoring . Intelligent management of traffic flows can reduce the negative impact of congestion. Technologies like ZigBee, RFID and GSM can be used in traffic control to provide cost effective solutions. RFID is a wireless technology that uses radio frequency electromagnetic energy to carry information between the RFID tag and RFID reader. Some RFID systems will only work within the range inches or centimeters, while others may work for 100 meters (300 feet) or more.

## II Literature survey

An Intelligent Traffic Control and Management System utilizes the components like RFID, IR sensors, NodeMCU, and so on. It likewise comprises of modules for

- Allowing section of emergency vehicles viz Ambulance, VIP, police, Fire engines and so forth
- Enabling clients to track their stolen or lost vehicles.
- Help individuals to get data about the activity traffic in particular zone
- RFID labels are utilized for novel ID of vehicles and IR sensors are utilized to get the vehicle tally.

An intelligent traffic control system to pass emergency vehicles , congestion control ,stolen vehicle detection. Each individual vehicle is equipped with special radio frequency identification (RFID) tag (placed at a strategic location), which makes it impossible to remove or destroy. RC522 RFID to read the RFID tags attached to the vehicle to display the count we use I2C LED DISPLAY. It counts number of vehicles that passes on a particular path during a specified duration. It also determines the network congestion, and hence the green light duration for that path. If the RFID-tag-read belongs to the stolen vehicle, then a message is sent using GSM SIM300 to the police control room. In addition, when an ambulance is approaching the junction, it will communicate to the traffic controller in the junction to turn ON the green light. The prototype was tested under different combinations of inputs in our wireless communication laboratory and experimental results were found as expected.

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# FINGER PRINT BASED ATM AUTHENTICATION & MONEY MANAGEMENT SYSTEM

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## Framework for Task scheduling in Cloud using Machine Learning Techniques

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### Abstract:

Task scheduling is critical to the cloud computing system's functionality and performance. Although there are numerous approaches to enhancing cloud job scheduling, it is still a continuing process. Using machine learning approaches, we strive to maximize the consumption of cloud computing resources in our suggested framework. Algorithms for task scheduling can be created for static or dynamic environments. The proposed framework is for the dynamic scenario. Task scheduling can take into account a variety of factors such as Make span, QoS, energy usage, execution time, and load balancing. Rather than allocating the scheduling algorithm at random, we propose using a machine learning technique to identify incoming task requests, and classify the best suitable algorithm for the job request. Machine learning approaches that are supervised can be employed in this situation. The outcome of the proposed work leads to the

selection of the best task scheduling algorithm for the input task(request).

### Keywords:

- Decision tree
- Logistic regression

### 1. Introduction:

Machine learning and cloud computing have quickly become the focus of the IT sector. With the high availability of the internet at a lower cost and an upcoming enormous number of the app's data generated is also a vast amount. Data and resources are provided by cloud computing on a pay-per-use basis. The main concern in cloud computing is the scheduling of processes, tasks, and resources such as CPU, memory, and peripherals. In a cloud environment, task scheduling can be done statically or dynamically. By allowing smart services, machine learning is another sector of the IT business that is playing a critical role in providing improved services and solutions to IT clients. The key



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## Question Answering System Using Natural Language Processing

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### Abstract:

Question Answering (QA) system is an information retrieval system within which an immediate answer is anticipated in response to a submitted query, instead of a collection of references that will contain the answers. It's a man-machine communication device. The essential idea of QA systems in Natural Language Processing (NLP) is to supply correct answers to the questions for the learners. This paper presents a survey of assorted styles of QA systems. These QA systems are classified as Text-based QA systems, Factoid QA systems, Web-based QA systems, Information Retrieval or Information Extraction based QA systems, Restricted Domain QA systems, and Rule-based QA systems. The paper further investigates a comparative study of those models for various kinds of questionnaires which led to a breakthrough for brand new directions of research during this area.

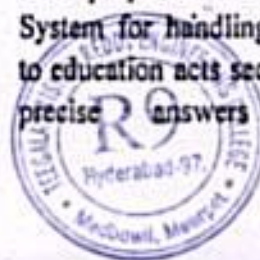
### Keywords:

Question Answering(QA) System, Natural Language Processing(NLP),

Information Retrieval(IR), Question Classification, Search Engine, Syntactic Parsing, Answer Extraction.

### 1. Introduction:

Question Answering (QA) system in information retrieval may be a task of automatically answering an accurate answer to the questions asked by humans in linguistic communication using either a pre-structured database or a set of language documents. It presents only the requested information rather than searching full documents sort of a computer program. As information in day-to-day life is increasing, so to retrieve the precise fragment of knowledge even for an easy query requires large and expensive resources. This is often the paper that describes the various methodology and implementation details of the question answering system for general language and also proposes the closed domain QA System for handling documents referring to education acts sections to retrieve more precise answers using linguistic processing.



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## Automatic Vacant Parking Management Using Multicamera Vehicle Detection

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**ABSTRACT:** This paper presents a multicamera system for vehicles detection and their corresponding mapping into the parking spots of a parking lot. Approaches from the state-of-the-art system, which work properly in controlled scenarios, have been validated using small amount of sequences and without more challenging realistic conditions (illumination changes and different weather conditions). On the other hand, most of them are not complete systems, but provide only parts of them, usually detectors. The proposed system has been designed for realistic scenarios considering different cases of occlusion, illumination changes, and different climatic conditions; a real scenario (the International Pittsburgh Airport parking lot) has been targeted with the condition that existing parking security cameras can be used, avoiding the deployment of new cameras or other sensors infrastructures. For design and validation, a new multicamera data set has been recorded. The system is based on existing object detectors (the results of two of them are shown) and different proposed postprocessing stages. The results clearly show that the proposed system works correctly in challenging scenarios including almost total occlusions,

illumination changes, and different weather conditions.

**Keywords:** *Parking management system, vehicle detection, homographies, perspective correction, automatic spot mapping, multicamera fusion.*

### 1. INTRODUCTION

Parking lots are a widely used service where a great investment is made every year. The management of these car parks is very expensive and in many cases complex, especially in the case of those that have many places such as airports or large commercial areas. Solving this problem using computer vision promises a number of advantages over intrusive sensors like induction loops or other weight-in-motion sensors [1]. In addition, a vision-based system may provide many value-added services, like parking space guidance and video surveillance [2]. Such systems allow the decongestion of crowded parking areas, directing vehicles to areas with lower occupancy, guiding the vehicles by a faster route.

# THEFT DETECTION SYSTEM

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**Abstract** - Theft Detection System is a house safety technology that helps in alerting the owner of the house in case of robbery. With our busy lives, it is not possible to monitor it 24\*7. Basically, this system is similar to a smart camera which will be able to detect any suspicious weapons or suspicious people entering the house. This system is capable of detecting people with inappropriate gestures or visiting at an unusual time and alerts the user via mail. This system is developed using the Image processing technique in which a dataset of weapons images is created first. Then, a model is built on the dataset using CNN which will be able to detect any weapons used during the robbery. This model is fed to the camera which will be able to alert the owner via mail. This system is further improved to also detect the people with suspicious face gestures like wearing masks that cover parts of the face. Based on the weapon detection and gestures of the guests visiting the guest, a score will be calculated. If the score is very high, an alarm sound is played which alerts the neighbors.

**Index Terms** - Convolutional Neural Network (CNN)

## I. INTRODUCTION

Robberies, burglaries, and thefts continue to be a problem across the country. According to the National Crime Records Bureau (NCRB), there were 2,44,119 occurrences of robbery, theft, burglary, and dacoity at residential premises in 2017. This was an increase of more than 10% from 2016. The financial losses incurred because of these thefts and burglaries are enormous. Property stolen from residential premises in 2017 was valued at over Rs. 2065 crores, up 40% from Rs. 1,475 crores stolen the previous year. Dealing with is burglary a major part, and restoring the lost property is another headache for the victims of burglary like the cost of replacing the lost property or asset, the expenses associated with the litigations, etc., It has so much impact on the victims financially, emotionally, and mentally. It is seen in most cases that people who have been the victims of burglary have faced physiological issues for several years.

Our motive is to reduce this number of crimes and the impacts of burglary via an automated system that can detect these kinds of acts and immediately alert the owner as well the neighbors of the house whose house is about to be robbed. In particular, the idea is to equip security cameras at homes and shops with a system. This allows the owners of the residence to act quickly and alert concerned authority members. To achieve this, we need a model which is trained to detect any weapons along with the person or suspicious face of the person using image processing when trying to enter the house or a shop. Basically, our idea is to develop a machine learning model which is capable of identifying if any burglary is about to happen and if it is confirmed, the owner should be immediately informed.

## II. LITERATURE SURVEY

**TITLE:** Automatic handgun detection alarm in videos using deep learning  
**AUTHOR:** Roberto Olmos, Siham Tabik, Francisco Herrera  
**YEAR:**2017

### DESCRIPTION:

Current surveillance and control systems still require human supervision and intervention. This work presents a novel automatic handgun detection system in videos appropriate for both surveillance and control purposes. We reformulate this detection problem into the problem of minimizing false positives and solve it by building the key training data-set guided by the results of a deep Convolutional Neural Networks (CNN) classifier, then assessing the best classification model under two approaches, the sliding window approach and region proposal approach. The most promising results are obtained by Faster R-CNN based model trained on our new database. The best detector shows a high potential even in low-quality youtube videos and provides satisfactory results as an



## DETECTION AND MONITORING MULTIPLE SHILLING ATTACK IN ONLINE MANAGEMENT SYSTEMS PREDICATED ON BISECTING K-MEANS CLUSTERING ALGORITHM.

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### ABSTRACT

While existing methods for detecting shillings attacks in online recommendation system are efficient in detecting individuals' offenders, they are not as effective at detecting group shilling operations. Using the bisecting K-means clustering technique, we offer a method for detecting coordinated shilling attacks. To begin, we take the ratings for each item and split them into groups based on a predetermined amount of time. Second, we suggest using the proportion of product concentration and usage data to determine the degree of suspicion around potential groupings. Research performed on the Netflix and Amazon data sets validate the superiority of the suggested strategy over the gold standard techniques.

**KEYWORDS:** ORS, bisecting K-means clustering technique, shilling attacks, dataset

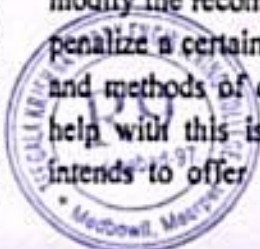
### 1.INTRODUCTION:

As more and more data becomes available online, the impact of information overload quickly emerges as a major concern. In order to help its users navigate the sea of data available online, sentiment classification compile lists of content they may find useful. But shilling assaults, in which malicious actors introduce a flood of attack profiles designed to skew the recommendations made by a system, leave online recommender systems open to manipulation. There are two types of trolling

operations, correspondingly designed to boost and lower the popularity of suggested goods (such as movies or products). There are several types of shilling assaults that have been well explored, such as the targeted attack, the averaging attack, the juggernaut attack, the reversal honeymoon attack, the median wage shift attack, the median income injection attack, and so forth. Attempted attacks on recommendation systems often include the injection of several, distinct attack configurations. In reality, many assailants may coordinate for a surprise, strategic assault. It has been shown that coordinated shilling practices, known as collective shilling assaults, pose a greater risk to the systems than individual shilling attacks. As a result, figuring out how to reliably spot coordinated assaults is a top priority.

### 2. LITERATURE SURVEY:

As a result of the exponential growth of online data, it might be challenging for users to discover the specific information they need. Online retailers use decision support systems, a subset of data filtering systems, to better serve their consumers. Regrettably, shilling/profile injecting attacks are possible with opinion mining, which is frequently used as a recommendation engine. These exploits modify the recommendation algorithm to favour or penalize a certain product. Several kinds of attacks and methods of detection have been developed to help with this issue throughout time. This work intends to offer an exhaustive review of shilling



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## EDUCATIONAL ERP (COMPLETE EDUCATION INSTITUTION ERP)

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### ABSTRACT

Educational ERP(Enterprise Resource Planning) is an easy way of accessing and analyzing the all aspects of college performance. ERP performs college register functions and provides a simple interface for maintenance of different student, faculty, library, administration and others information. We propose an approach to develop a educational ERP system which will have modules as admin, faculty and students.

Along with these modules there is a Plagiarism Detection which will detect the Plagiarism in an Assignment of the student. This plagiarism detector measures the similar text that matches and detects plagiarism. Respective faculty updates student attendance and semester-wise marks in student's profile. Through this the student's get access to analyze the up-to-date student's academic performance, along with attendance. Students can also check their marks attendance, syllabus, assignments through this system. A Cloud-based ERP system gives you access to all information anytime and from anywhere which means every student and faculty always have access to real-time business insights.

ERP now is experiencing the transformation that will make it highly integrated, more intelligent, collaborative, and web-enabled. Reason for choosing ERP for education are accessing information from paper files is difficult task, lack

of means to access old records, wastage of hundreds of hours by staff each month manually entering information or performing task that could be handled automatically like evaluation & generating results. ERP will solve these lacunas and help educational institutes to save their valuable time. This paper provides a limited set of modules and their implementation which are required by educational institutes to function smoothly.

### INTRODUCTION

Enterprise Resource Planning(ERP) system, popularly known as ERP system. Thus, the ERP system has become very popular as an enterprise management software tool. It was the larger Institutes and Companies that have opted to use the ERP systems initially. However, the use of ERP has changed and today the term can refer to any type of company, no matter what industry it falls in. In fact, ERP systems are used in almost any type of organization - large or small. The latest ERP tools available in the market today can cover a wide range of functions and integrate them into one unified database. This made ERP to land up into higher educational institutes. In today's competitive business world usage of ERP system is becoming a must for any educational organization to meet the challenges faced in their business process and to have a cutting



# MULTI MODEL RECOMMEND SYSTEM

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**Abstract:** From the last few decades Recommender System has tremendous rise in many of the webservices. Now -a-days most of the people uses e-commerce sites or online advertisements and the famous websites like Netflix, You-tube makes use of recommendation systems. It is a field of increasing importance with intense potential. Recommender System are created to solve the immense issues of the customer to make a best and easiest decision by analysing information and provides the more relevant and personalized information according to the user's choice. Most of the recommend system works by considering the feedback from the customers or content of items. Multimodal machine learning aims to build model that can process and relate the information from multiple modalities. Recommend System makes use multi-modality where we have very different types of inputs such as image, text, speech, graph etc, which are modalities and processed by the same machine learning model. Our paper focuses on recommendation methods that can be used in Multimodal Recommend System. A recommender system compels information filtering system running on machine learning (ML) algorithms that can predict a customer's ratings or preferences for a product.

## I. Introduction

Multimodal generally means having more than one mode. Multimodal recommender systems are the systems that capture users' styles and aesthetic preferences. That means it will recommend items based on input, history, and even match the color and pattern from the searched item. Multimodal recommender systems have been developed by using multimodal information of users and items. Recommender systems typically learn from user-item preference data such as ratings and clicks. This information is sparse in nature, i.e., observed user-item preferences often represent less than 5% of possible interactions. One promising direction to alleviate data sparsity is to leverage auxiliary information that may encode additional clues on how users consume items. Examples of such data (referred to as modalities) are social networks, item's descriptive text, product images. The objective of this tutorial is to offer a comprehensive review of recent advances to represent, transform and incorporate the different modalities into recommendation models. Moreover, through practical hands-on sessions, we consider cross model/modality comparisons to investigate the importance of different methods and modalities. The hands-on exercises are conducted with Cornac, a comparative framework for multimodal recommender systems.

## Keywords

- Recommender system
- Personalization
- Multimodality
- Content-Based Filtering
- Collaborative Filtering
- Hybrid Methods

Multi- Model Recommend System:



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## A COMPREHENSIVE STUDY OF MACHINE LEARNING ALGORITHMS FOR PREDICTING CAR PURCHASE BASED ON CUSTOMERS DEMANDS

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**Abstract:** Pricing in the online world is highly transparent & can be a primary driver for online purchase. While dynamic pricing is not new & used by many to increase sales and margins, its benefit to online retailers is immense. The proposed study is a result of ongoing project that aims to develop a generic framework and applicable techniques by applying sound machine learning algorithms to enhance right price purchase (not cheapest price) by customers on e-commerce platform. The automobile industry is one of the prominent industries for the national economy. Day by day car is getting popular for the private transport system. The customer needs review when he wants to buy the right vehicle, especially the car. Because it is a very costly vehicle. There are many conditions and factors matter before buying a new car like spare parts, cylinder volume, headlight and especially price. So, deciding everything, it is important for the customer to make the right choice of purchase which can satisfy all the criteria. Our goal is to help the customer to make the right decision whether he will buy a car or not. Therefore, we wanted to build a technique for decision making in-car buy system. That's why we propose some well-known algorithms to get better accuracy for a car purchase in our paper. We applied those algorithms in our dataset which contains 50 data. Among them, Support Vector Machine (SVM) gives the best result with 86.7% accuracy of prediction.

**Keywords:** SVM, KNN, Data base, auto mobile.



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# MACHINE LEARNING APPROACH TO STUDY THE IMPACT OF OBESITY ON AUTONOMIC NERVOUS SYSTEM USING HEART RATE VARIABILITY FEATURES

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**ABSTRACT:** Obese people have high chances of cardiovascular disease (CVD), which is supposed to be due to the alteration in autonomic nervous system (ANS) activity. The changes in ANS activity can be identified using heart rate variability (HRV). HRV is a non-invasive tool to measure the ANS activity using linear and non-linear HRV features. The paper presents an aim to understand the effect of obesity on ANS using HRV parameters. Initially, sixteen control and sixteen obese subjects of both the gender between ages 20 to 50 were involved in the study after that synthetic minority oversampling technique (SMOTE) was used to increase the sample size of control and obese subjects from sixteen to forty-eight. The statistically significant difference between two groups was observed using the independent t test. The statistical results of the study indicate the sympathovagal imbalance due to reduced parasympathetic activity. The statistical results were validated by incorporating the machine learning technique into the study. Machine Learning (ML) algorithm helps to identify the most important predictor that can clearly differentiate control and obese subjects. The statistical and ML algorithm result shows changes in the sympathovagal balance due to decreased parasympathetic activity.

**INDEX TERMS:** -Obesity, Cardiovascular Disease (CVD), Autonomic nervous system (ANS), Heart rate variability (HRV), Synthetic minority oversampling technique (SMOTE), Machine Learning (ML).

## I. INTRODUCTION

One of the leading disorders that enhance mortality in an obese person. The definition of obesity says an excessive fat accumulation in the body that resulted in chronic diseases like hypertension, CVD, myocardial infarction (MI), and diabetes. Many researchers have found a strong correlation between obesity and CVD. The study has suggested that an imbalance of autonomic activity increases CVD chances in obesity. The ANS is a control mechanism of the body that generally maintains homeostasis in the body. ANS regulates the glands, blood vessels, and internal organs. The ANS is divided into two branches sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). The SNS mobilizes the body systems to provide energy for the fight or flight response, whereas PNS conserve the energy by regulating the rest and digest response. HRV measures the effect of the ANS function on heart as the heart rate variability.

# SOIL PROPERTIES FOR AGRICULTURE USING MACHINE LEARNING TECHNIQUES

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**ABSTRACT:** The application of machine learning (ML) techniques in various fields of science has increased rapidly, especially in the last ten years. The increasing availability of soil data that can be efficiently acquired remotely and proximally, and freely available open-source algorithms, have led to an accelerated adoption of ML techniques to analyses soil data. Given the large number of publications, it is an impossible task to manually review all papers on the application of ML in soil science without narrowing down a narrative of ML application in a specific research question. This paper aims to provide a comprehensive review of the application of ML techniques in soil science aided by a ML algorithm (Latent Dirichlet Allocation) to find patterns in a large collection of text corpus. The objective is to gain insight into publications of ML applications in soil science and to discuss the research gaps in this topic. We found that: a) there is an increasing usage of ML methods in soil sciences, mostly concentrated in developed countries, b) the reviewed publication can be grouped into 12 topics, namely remote sensing, soil organic carbon, water, contamination, methods (ensembles), erosion and parent material, methods (NN, SVM), spectroscopy, modelling (classes), crops, physical and modelling (continuous), c) advanced ML methods usually perform better than simpler approaches thanks to their capability to capture non-linear relationships. From these findings, we found research gaps, in particular: about the precautions that should be taken (parsimony) to avoid overfitting, and that the interpretability of the ML models is an important aspect to consider when applying advanced ML methods in order to improve our knowledge and understanding of soil. We foresee that a large number of studies will focus on the latter topic.

**Index Terms:** Machine Learning, Agriculture, Prediction, Soil Properties.

## I. INTRODUCTION:

Therefore, the work presented in the paper concentrates on: a) Review the existing literature on ML techniques applications on prediction and assessment of agricultural soil properties with a focus on soil nutrient and fertility management. b) Analyzing the usage of different techniques and associated performance metric in each respective application c) Exploration of various research issues and challenges, along with a discussion on future research directions. The next subsection shall discuss the motivation and need for conducting the review and analysis.



# DECENTRALIZED WEB HOSTING USING BLOCKCHAIN

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**ABSTRACT:** This paper proposes a decentralized solution for web hosting based on Interplanetary file system (IPFS) and Ethereum blockchain. Particularly, we use Ethereum smart contracts to manage the IPFS network and the web hosting service. IPFS platform is used to store data and to host websites. All storage miner nodes on the IPFS network offer the pinning service to ensure that source codes of the websites and users' data are retained long-term. Moreover, these nodes also enable the interplanetary name space (IPNS) service for creating and updating mutable links to IPFS contents. TXT record is also used in the domain name system (DNS) to map domain names to IPNS addresses for hosted websites. For privacy-preserving data storage, websites need to be deployed an encryption algorithm. The proposed model that combines between the IPFS and blockchain networks to form a platform providing the decentralized web hosting service. Experiment illustrates building and hosting a web application on the IPFS network. Experimental results show that, compared to the traditional web hosting model, the hosted web application on the proposed platform ensures the confidentiality, integrity, and availability.

**Index Terms:** Interplanetary file system (IPFS), Block Chain, Ethereum, Domain Name System (DNS)

## I. INTRODUCTION:

A Web Hosting service is a type of internet service that makes websites available to the users over the internet, for almost a decade of internet service websites were / and are still hosted on a central server. This proposed system of hosting has made major parts of the internet "centralized". Centralization of data although has a lot of positives has raised a major question about "data privacy" as today's internet data is hosted by major central organizations. The concept of blockchain and decentralization gained popularity over the years, starting from 2010 and the introduction of bitcoin, the blockchain industry had a surge and this technology was involved in formation of a new gen web hosting technology which is purely decentralized and is known to manage and successfully run humongous websites. The decentralized package of webhosting comes with many sets of benefits and has successfully worked out a way to challenge the current widely used central server mechanism. Centralized or Decentralized web hosting have both their perks and drawbacks, and in this paper, we introduce the readers to the conceptual form of both procedures and deeply go through the perks and drawbacks of each hosting solution. The summary of the contributions of this work are listed below. a) This paper first covers the quick introduction of centralized and decentralized web-hosting. b) This paper describes the centralized architecture of web-hosting. c) This paper describes the quick comparison between centralized and decentralized architecture, and how decentralized is more secure and fast over centralized. d) This paper describes the key component required to make web-hosting fully decentralized. e) This paper elaborates the decentralized web-hosting using blockchain. The remainder of this paper is organized as follow. Section 2 Centralized architecture, Section 3 Decentralized architecture, Section 4

# Training and Placement Cell Android Application

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- Abstract** - Placement and Training (PAT) cell is the bridge between the students and businesses that visit the recruitment campus so that all Placement and Training cell information and activities are relevant. By automating critical Placement and Training cell tasks such as displaying notifications, holding student information, student qualifications, business requirements, training sessions, schedule of interviews, planning seminars, etc. The program aims to reduce human resources and errors. To achieve that automation, we developed an Android framework. The proposed system is an Android application to monitor mobile student information and keep them up to date on the latest activities at the college. The program will be used by the students, teachers and parents. Let n number of students, n number of streams, n number of recruiters be running the placement process smoothly. As an Android application it's portable and acceptable to most users.

## I INTRODUCTION

Placement and Training (PAT) cell is the bridge between the students and businesses that visit the recruitment campus so that all Placement and Training cell information and activities are relevant. By automating critical Placement and Training cell tasks such as displaying notifications, holding student information, student qualifications, business requirements, training sessions, schedule of interviews, planning seminars, etc. The program aims to reduce human resources and errors. To achieve that automation, we developed an Android framework. The proposed system is an Android application to monitor mobile student information and keep them up to date on the latest activities at the college. The program will be used by the students, teachers and parents. Let n number of students, n number of streams, n number of recruiters be running the placement process smoothly. As an Android application it's portable and acceptable to most users.

## II Literature survey

### 2.1 ANDROID BACKGROUND

Android is an operating system (OS) developed by the Open Handset Alliance (OHA). The Alliance is a coalition of more than 50 mobile technology companies ranging from handset manufacturers and service providers to semiconductor manufacturers and software developers, including Acer, ARM, Google, eBay, HTC, Intel, LG Electronics, Qualcomm, Sprint, and T-Mobile. The stated goal of the OHA is to "accelerate innovation in mobile and offer consumers a richer, less expensive and better mobile experience" The Java platform and the SDK tools were available in October 2008. There is single mobile phone that runs the Android OS which was G1 from T Mobile. According to the Android website the platform is based into the four core features.



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# Driver Distraction Detection Using CNN

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**Abstract:** The ultimate aim of this project is to reduce the road accidents and there are several reasons for occurrence of large number of accidents. One of the main and biggest cause is the driver's distraction while driving, so by detecting the driver's distraction and giving an alert to maintain the driver's focus can ultimately reduce the number of accidents. The technology we worked with in this study follows deep neural networks and image processing to prevent accidents brought on by distracted driving. In order to categorize distracted drivers into distinct groups, a CNN-based approach with vgg16 technique is employed to extract the activities of the driver from the driver picture collection. The dataset of all images, which comprises of 10 activities in 26 distinct subjects including texting, using a phone while driving, looking into the mirror, safe driving, drinking, turning behind etc., is used to create a deep learning model. When a video input is given detection is done frame by frame and as soon as the distraction is detected an alarm is given to the driver. Results from 10 epochs demonstrate that all experiments had accuracy levels more than 75%, with the greatest result being 97%.

**Index Terms:** Convolutional Neural Network (CNN), Image processing, vgg16.

## I. INTRODUCTION

A driver is said to be distracted when he/she undergo some activity by which they ultimately lose their concentration on the driving. The driver is the key actor in all aspects of vehicle control, including steering, braking, acceleration, and other actions. All traffic participants, their goods, and these fundamental responsibilities must be completed securely. Nevertheless, drivers frequently spend time and energy on pursuits aside from their essential duties. Secondary tasks are any other activities that drivers engage in while operating a vehicle. They can be broken down into interactions with in-vehicle information systems (IVIS), which include monitoring and managing vehicle state, navigating, providing information and entertainment, etc., and interactions with people, such as passengers and pets, or with items that people have brought into the car, like portable electronic devices. Driver distraction is described as an action that a driver takes that diverts their focus away from their primary task of controlling the forward and lateral movement of their vehicle, thereby their ability to drive safely. It seems to be caused by some circumstance, action, thing, or person within or outside the car that forces or prompts the driver to divert their focus from their main goal. Driving comfort, entertainment, and navigation have been significantly improved thanks to an upgrade of IVIS. IVIS draws extra drivers' attention at the same time, though. It raises DD, which frequently causes car accidents with fatal outcomes. More than 420000 injuries are caused by distracted driving each year. Additionally, more than 3100 drivers pass away suddenly in car accidents per year in the USA alone as a result of DD.

## II. EXISTING SYSTEM

The current research focuses on identifying driver sleepiness to prevent accidents. However, losing control due to sleep is only one of several distraction-related behaviours that contribute to accidents. For the purpose of DD detection, a number of machine learning techniques have also been developed. All of these systems employ the Boolean binary categorization of "distracted" or "not distracted." For true IVIS comparison, these solutions are not appropriate for various HMI systems. A DD level has never been accurately measured, particularly when using performance-based metrics and interfacing with IVIS.

### A. Limitations of Existing System

- 1) The main idea of drowsiness detection is to reduce accidents but the solution in that sticks only to detect drowsiness and fails to detect other accidents causing activities.
- 2) Not flexible to detect other distractions to avoid accidents.
- 3) Some existing systems use the Boolean binary classification (distracted/not distracted).
- 4) Issue with Low Accuracy. Since the real time usage needs good accuracy.



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# STATELESS RESTFUL SERVER

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**Abstract-** Software as a service (SaaS) is a software distribution model in which a cloud provider hosts applications and makes them available to end users over the Internet. In this model, an independent software vendor (ISV) may contract a third-party cloud provider to host the application. Stateless information servers do not keep track of which clients are accessing them. Micro services architecture is an approach in which a single application is composed of many loosely coupled and independently deployable smaller services. Implementing micro services we intend to develop a SaaS application that is stateless which can be hosted on any cloud providers infra. We intend to develop a elastic, scalable software.

## 1 INTRODUCTION

Service-oriented architecture (SOA) has emerged as a means of developing distributed systems where the components are stand-alone services [37]. Services are basic units which are developed independently and made accessible over the Internet. Standard Internet protocols are used for service communication among different computers. SOA provides many advantages to develop easy and economic distributed software systems and, therefore, it is the leading technology for interoperability on today's internet world. Service-oriented software engineering defines evolution of existing software engineering approaches to develop dependable and reusable services considering the requirements and characteristics of this technology [37]. Service-oriented computing (SOC) is the paradigm that utilizes services as the fundamental elements for developing applications. Therefore, service-oriented software engineering aims at designing and developing service-based applications consonant with SOC paradigm and SOA principle's using software engineering methodologies.

After the popularity of cloud computing in recent years, new trends in the software engineering have emerged, such as going to market with minimal viable product and making small development teams autonomous. The architectural styles have also evolved based on the cloud environment needs [36]. One of those new architectural styles is microservices. The aim of the microservices is to divide the business behavior into small services which can run independent of each other. As mentioned by Martin Fowler, "While there is no precise definition of this architectural style, there are certain common characteristics around organization around business capability, automated deployment, intelligence in the endpoints, and decentralized control of languages and data". Another definition for microservices is "Microservices are small, autonomous services that work together".



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# PREDICTIVE ANALYTICS FOR CRUDE OIL PRICE USING RNN-LSTM NEURAL NETWORK

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**Abstract** - Prediction of future crude oil price is considered a significant challenge due to the extremely complex, chaotic, and dynamic nature of the market and stakeholder's perception. The crude oil price changes every minute, and millions of shares ownerships are traded every day. The market price for commodity such as crude oil is influenced by many factors including news, supply-and-demand gap, labor costs, amount of remaining resources, as well as stakeholders' perception. Therefore, various indicators for technical analysis have been utilized for the purpose of predicting the future crude oil price. Recently, many researchers have turned to machine learning approached to cater to this problem. This study demonstrated the use of RNN-LSTM networks for predicting the crude oil price based on historical data alongside other technical analysis indicators. This study aims to certify the capability of a prediction model built based on the RNN-LSTM network to predict the future price of crude oil. The developed model is trained and evaluated against accuracy matrices to assess the capability of the network to provide an improvement of the accuracy of crude oil price prediction as compared to other strategies. The result obtained from the model shows a promising prediction capability of the RNN-LSTM algorithm for predicting crude oil price movement.

• **Index Terms** - RNN-LSTM, Chaotic, Stake Holder's

## I. INTRODUCTION

Crude oil has become increasingly important for the global economy, with nearly two-thirds of the world's electricity generation relying on crude oil and natural gas. As an extraordinary commodity, raw petroleum trades involve a wide variety of international players, including oil producing countries, oil companies, suppliers of treatment plants, oil trading countries, and theorists. Due to the importance of the commodity to the development of a country, a sharp shift in the value of crude oil can lead to a turmoil in monetary action and the economy of a country.

The cost of crude oil can affect the economy of a country in two ways. A rapid rise in the cost of crude oil has antagonistic effects on financial growth and causes inflation to rise. By contrast, a drop in the cost of crude oil (such as in 1998) may pose serious financial shortfall challenges for oil exporting countries.

Various studies have been conducted to visualize the impact of crude oil price changes on the economy of countries. For instance, a study by Sari has summarized the impact of world crude oil prices on the Malaysian economy— specifically on the country's income as Malaysia is an oil producing country, and its economic

# BRAIN TUMOR CLASSIFICATION AND DETECTION USING MRI SCAN IMAGES

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**Abstract-** A Brain tumor is considered as one of the aggressive diseases, among children and adults. Brain tumors account for 85 to 90 percent of all primary Central Nervous System(CNS) tumors. Every year, around 11,700 people are diagnosed with a brain tumor. The 5-year survival rate for people with a cancerous brain or CNS tumor is approximately 34 percent for men and 36 percent for women. Brain Tumors are classified as: Benign Tumor, Malignant Tumor, Pituitary Tumor, etc. Proper treatment, planning, and accurate diagnostics should be implemented to improve the life expectancy of the patients. The best technique to detect brain tumors is Magnetic Resonance Imaging (MRI). A huge amount of image data is generated through the scans. These images are examined by the radiologist. A manual examination can be error-prone due to the level of complexities involved in brain tumors and their properties. Application of automated classification techniques using Machine Learning(ML) and Artificial Intelligence(AI) has consistently shown higher accuracy than manual classification. Hence, proposing a system performing detection and classification by using Deep Learning Algorithms using Convolution Neural Network (CNN), Artificial Neural Network (ANN) would be helpful to doctors all around the world.

**Index Terms-** Brain Tumor classification, Machine learning techniques, Convolution Neural Network

## 1. INTRODUCTION

Medical imaging refers to several techniques that can be used as non-invasive methods of looking inside the body. The main use of medical image in the human body is for treatment and diagnostic purposes. So, it plays a significant role in the betterment of treatment and the health of the human. Image segmentation is a crucial and essential step in image processing that determines the success of image processing at a higher level. In this case we have mainly focused on the segmentation of the brain tumour from the MRI images. It helps the medical representatives to find the location of the tumour in the brain easily. Medical image processing encompasses the utilization and exploration of 3D image datasets of the physical body, obtained most typically from computed tomography (CT) or Magnetic Resonance Imaging (MRI) scanner to diagnose pathologies or guide medical interventions like surgical planning, or for research purposes. Medical image processing is applied by radiologists, engineers, and clinicians to understand the anatomy of either individual patients or population groups highly. Measurement, statistical analysis, and creation of simulation models which incorporate real anatomical geometries provide the chance for more complete understanding, as an example of interactions between patient anatomy and medical devices.

There are three basic types of tumors: 1) Benign; 2) Pre-Malignant; 3) Malignant (cancer can only be malignant).

In this project we are exploring Malignant brain tumours and its types. They are mainly Glioma, Meningioma, pituitary tumors.

### Scope of the Project

The scope of the project is to detect the brain tumor and its classification by considering the dataset with some features which include the major types of tumors. The given MRI scan image is considered as an input and pre-process the data, further the model is trained by using the Convolution Neural Network. The output provides the classified result of the brain tumor of the provided MRI scan image. Python is used as a platform for the progress of the required output in this project.



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## THE DETECTION OF VIDEO MANIPULATION OF FACES USING A NETWORK OF CONVOLUTIONAL NEURAL NETWORKS

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### ABSTRACT

These days, it is not difficult to conceive scenarios that these lifelike face swapped deep fakes are used to influence political circumstances, organise terrorist acts, or blackmail people. In this paper, we offer a novel approach based on deep learning that is able to efficiently differentiate between actual movies and fraudulent ones created by artificial intelligence. Our approach employs a Res-Next Convolution neural network to extract the frame-level characteristics, and these features are then utilised to train a Long Short Term Memory (LSTM) based Recurrent Neural Network (RNN) to classify if the video has been subjected to any form of manipulation or not, i.e. whether the video is a deep fake or true video. Our technique is evaluated using a large quantity of balanced and mixed data sets, which were created by combining a number of other publicly accessible data sets, such as Face-Forensic++, the Deepfake detection challenge, and Celeb-DF.

Keywords: LSTM,RNN, data-set, Res-Next Convolution neural network, deep learning, AI

### 1.INTRODUCTION:

In the rapidly evolving world of social media platforms, deep fakes are viewed as the greatest danger posed by artificial intelligence. Realistic face swap deep fakes may be used in a variety of settings to create political unrest, conduct phoney terror acts, or blackmail individuals. Examples include Brad Pitt and many more.

Differentiating deepfake from real video is a pressing concern. We're employing AI to fight AI. Deep fakes may be created with the use of software like FaceApp and Face Swap, both of which rely on pre-trained neural networks like GAN and Auto encoders. Our approach employs an LSTM-based convolutional neural network for processing the sequential temporal analysis of video frames, and a pre-trained Res-Next CNN for extracting frame-level features. ResNext Convolution neural network captures frame-level information to detect whether a video is Deepfake or genuine. These attributes are then utilised to teach a short-term memory-based artificial recurrent neural network. In order to better prepare the movies for the customers' usage, we have developed a front-end application that allows users to submit the videos. Once the video has been processed by the model, the model's

confidence in its deepfake/real verdict and its rendered result will be presented back to the user.

### 2.LITERATURE SURVEY:

By comparing the generated face areas and their surrounding regions with a specific Convolutional Neural Network model, Face Warping Artifacts [15] developed a method to identify artefacts. There were two types of face artefacts in this work. They developed their technique in response to the realisation that the current deepfake algorithm can only produce images of a certain resolution, which must then be further modified to match the faces to be substituted in the source video. The temporal analysis of the frames was not taken into account in their methodology. The article Detection by Eye Blinking proposes a novel technique for classifying videos as deepfakes or pristine by using the eye blinking as a key characteristic. The cropped frames of eye blinking were temporally analysed using the Long-term Recurrent Convolution Network (LRCN). Since today's deepfake creation algorithms are so advanced, the absence of eye blinking cannot be the only indicator of a deepfake. For the detection of profound fakes, additional factors like teeth enchantment, facial wrinkles, incorrect brow positioning, etc. must be taken into account. Capsule networks to detect forged images and videos

[17] employs a technique that uses a capsule network to find fake, altered images and videos in a variety of situations, such as replay attack detection and computer-generated video detection. Their approach uses random noise during the training phase, which is not a good choice. Even so, the model showed promise in their dataset, but it may falter on real-time data due to training noise. It is suggested that our approach be trained on real-time, noiseless datasets. Independent of the creator, content, resolution, and video quality, False Catcher accurately identifies fake content. Formulating a differentiable loss function that follows the suggested signal processing steps is not a simple task because the lack of a discriminator results in a loss in their discoveries to preserve biological signals.

### 3.OBJECTIVE:

However For a long time, visual effects were the only way to show off changes to digital images and videos that were convincing. However, recent advances in deep learning have greatly increased the realism of false material while also

## Vehicle Movement Based Automatic Street Light Using IOT

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### Abstract

Smart Street light is an automated system which automates the street. The main aim of Smart Street light is to reduce the power consumption when there are no vehicle movements on the road. The Smart street light will glow with high intensity when there are vehicles on the road otherwise the lights will remain dim. With advancement of technology, things are becoming simpler and easier for everyone in the world today. Automation is the use of control systems and information technologies to reduce the need for human work in the production of goods and services. In the scope of industrialization, automation is a step beyond mechanization, whereas mechanization provided human operators with machinery to assist the users with the muscular requirements of work, automation greatly decreases the need for human sensory and mental requirements as well. Automation plays an increasingly important role in the world economy and in daily experience. Automatic systems are being preferred over manual system. The research work shows automatic control of streetlights as a result of which power is saved to an extent. The Smart street light provides a solution for energy saving which is achieved by sensing an approaching vehicle using the IR sensors intensity and then switching ON a block of street lights ahead of the vehicle with high As the vehicle passes by, the trailing lights turn dim automatically. Thus, we save a lot of energy. So when there are no vehicles on the highway, then all the lights will remain dim, and also this system can also have a IOT based street light monitoring system through which one can control the lights through the server as per their requirement.

**Keywords:** NodeMCU ESP8266, Blynk App, Power supply circuit, LED'S,IOT, LDR.

### 1. Introduction

This paper shows the design to detect the vehicle movement on roadways to switch ON just a block of road lights in front of it, and to turn OFF the trailing lights to save energy. During night each one of the lights on the expressway stay ON for the vehicles, yet loss of power is experienced when there is no vehicle movement. This proposed framework satisfactorily works for energy saving. This is accomplished by detecting a vehicle moving towards the street and turns ON a block of street lamps in front of the vehicle. As the vehicle moves forward by, the trailing lamps turn OFF on its own [8]. By doing this, a considerable amount of power is saved. So each of the road lights stay in OFF condition when there are no vehicles on the street [1, 3].

There is another method of operation where instead of turning OFF the lights totally, they stay ON with ten percent of the extreme intensity of the light [7]. As the vehicle approaches, the block of road lamps change to hundred percent intensity and as the vehicle moves forward by, the trailing lights return to ten percent power once more. HID lamps are utilized for metropolitan road lights [5, 9]. The intensity is not governable by any voltage diminishment technique since HID depends on the principle of gas release. White LED based lights are soon supplanting the high intensity discharge lights in road light. Intensity is likewise conceivable by PWM created by the microcontroller. The photodiode and IR LED<sup>s</sup> delivers logic signal to microcontroller to turn ON or OFF depending upon the operation [2, 4]. Consequently, this progressively changing from ON/OFF sides in saving a great deal of power.



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# Traffic Sign Board Recognition And Voice Alert System

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**Abstract:** -Millions of people are injured annually in vehicle accidents. Most of the traffic accidents are the result of carelessness, ignorance of the rules and neglecting traffic signboards, both at the individual level by the drivers and the society at large. The magnitude of road accidents in India is alarming. This is evident from the fact that every hour there are about 56 accidents taking place similarly, every hour more than 14 deaths occur due to road accidents. When someone neglects to obey traffic signs, they are putting themselves at risk as well as other drivers, their passengers and pedestrians. All the signs and signals help keep order in traffic and they also are designed to reduce the number and severity of traffic accidents. Some drivers believe that some traffic signs are simply not necessary.

## INTRODUCTION:

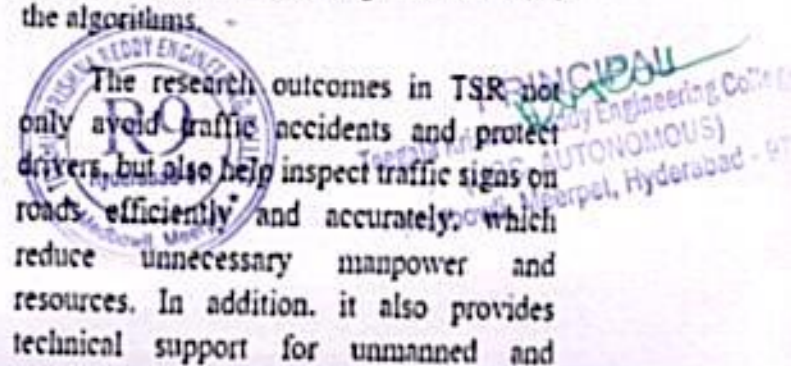
In recent years, with the outbreak of Artificial Intelligence (AI), the vehicle-aided driving system has updated previous driving mode. By acquiring real-time road condition information, the system promptly reminds drivers to make accurate operations, thereby prevent car accidents due to driver fatigue. In addition to the auxiliary driving systems, development of autonomous vehicles also requires rapid and accurate detection of traffic signs from digital images.

Traffic Sign Recognition (TSR) is to

digital images or video frames, given a specific classification. The TSR methods basically make use of visual information such as shape and color of traffic signs. However, the conventional TSR algorithms are facing drawbacks in real-time tests, such as being easily restricted by driving conditions, including lighting, camera angle, obstruction, driving speed, and so on. It's also very difficult to achieve multitarget detection, easy to miss visual objects because of slow recognition.

With continuous improvement of computer hardware, the limitation of artificial neural networks has been well alleviated, which has brought machine learning into a golden time of development. Deep learning is a type of machine learning methods. A deep neural network model simulates the neural structure of our human brain while processing information. Using this neural network model to extract the effective features from the road image is much better than the conventional TSR algorithms, which has the potential to improve the robustness and generalization of the algorithms.

The research outcomes in TSR not only avoid traffic accidents and protect drivers, but also help inspect traffic signs on roads efficiently and accurately, which reduce unnecessary manpower and resources. In addition, it also provides technical support for unmanned and



## SECURE AND DYNAMIC MULTI KEYWORD RANKED SEARCH SCHEME OVER ENCRYPTED CLOUD DATA FOR IMPROVING EFFICIENCY

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### ABSTRACT

A Secure and Dynamic Multi-keyword Ranked Search Scheme over Encrypted Cloud Data Due to the increasing popularity of cloud computing, more and more data owners are motivated to outsource their data to cloud servers for great convenience and reduced cost in data management. However, sensitive data should be encrypted before outsourcing for privacy requirements, which obsoletes data utilization like keyword-based document retrieval. In this paper, we present a secure multi-keyword ranked search scheme over encrypted cloud data, which simultaneously supports dynamic update operations like deletion and insertion of documents. Specifically, the vector space model and the widely-used TFIDF model are combined in the index construction and query generation. We construct a special tree-based index structure and propose a "Greedy Depth-first Search" algorithm to provide efficient multi-keyword ranked search. The secure kNN algorithm is utilized to encrypt the index and query vectors, and meanwhile ensure accurate relevance score calculation between encrypted index and query vectors. In order to resist statistical attacks, phantom terms are added to the index vector for blinding search results. Due to the use of our special tree-based index structure, the proposed scheme can achieve sub-linear search time and deal with the deletion and insertion of documents flexibly. Extensive experiments are conducted to demonstrate the efficiency of the proposed scheme.

### 1. INTRODUCTION

With the advent of cloud computing, it has become increasingly popular for data owners to outsource their data to public cloud servers while allowing data users to retrieve this data. For privacy concerns, secure searches over encrypted cloud data have motivated several research works under the single owner model. However, most cloud servers in practice do not just serve one owner; instead, they support multiple owners to share the benefits brought by cloud computing. In this paper, we propose schemes to deal with Privacy preserving Ranked Multi-keyword Search in a Multi-owner model (PRMSM). To enable cloud servers to perform secure search without knowing the actual data of both keywords and trapdoors, we systematically construct a novel secure search protocol. To rank the search results and preserve the privacy of relevance scores between keywords and files, we propose a novel Additive Order and Privacy Preserving Function family. To prevent the attackers from eavesdropping secret keys and pretending to be legal data users submitting searches, we propose a novel dynamic secret key generation protocol.



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# PEDESTRIAN DETECTION PREVENT VEHICLE ACCIDENTS

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**Abstract** - Autonomous Vehicles (AVs) have the potential to solve many traffic problems, such as accidents, congestion and pollution. However, there are still challenges to overcome, for instance, AVs need to accurately perceive their environment to safely navigate in busy urban scenarios. The aim of this project is to review recent articles on computer vision techniques that can be used to build an AV perception system. AV perception systems need to accurately detect non-static objects and predict their movement, as well as to detect static objects and detect the information they are providing. This project, focuses on the computer vision techniques used to detect pedestrians and vehicles. There have been many projects and reviews on pedestrians and vehicles detection so far. However, most of the past projects only reviewed pedestrian or vehicle detection separately. This review aims to present an overview of the AV systems in general, and then review and investigate several detection computer vision techniques for pedestrians and vehicles. The review concludes that both traditional and Deep Learning (DL) techniques have been used for pedestrian and vehicle detection; however, DL techniques have shown the best results. Although good detection results have been achieved for pedestrians and vehicles, the current algorithms still struggle to detect small, occluded, and truncated objects. In addition, there is limited research on how to improve detection performance in difficult light and weather conditions.

## I .INTRODUCTION

In recent years, many countries around the world have been facing road traffic issues such as accidents, congestion, and pollution. According to WHO, in 2016, the number of fatalities due to road traffic accidents reached 1.35 million, and approximately 20 to 50 million people are injured each year. In addition, it was reported that road traffic accidents are the primary reason for the deaths of children and young adults. Human error and imprudence, for instance, fatigue, drink-and-driving, using mobile phones while driving and speeding, are two of the main factors that contribute to these extreme numbers. In order to decrease road traffic accidents and fatalities, the following measures were presented: enforce legislation to avoid human error and imprudence, improve vehicle safety to avoid or mitigate collisions, and post-crash care to increase the chance of saving lives. The advanced driver assistance system (ADAS) is one of the proposed solutions to make vehicles safer and to reduce driver error.

## II Literature survey

Edges characterize boundaries and are therefore a problem of fundamental importance in image processing. Edges in images are areas with strong intensity contrasts - a jump in intensity from one pixel to the next. Edge detecting an image significantly reduces the amount of data and filters out useless information, while preserving the important structural properties in an image.

Based on these criteria, the canny edge detector first smoothens the image to eliminate noise. It then finds the image gradient to highlight regions with high spatial derivatives. The algorithm then tracks along these regions and suppresses any pixel that is not at the maximum using non-maximum suppression. The gradient array is now further reduced by hysteresis to remove streaking and thinning the edge.



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## APPLICATION OF DEEP LEARNING IN WASTE MANAGEMENT

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### ABSTRACT

One of the main concerns with our environment has been waste management which in addition to disturbing the balance of the environment also has adverse effects on the health of the society. With the development of technologies, the traditional waste management system can be replaced to perform real-time monitoring and allow for better waste management. The aim of this project is to develop a smart waste management system using a deep learning model. It performs object detection with the help of the pre-trained detection model with images. CNN accomplishes high characterization on classification accuracy, which is around 90%.

### INTRODUCTION

Garbage management refers to appropriate waste treatment in a sustainable and cost-effective manner. In accordance with the laws on waste management, this involves the purchase, treatment, transport, and recycling of trash. Waste may be solid, liquid, or gas, as well as individual form, and has distinct dumping as well as a management system. Garbage treatment covers all types of waste, including household, agricultural and environmental

waste. Waste treatment, proper sanitation, and effective disposal of the remains generated are necessary. Due to inconsistent removal of trash occupancy, space for waste disposal has also been determined to be excessively busy.

Waste management deals with all types of waste, including industrial, biological, household, municipal, organic, biomedical, and radioactive wastes. In some cases, waste can pose a threat to human health. Health issues are associated with the entire process of waste management. Health issues can also arise indirectly or directly. Directly, through the handling of solid waste, and indirectly through the consumption of water, soil, and food. Waste is produced by human activity, for example, the extraction and processing of raw materials. Waste management is intended to reduce the adverse effects of waste on human health, the environment, planetary resources, and aesthetics.

Proper management of waste is important for building sustainable and liveable cities, but it remains a challenge for many developing countries and cities. A report found that effective waste management is relatively expensive, usually comprising 20%-50% of municipal



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# SMART STREET-AN (AI) ARTIFICIAL INTELLIGENCE POWERED STREET GARBAGE DETECTION AND ALERT SYSTEM

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**Abstract-** The aim of this research is to develop a smart waste management system using TensorFlow based deep learning model. It performs real time object detection and classification. The bin consists of several compartments to segregate the waste including metal, plastic, paper. Object detection and waste classification is done in TensorFlow framework with pre-trained object detection model. This program classifies an input image as clean/unclean. This can later be used to automatically send alerts to respective authorities when a street is found to be unclean. Once a street is found to be unclean, it automatically sends an email alert to the respective authorities who can then take action. It is impossible to manually identify streets that require cleaning at a given time. With "CCTV Street Garbage Detection And Alert System", authorities can get updates about the streets that are unclean.

## I. INTRODUCTION

Monitoring and cleanliness assessment of garbage area in urban scenes mainly rely on manual inspection and photographic record, which makes it a difficult and time consuming task. During the inspection process, human intervention and cumbersome problems often happen. The quality of sanitation work has been affected. Different from pedestrians, vehicles and other objects, garbage have no relatively clear definition. Due to the judgment of garbage always has certain subjectivity, in different situations, it will produce different judgment results. Since the diversity of scenes where garbage appears, accuracy of test results will be affected. With the development of smart city, we expect to provide an automatic detection method of urban garbage to help alleviate urban garbage problems. Before the development of deep neural networks, features were manually designed, then followed by a classifier. Some research focused on the classification and recycling of garbage a few years ago. For example, Sudha S et al. proposed a model for classifying objects as biodegradable and non-biodegradable. Although the traditional object detection already has some mature techniques, due to the morphological diversity, illumination diversity, background diversity and other factors of the target object, the detection precision for the unfixed form objects such as urban garbage is still a tough problem to solve. The past decade has witnessed a rapid development of massive data and high-performance computing systems such as graphics processing units (GPUs). Now regionbased CNN detection methods have dominated many tasks of computer vision. It is such an exciting area that can extract the high-level features and the hierarchical feature representations of the objects. Girshick et al. introduced a region-based CNN (RCNN) for object detection, from 2014 to now, R-CNN, Fast R-CNN, Faster R-CNN, ION, HyperNet, SDP-CRC, YOLO, G-CNN, SSD and other increasingly fast and accurate object detection methods have emerged.

### Scope of the Project

The scope of the project is Monitoring and cleanliness assessment of garbage area in urban scenes mainly rely on manual inspection and photographic record, which makes it a difficult and time consuming task. Traditional waste management system operates based on daily schedule which is highly inefficient and costly. The existing recycle bin has also proved its ineffectiveness in the public as people do not recycle their waste properly. With the development of smart city, we expect to provide an automatic detection method of urban garbage which makes it easy. This Machine Learning based program is built using tensorflow and classifies images from any CCTV camera to identify streets that are unclean. The model is trained with hundreds of images of clean and unclean images so as to let the program identify a new image as clean or unclean.

## II. LITERATURE SURVEY

The cleanliness of city street is directly related to the city's public image. To maintain the streets clean, different methodologies have been developed in the past years. These methodologies can be classified into two directions: evaluating the street cleanliness, monitoring the waste. In order to evaluate the street cleanliness, Sevilla et al. proposed a clean index for measuring the level of cleanliness of the



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# GPS & GSM based Women Safety & Alerting System

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**Abstract** - The world is becoming so much more unsafe for women. Social evils like molestations, dowry, crime against women, worst among all is rape is on the rise in many countries. Security for women is still a major issue as the number of crimes over women and girls is increasing day-by-day. The Aim of this project is to protect women from dangerous situation by sending GPS location to a predefined number. For sending location alerts we are making use of GSM network and SMS messaging system. This system is composed of a GPS receiver, Microcontroller and a GSM Modem. GPS Receiver gets the location information from satellites in the form of latitude and longitude. The Microcontroller processes this information and this processed information is sent to the police/parents using GSM modem. This system also provides Laser Gun based fighting system for self-defense. The presented application is a low cost solution for sending location alerts and very useful in case of dangerous situations, for monitoring adolescent kids by their parents as well as in car tracking system applications. The proposed solution can be used in other types of application, where the information needed is requested rarely and at irregular period of time (when requested).

## I INTRODUCTION

This project aims at securing the woman during dangerous situation by sending their location using GSM and GPS receiver to a predefined number. This system also provides Laser Gun based fighting system for self-defense. This tracking system is composed of a GPS receiver, Microcontroller and a GSM Modem and Laser Gun. GPS Receiver gets the location information from satellites in the form of latitude and longitude. The Microcontroller processes this information and this processed information is sent to the user/owner/Police using GSM modem. Microcontroller also gets the speed of the vehicle and sends it to user/owner/Police. An embedded system is a combination of software and hardware to perform a dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers. Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not only accepts the data as inputs but also manipulates it, interfaces the data with various devices, controls the data and thus finally gives the result. The "Women Safety Alert" using PIC16F876A microcontroller is an exclusive project which is used to find the position of the vehicle on the earth. This information is provided by the GPS with the help of the data it receives from the satellites. An embedded system is a computer system designed to perform one or a few dedicated functions often with real-time computing constraints. It is embedded as part of a complete device often including hardware and mechanical parts. By contrast, a general-purpose computer, such as a personal computer (PC), is designed to be flexible and to meet a wide range of end-user needs. Embedded systems control many devices in common use today.



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## IMAGE CLASSIFICATION OF ABNORMAL RED BLOOD CELLS USING DEEP LEARNING

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### ABSTRACT

In the medical field, the analysis of the blood sample of the patient is a critical task. Abnormalities in blood cells are accountable for various health issues. Red blood cells (RBCs) are one of the major components of blood. Classifying the RBC can allow us to diagnose different diseases. The traditional, time-consuming technique of visualizing RBC manually under the microscope, is a tedious task and may lead to wrong interpretation because of the human error. The various health conditions can change the shape, texture, and size of normal RBCs. The proposed method has involved the use of image processing to classify the RBCs with the help of convolution neural networks. The algorithm can extract the feature of each segmented cell image and classify it into 9 various types. Images of blood slides were collected from the hospital. The overall accuracy was 94.04%. The system has been developed to provide accurate and fast results that can save patients' lives.

### INTRODUCTION

#### 1.1 MOTIVATION

This methodology somehow is difficult and prone to human error. Thus, classifying the abnormal red blood cells using image

processing is created using the high technologies.

#### 1.2 PROBLEM DEFINITION

Mohammad Syahputra Et. Al (2017) said that morphological examination of peripheral blood smears done manually is less efficient and the shapes of the abnormal red blood cells found is not always the same for every analyst because of precision factor, concentration, and lack of knowledge.

#### 1.3 OBJECTIVE OF PROJECT

The objective of this study is to create a system that can classify 10 abnormal red blood cells and to know the reliability rate of classification of each abnormal red blood cells. Previous studies are usually limited to two to four abnormal red blood cell. Thus, the proponents aimed to create a maximized system.

#### 1.4 LIMITATIONS OF PROJECT

Moreover, a blood is made up of many parts, mostly the red blood cells, white blood cells, platelets and plasma. Abnormalities of red blood cells vary through size or anisocytosis, through shape or poikilocytosis, in color and even through the presence of inclusion bodies



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# IOT BASED COAL MINE SAFETY MONITORING AND ALERTING SYSTEM

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- Abstract** - Safety is the most vital part of any type of industry. In the mining industry safety and security is a fundamental aspect of all. To avoid any types of accidents mining industry follows some basic precautions. Still accidents take place in underground mines due to rise in temperature, increased water level, and methane gas leakage. Here we provide safety to worker. When worker in danger he can press panic switch inform security. To enhance safety in underground mine, a reliable communication system must be established between workers in underground mines and fixed ground mine system. The communication network must not be interrupted at any moment and at any condition. Some workers are not aware for safety and they are not wear helmet. A Limit switch was then used to successfully determine whether a miner has removed his helmet or not. This system also provides an early warning, which will be helpful to all miners present inside the mine to save their life before any casualty occurs. The system uses IOT module for transmission of data. There is alert switch at transmitter side for emergency purpose.
- Index Terms** – AURDINO UNO, LED Display, IOT WI-FI MODULE, GAS SENSOR, DHTH SENSOR, BUZZER (ALARAM).

## 1. INTRODUCTION

The Internet of Things (IoT) is nothing more than machines that communicate with each other via the Internet. On a large scale, IoT applications vary. The European Research Cluster on the Internet of Things classifies key IoT technologies as major areas such as smart buildings, smart transport, smart power, smart business, smart health and smart environment. IoT is a trend-setting technology which stores all sensor data in the cloud where it is easily accessible from the web. This technology also involves sensors and actuators for data collection and internet distribution. We use cloud not only to store data, but also to analyze, capture and visualize data. Such an emerging technology can be used to make existing systems more efficient in various IoT applications such as agriculture, health, smart home, etc. Coal is a non sustainable origin that cannot be widely replaced by humans, there are several mishaps of coalmines occurring in the mines, and the diggers are putting their lives at risky, by working in the coal mines, even once in a while they end up losing their lives in the coal mines that are an unfortunate part.



## SIGN LANGUAGE TO SPEECH TRANSLATION USING MACHINE LEARNING

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**ABSTRACT:** Sign language is an incredible advancement that has grown over the years. Unfortunately, there are some drawbacks that have come along with this language. Not everyone knows how to interpret a sign language when having a conversation with a deaf and mute person. One finds it hard to communicate without an interpreter. To solve this, there is a need for a product that is versatile and robust. There is a need to convert the sign language so that it is understood by common people. So here the aim is to get the deaf and mute people more involved to communicate and the idea of a camera-based sign language recognition system that would be in use for converting sign language gestures to text and then to speech. There are major techniques available to detect hand motion or gesture and then converting the detected information into voice such as CNN algorithm.

### 1. INTRODUCTION

Sign Language has become a most common method of communicating to those people who cannot speak. It is a language that uses the hand motions to express alphabets and words. People who are using the sign language were recorded just in china alone . It exceeds upto 80 million in total and especially those people will always have a problem of communicating with each others who can't understand the sign language. Vision method has become the popular method used for sign recognition in the past decades.

It is a system which uses a camera to sense the information that has been obtained through finger motions. It is the most commonly used visual-based method. It has been a tremendous effort and has been gone into the development of vision-based sign recognition systems through worldwide. Vision-based gesture recognition systems can be divided into direct and indirect methods. In earlier days for recognizing hand motion, vision based technique is used. But in this method the environmental effect in the recognized image is high and another disadvantage is they have to show their hands to in front of the camera. Here flex sensor is used for detecting the hand motion and convert it into voice.

This topic has got less attention as compared to other sectors. The Main challenges that this special person facing is the communication gap between -special person and normal person. Deaf and Mute people always find difficulties to communicate with normal person. This huge challenge makes them uncomfortable and they feel discriminated in society. Because of miscommunication, Deaf and Mute people feel not to communicate and hence they never able to express their feelings. HGRVC (Hand Gesture Recognition and Voice Conversion) system localizes

# DEEP LEARNING NETWORK FOR LOW-LIGHT IMAGE ENHANCEMENT

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**Abstract-** Low-light image enhancement is a challenging task that has attracted considerable attention. Pictures taken in low-light conditions often have bad visual quality. To address the problem, regard the low-light enhancement as a residual learning problem that is to estimate the residual between low- and normal-light images and propose a novel Deep Lightening Network (DLN) that benefits from the recent development of Convolutional Neural Networks (CNNs). The proposed DLN consists of several Lightening BackProjection (LBP) blocks. The LBPs perform lightening and darkening processes iteratively to learn the residual for normal-light estimations. To effectively utilize the local and global features, propose a Feature Aggregation (FA) block that adaptively fuses the results of different LBPs and evaluate the proposed method on different datasets. Numerical results show that our proposed DLN approach outperforms other methods under both objective and subjective metrics.

## I. INTRODUCTION

Capturing good quality images under poorly lit conditions is a difficult task. These images usually contain low illumination and brightness, poor contrast and noise. Certain operations such as increasing exposure, high ISO and flash could be used to improve the low light conditions of the environment. But these methods have some drawbacks. All these methods potentially destroy the naturalness of the image. Images taken in low-light conditions are usually very dim. This makes us difficult to recognize the scene or object. To obtain high-visibility images in the low-light conditions and can adopt three solutions.

- A. To use flash
- B. To increase the ISO (sensitivity of the sensor)
- C. To take a photo with longer exposure time

## Literature survey

**2.1 Low Light Image Enhancement** Recent literature shows that the CNN technology also benefits the low-light image enhancement. Some approaches (like Retinex-Net [20], LightenNet [21]) are based on the Retinex theory that contains two CNNs: One network decomposes the low-light image into illumination and reflectance, where reflectance is an inherent attribute of the scene which is unchangeable in different light conditions. The other network works as an enhancer to refine the illumination map of the low-light image. However, the definitions of ground-truth illumination and reflectance are not clear, which makes the decomposition difficult. Another problem is that these CNN-based approaches make use of shallow CNN structures that have few trainable parameters, which leads to a considerable limitation on the performance. For example, Retinex-Net [20] has only seven convolutional layers in the decomposition network, and LightenNet [21] has four convolutional layers only. It is obvious that the deep learning for low-light enhancement is still in its infancy stage. Some other approaches use Generative Adversarial Networks (GANs) that regard the lowlight enhancement as a domain transfer learning task by finding the mapping between low- and normal-light domains (e.g. EnlightenGAN [22]). Each GAN has a generator and a discriminator, where the generator estimates normal-light images from the lowlight ones, while the discriminator constrains the visual quality of the estimations and tries to distinguish the estimations from real normal-light images. However, the generator may collapse to a setting where it always outputs the same settings that are difficult for the discriminator to distinguish. In addition, the two models need to be trained simultaneously, but they have completely opposite targets that make it difficult to obtain the desired output [23].

• **Interactive Low-light Enhancement:** We resolve the low-light enhancement through a residual learning model that estimates the residual between the low- and normal-light images. The model has an interactive factor that controls the power of the lowlight enhancement. More details can be found in Proposed System

# SLIDING WINDOW BLOCKCHAIN ARCHITECTURE FOR IOT

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**Abstract** - This project is describing concept to provide security to IOT devices using Blockchain technology as this technology supports decentralized data storage which means data will be stored at multiple nodes compare to centralized storage where data is stored at single centralized server. Decentralized data storage provides facility of receiving data from any available node and it has strong security where a single data store will verify hash value of all nodes. To overcome from this problem it is introduce Sliding window technique where the window size will be fixed and all Blockchain transaction hash values will be stored in window and if window size exceeded then old transaction blocks will be slided or removed and maintain only recent blocks due to this technique memory storage and data transfer overhead will be reduced.

## I. INTRODUCTION

Blockchain is a distributed ledger used to record transactions between two or more parties. Unlike relational database systems, blockchain is a data structure where new entries get appended at the end of the ledger, and there exist no administrator permissions within a blockchain which allow modification of the data. Also, the addition of a new block to the chain needs to be verified by all other parties through a consensus algorithm. Since there exists a distributed control over the blockchain, it is difficult for attackers to modify the data compared to a relational database system. Relational databases are primarily designed for centralized data storage and blockchain are specifically designed for decentralize data storage.

## II Literature survey

Traditional blockchain approach is not suitable for IoT with real-time data streams due to their computationally complex Proof-of-Work (PoW). As the computational time increases, blockchain security becomes infeasible to be used for IoT. The computational complexity depends on difficulty



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## Blood Cell Classification using Deep Learning CNN Model

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### ABSTRACT

Deep Learning has already shown power in many application fields and is accepted by more and more people as a better approach than the traditional machine learning models. In particular, the implementation of deep learning algorithms, especially Convolutional Neural Networks (CNN), brings huge benefits to the medical field, where a huge number of images are to be processed and analyzed. This paper aims to develop a deep learning model to address the blood cell classification problem, which is one of the most challenging problems in blood diagnosis. A CNN-based framework is built to automatically classify the blood cell images into subtypes of the cells. Experiments are conducted on a dataset of 13k images of blood cells with their subtypes, and the results show that our proposed model provides better results in terms of evaluation parameters.

**Keywords:** Human blood cells, hematology, deep learning, CNNs.

### 1. INTRODUCTION

Sickle cell disease (SCD), also known as sickle cell anemia, is a type of inherited RBC disorder associated with abnormal hemoglobin S (HbS) [1]. When HbS molecules polymerize inside RBCs, due to lack of oxygen, they affect greatly the shape, elasticity, and adhesion properties of RBCs. Moreover, the RBCs become stiff and more fragile, with vastly heterogeneous shapes in the cell population [2], which makes this problem an ideal candidate for the examination of morphological heterogeneity. Unlike the normal RBCs, which are flexible and move easily even through exceedingly small blood vessels, sickle RBCs promote vaso-occlusion phenomena. Hence, SCD patients are afflicted with the risk of life-threatening complications, stroke and organ damage over time, resulting in a reduced life expectancy. According to a recent study [3], as of 2013 about 3.2 million people have SCD while an additional 43 million have sickle cell trait, resulting in 176,000 deaths in 2013, up from 113,000 deaths in 1990, mostly of African origin. The prime hallmark of SCD is that is surprisingly variable in its clinical severity. Available methods for treating SCD are mainly supportive and mostly aim at symptom control but lack the active monitoring of the health status as well as the prediction of disease development in different clinical stages [4]. Recent developments in advanced medical imaging technology and computerized image processing methods could provide an effective tool in monitoring the status of SCD patients. Indeed, Darrow et al. [5] recently demonstrated a positive correlation between cell volume and protrusion number using soft X-ray tomography. Van beers et al. [6] have also shown highly specific and sensitive sickle and normal erythrocyte classification based on sickle imaging flow cytometry assay, a methodology that could be useful in assessing drug efficacy in SCD. Therefore, implementing an automated, high-throughput cell classification method could become an enabling technology to improve the future clinical diagnosis, prediction of treatment outcome, and especially therapy planning. However, there are several major technical challenges for automatic cell classification: 1) RBCs may touch or overlap each other or appear as clusters in the image, which makes it difficult to detect the hidden edge of cells. 2) The RBC region and the background may have low contrast in the intensity. 3) The boundaries of RBCs may be blurry due to

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## Deep Learning CNN for Detecting Malicious Social Bots

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### Abstract

The Public are considerably using the various types of online social networks (OSNs) and it is become more common in people's social life. Thus, the users are facing spam relate issues and fake accounts due to Out-of-control OSNs evolution, due to these attacks users personal information is remains unsafe. To solve these problems, various types of machine learning algorithms are proposed by the various Researchers. But these methods are failed to detect the bots, spam detection and fake accounts detection effectively with maximum accuracy. Thus, this paper proposes to use the Deep Learning Convolutional Neural Network (DLCNN) as a modern algorithm to effectively identify suspected Clickstream Sequences and bots, to add choices and to restrict measurements. The classification mastering algorithm is used to determine the actual or false identity of target fake accounts. From the extensive simulation results, it is observed that the proposed DLCNN consumes less training time and provides highest classification accuracy compared to the state of art approaches.

**Keywords:** Classifications, Neural networks, Support vector machine, Social networks, Attackers, Malicious behavior, Reduction techniques.

### 1 Introduction

Online media networks like Twitter, Facebook, Youtube, RenRen or Connected In have been highly well-known in recent years as well as private social networks (OSN). OSNs are used for citizens to stay in contact and post data, plan activities and run an e-business of their own. The accessible theory of OSNs and the vast scope of their backers' observations have made them unhelpful in the attacks of Sybil [1-2]. Throughout 2012 Twitter saw a combination of fake data, discouragement, hair-raising among polarizing and others on the site. However, OSNs has additionally concerned the activity of researchers for removal and examining their large quantity of information, explore and reading customers behaviors as well as detecting their irregular things to do. In researchers find out about to forecast, investigate and provide an explanation [3-4] for client's loyalty in the direction of a social media-based online manufacturer community, by way of figuring out the most effective cognitive facets that predict their customers' attitude.

This paper shows the number of unacceptable materials removed on Twitter during the first quarter of 2018 and includes six categories: extreme abuse, pornographic pornography and sexual activity. For the first fois, Twitter has published a database of its own recommendations in enforcing group standards supporting their actions during the time between October 2017 and



## Object Single Frame Using YOLO Model

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**Abstract:** Our project on this area has been making great progress in many directions. The main goal of the project is to detect multiple object in a single frame. In this we have increased the classification accuracy of detecting objects and an overview of past research on object detection. You Only Look Once (YOLO) algorithm is the fastest, most efficient algorithm and uniquely detects. In this comparative analysis, using the Microsoft COCO(Common Object in Context) dataset, the performance of the algorithm is evaluated and the strengths and limitations are analyzed based on parameters such as accuracy and precision.

**Keywords:** Object Detection, YOLO Algorithm, Prediction

### 1. Introduction

A computer views all kinds of visual media as an array of numerical values. As a consequence of this approach, they require image processing algorithms to inspect contents of images. Object detection is a key ability required by most computer and robot vision systems. Our project on this area has been making great progress in many directions. In our project, we have increased the classification accuracy of detecting objects and we give an overview of past research on object detection, outline the current main research directions, and discuss open problems and possible future directions. You Only Look Once (YOLO) algorithm correlates activities and uniquely detects. The fastest and most efficient of algorithm. In this comparative analysis, using the Microsoft COCO (Common Object in Context) dataset, the performance of the algorithm is evaluated and the strengths and limitations are analyzed based on parameters such as accuracy and precision. The comparison between Single Shot Detection (SSD), Faster Region based Convolutional Neural Networks (Faster R-CNN) and You Only Look Once (YOLO). From the results of the analysis, YOLO processes images at 30 FPS and has a mAP of 57.9% on COCO test-dev. In an identical testing environment, YOLO outperforms SSD and Faster R-CNN, making it the best of these algorithms. Finally, we propose a method to jointly train on object detection and classification. Using this method, we train YOLO simultaneously on the COCO detection dataset and the ImageNet classification dataset.

### 2. Literature Survey

In the recent few years, diverse research work happened to develop a practical approach to accelerate the development of deep learning methods. Numerous developments accomplished excellent results and followed by continuous reformations in deep learning procedures. Object localization is the identification of all the visuals in a photograph, incorporating the precise location of those visuals. By using deep learning techniques for object identification and localization, computer vision has reached a new zenith. Due to significant inconsistencies in viewpoints, postures, dimensions, and lighting positions, it is challenging to succeed in the identification of objects perfectly. Accordingly, considerable concern has been given by researchers to this area in the past few years. There are two types of object detection algorithms. Object detection algorithms using region proposal includes RCNN, Fast RCNN, and Faster RCNN, etc. These techniques create region proposal networks (RPN), and then the region proposals are divided into categories afterward. On the other side, object detection algorithms using regression includes SSD and YOLO, etc. These methods also generate region proposal networks (RPN) but divide these region proposals into categories at the moment of generation. All of the procedures mentioned above have significant accomplishments in object localization and recognition. YOLO consolidates labels in diverse datasets to form a tree-like arrangement, but the merged labels are not reciprocally exclusive. YOLO9000 enhances YOLO to recognize targets above 9000 categories employing hierarchical arrangement. Whereas YOLOv3 uses multilabel classification, it replaces the approach of estimating the cost function and further exhibits meaningful improvement in distinguishing small targets. The arrangement of this paper is as follows. Below in section 2, background information of object detection methods is covered. It includes two stage detectors with their methodologies and drawbacks. Section 3 elaborates one stage detectors and the improved version YOLO v3-Tiny. Section 4 describes implementation results and comparison of object detection methods based on speed and accuracy. Finally, section 5 summarizes the conclusion.

## DIVISION AND REPLICATION OF DATA IN THE CLOUD FOR OPTIMAL PERFORMANCE AND SECURITY(DROPS)

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### ABSTRACT

Outsourcing data to a third-party administrative control, as is done in cloud computing, gives rise to security concerns. The data compromise may occur due to attacks by other users and nodes within the cloud. Therefore, high security measures are required to protect data within the cloud. However, the employed security strategy must also take into account the optimization of the data retrieval time. In this paper, we propose Division and Replication of Data in the Cloud for Optimal Performance and Security (DROPS) that collectively approaches the security and performance issues. In the DROPS methodology, we divide a file into fragments, and replicate the fragmented data over the cloud nodes. Each of the nodes stores only a single fragment of a particular data file that ensures that even in case of a successful attack, no meaningful information is revealed to the attacker. Moreover, the nodes storing the fragments, are separated with certain distance by means of graph T-coloring to prohibit an attacker of guessing the locations of the fragments. Furthermore, the DROPS methodology does not rely on the traditional cryptographic techniques for the data security; thereby relieving the system of computationally expensive methodologies. We show that the probability to locate and compromise all of the nodes storing the fragments of a single file is extremely low. We also compare the performance of the DROPS methodology with ten other schemes. The higher level of security with slight performance overhead was observed.

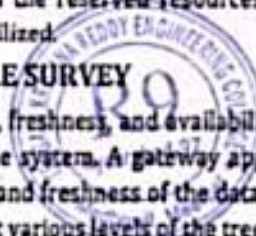
**Keywords:** Centrality, Cloud security, Replication , Performance, Fragmentation.

### I. INTRODUCTION

Cloud computing is a large-scale distributed computing paradigm in which a pool of computing resources is available to cloud consumers via the Internet. Computing resources, such as processing power, storage, software, and network bandwidth, are represented to cloud consumers as the available public utility services. Infrastructure as-a-Service (IaaS) is a computational service model widely used in the cloud computing paradigm. Here in this method, virtualization technologies can be used to supply resources to cloud customers. The clients can specify the required software stack, e.g., operating systems and applications; then enclose them all together into virtual machines (VMS). The hardware requirement of VMS can also be adjusted by the consumers. last, these VMS will be outsourced to host in computing environments. With the reservation plan, the cloud consumers will previously reserve the resources in advance. There may occur under provisioning problem when the reserved resources are unable to fully meet the demand due to its uncertainty. Although this problem can be solved by ordering extra resources by the help of on-demand plan to fit the extra demand, the high cost will be incurred due to more expensive price of resource provisioning with on demand plan. At the same time, the over provisioning problem can occur when the reserved resources are more than the real demand in which part of a resource pool will be under 1 % utilized.

### II. LITERATURE SURVEY

- Juels et al. presented a technique to ensure the integrity, freshness, and availability of data in a cloud. The data migration to the cloud is performed by the Iris file system. A gateway application is designed and employed in the organization that ensures the integrity and freshness of the data using a Merkle tree. The file blocks, MAC codes, and version numbers are stored at various levels of the tree.



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## SURVEY ON WEATHER FORE CAST USING MACHINE LEARNING

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## ABSTRACT

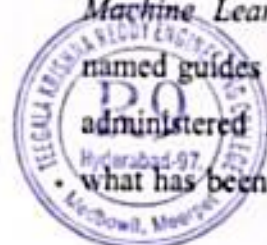
Weather changes have an incredibly negative impact on the environment and triggers natural disasters all of a sudden. To forecast these changes, there are several machine learning techniques and algorithms through which the weather changes can be predicted earlier. It has been noted that, from previous analysis there are many other approaches available for weather prediction. Based on those, various parameters like temperature, humidity, etc are considered. After surveying the emerging techniques and datasets, a proposed system is inculcated to include the approaches such as linear regression, bayes classifier, support vector machine and decision trees. In this the bagging, boosting, decision tree, random forest and stacking algorithms are used to predict the efficient accuracy. Bagging and boosting algorithms use same base learners whereas stacking uses different base learners. The learning capacity of stacking algorithm is different so that each individual learner can learn differently about various parameters and accuracy will increase when compared with other ensemble methods. Through the study it has been concluded to implement a proactive disaster recognition system to avoid the future loss of human lives and related environmental effect.

## 1. INTRODUCTION

Artificial Intelligence [AI] is a man-made brainpower application, which gives frameworks the capacity to gain and improve naturally for a fact without being unequivocally customized. AI operates around the development of PC applications that can get knowledge and use it to develop about themselves. The study began, for example, with ideas or knowledge, models, direct understanding,

or feedback, to look for designs in the knowledge and then decide on better choices based on the known models. The essential goal is to permit these PCs to consequently learn without human mediation or help, and to adjust activities in the similar manner. *Supervised Machine Learning Algorithm* It utilizes

named guides to foresee future occasions, administered AI calculations will apply what has been realized in the past to new



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## A Study on Impact of Exchange Rate on Indian Stock Market

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**Abstract:** The exchange rate and the stock market are the two fundamental financial markets in the world. these two markets play a key role in an international business around the world. It is necessary to understand the relationship between the two markets so that investors can better invest by taking the minimal risk. this paper examines the relationship between the stock market and the foreign exchange market of India. the bse-100 index is used as a proxy for stock prices, while the Indian rupee vs. us dollar (rs/us\$) exchange rate is used for exchange rate risk. the data is on a monthly basis and the period extends from January 2018 to December 2022. the results of the study show that there is no relationship between the exchange rate and the stock price and that both variables are independent of each other.

**Keywords:** Fundamental Financial Markets, Exchange Rates, Stock Market.

### I. INTRODUCTION

The market value of companies and stock prices can be significantly affected by several factors, of which fluctuations in exchange rates play an important role. There is still no consensus on the connection between the stock market and the exchange rate, although the topic is widely discussed. Financial theory states that a company's value should be affected by exchange rates and interest rates. The ups and downs in exchange rates can drive the stock prices of companies. In India, foreign direct investment (FDI) is an important element of stock prices and FDI trends can be significantly affected by changes in the exchange rate, either falling or rising. Exchange rates are also affected by movements in stock prices. Domestic investors invest more in the domestic market when asset prices rise, which in turn increases demand for local currency and also increases selling behavior of foreign assets. The increasing demand for local currency will force interest rates to go higher, ultimately attracting foreign investors to invest and reap maximum benefits. The exchange rate of the local currency will appreciate against that of the foreign currency and shows a negative relationship, as also suggested by the portfolio balance approach. While the traditional approach advocates that there is a positive relationship between the stock market and the forex market and causality runs from the exchange rate to the stock market.

It suggested that there is a positive relationship between stock prices and exchange rates when the local currency depreciates and local companies become more competitive, leading to an increase in their exports. This will ultimately lead to an increase in share prices. In addition to the above two approaches, there is another approach, namely the Asset Market approach, which proposes that there is no interaction or a very weak connection between the exchange rate and the stock market. This is because both variables can be influenced by different factors. The current international financial system and its increasing importance over time has led many researchers to study the relationship between the stock market and the exchange rate. Mishra (2004) examined that the Asian financial crisis, the advent of floating exchange rates in the early 1970s, and financial market reforms in the early 1990s prompted researchers to determine the relationship between the two variables.

### II. INDIAN FOREIGN EXCHANGE MARKET – AN OVERVIEW

The Indian overseas alternate demand is the biggest cash need of the bank then is constitutional by way of the Reserve Bank of India. It is a liquidity want with widespread buying and selling volumes. The foremost sources concerning overseas trade rule of the Indian foreign trade need are revenue from exports then invisibles within checking account, as much well so inflows of capital account, e.g. B. Foreign prescribe funding (FDI), portfolio investment, exterior commercial enterprise lending (ECB) or non-resident deposits. A large wide variety on transactions had been conveyed out of the overseas trade need each day, who increases the trading total or the increase of the market. The alternate degree fluctuates often then is determined by way of countless factors among the economy. The Reserve Bank regarding India has taken initiatives in imitation of decrease the distrust on the change dimension into the foreign exchange market. The speedy increase of the market since many financial reforms has improved the trading volume of the market. The market consists of entire global transactions up to expectation are traded of the world's predominant currencies. The Reserve Bank over India intervenes in imitation of modify the foreign alternate want and controls the buying and selling regarding currencies. This leads in accordance with an make bigger between local stock





# Low-Light Image Enhancement by using Feature Aggregation(FA)

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## To Cite this Article

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## ABSTRACT

Low-light image enhancement is a challenging task that has attracted considerable attention. Pictures taken in low-light conditions often have bad visual quality. To address the problem, we regard the low-light enhancement as a residual learning problem that is to estimate the residual between low- and normal-light images. In this paper, we propose a novel Deep Lightening Network (DLN) that benefits from the recent development of Convolutional Neural Networks (CNNs). The proposed DLN consists of several Lightening BackProjection (LBP) blocks. The LBPs perform lightening and darkening processes iteratively to learn the residual for normal-light estimations. To effectively utilize the local and global features, we also propose a Feature Aggregation (FA) block that adaptively fuses the results of different LBPs. We evaluate the proposed method on different datasets. Numerical results show that our proposed DLN approach outperforms other methods under both objective and subjective metrics

## 1. INTRODUCTION

Capturing good quality images under poorly lit conditions is a difficult task. These images usually contain low illumination and brightness, poor contrast and noise. Certain operations such as increasing exposure, high ISO and flash could be used to improve the low light conditions of the environment. But these methods have some drawbacks, for instance, higher ISO could introduce graininess. Increasing the exposure could make the image blurry and using flash may introduce irregular illumination. All these methods potentially destroy the naturalness of the image.

Taking photos is one of the most popular and convenient ways to record memorable moments of our life. Images taken in low-light conditions are usually very dim. This makes us difficult to recognize the scene

or object. However, often it is inevitable to take photos in low-light conditions. To obtain high-visibility images in the low-light conditions, we can adopt three solutions.

1) To use flash: It is a direct way to solve the problem. However, it is not allowed in some public areas, such as the museum, cinema, and exhibition hall.

2) To increase the ISO (sensitivity of the sensor): This method could increase the visibility of dark areas, but higher ISO will also bring more noise to the image, and the normal-light area will easily face the overexposure problem.

3) To take a photo with longer exposure time: Capturing an image with longer exposures allows more light that enlightens the dark area. Nevertheless, long-time

## THE CLASSIFICATION PERFORMANCE OF MISSING CHILD IDENTIFICATION USING CNN

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### ABSTRACT

In India a countless number of children are reported missing every year. Among the missing child cases a large percentage of children remain untraced. This paper presents a novel use of deep learning methodology for identifying the reported missing child from the photos of multitude of children available, with the help of face recognition. The public can upload photographs of suspicious child into a common portal with landmarks and remarks. The photo will be automatically compared with the registered photos of the missing child from the repository. Classification of the input child image is performed and photo with best match will be selected from the database of missing children. For this, a deep learning model is trained to correctly identify the missing child from the missing child image database provided, using the facial image uploaded by the public. The Convolutional Neural Network (CNN), a highly effective deep learning technique for image based applications is adopted here for face recognition. Face descriptors are extracted from the images using a pre-trained CNN model VGG-Face deep architecture. Compared with normal deep learning applications, our algorithm uses convolution network only as a high level feature extractor and the child recognition is done by the trained SVM classifier. Choosing the best performing CNN model for face recognition, VGG-Face and proper training of it results in a deep learning model invariant to noise, illumination, contrast, occlusion, image pose and age of the child and it outperforms earlier methods in face recognition based missing child identification. The classification performance achieved for child identification system is 99.41%. It was evaluated on 43 Child case

### 1. INTRODUCTION

Children are the greatest asset of each nation. The future of any country depends upon the right upbringing of its children. India is the second populous country in the world and children represent a significant percentage of total population. But unfortunately a large number of children go missing every year in India due to various reasons including abduction or kidnapping, run-away children, trafficked children and lost children. A deeply disturbing fact about India's missing children is that while on an average 174 children go missing every day, half of them remain

untraced. Children who go missing may be exploited and abused for various purposes. As per the National Crime Records Bureau (NCRB) report which was cited by the Ministry of Home Affairs (MHA) in the Parliament (LS Q no. 3928, 20-03- 2018), more than one lakh children (1,11,569 in actual numbers) were reported to have gone missing till 2016, and 55,625 of them remained untraced till the end of the year. Many NGOs claim that estimates of missing children are much higher than Reported. Mostly missing child cases are reported to the police. The child missing from one region may



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# CONTEXTUAL SCENARIO OF A CLOUD BASED EHR SYSTEM FOR DEVELOPING COUNTRIES

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## ABSTRACT

In most countries of the developed world, one of the integral components of Health Information System (HIS) is Electronic Health Records (EHR). With advances in Information and Communications Technology (ICT) and the rise in the adoption of cloud computing approaches in the health sector of these countries by a substantial number of health institutions, cloud servers are now remote repository of EHRs. However, in Nigeria and many other developing countries, health information of patients is still predominantly paper-based medical records. This manual method is not scalable in terms of storage, prone to error, insecure, susceptible to damage and degradation over time, highly unavailable, time consuming in accessing and with no visible audit trail and version history to mention but a few. In this paper, a framework for a cloud-based electronic health records system that is capable of storage, retrieval and updating of patient's medical records for developing countries such as Nigeria is proposed. The framework provides for various medical stakeholders in a health institution and patients to access the EHR system via a web portal by using a variety of devices in the contextual scenario whereby the health institution is migrating from paper-based patient record documentation to an EHR system.

## 1. INTRODUCTION

One of the essentials of diagnostics in modern healthcare delivery is patient medical or health records. A comprehensive healthcare system relies upon the capacity of the healthcare providers to promptly access

a patient's test outcomes, earlier treatment notes, current medicines, to mention but a few. The absence of access to such data may postpone diagnosis and result in uncalled for treatment and in due turn, expanded expenses. From another viewpoint, health data stored over time can be reflection of the



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# Secure Deduplicated Cloud Storage with Encrypted Two-Party Interactions in CCPS

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E. Aruna, Kancharla Deepthi, Vuttunoori Bhavana and Badikala Roshan. Secure Deduplicated Cloud Storage with Encrypted Two-Party Interactions in CCPS. International Journal for Modern Trends in Science and Technology 2022, 8(07), pp. 320-325. <https://doi.org/10.46501/IJMTST0807048>

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## ABSTRACT

Cloud envisioned Cyber-Physical Systems (CCPS) is a practical technology that relies on the interaction among cyber elements like mobile users to transfer data in cloud computing. In CCPS, cloud storage applies data deduplication techniques aiming to save data storage and bandwidth for real-time services. In this infrastructure, data deduplication eliminates duplicate data to increase the performance of the CCPS application. However, it incurs security threats and privacy risks. So, we propose a message Lock Encryption with neVer-decrypt homomorphic EncRyption (LEVER) protocol between the uploading CCPS user and cloud storage to reconcile the encryption and data deduplication. Interestingly, LEVER is the first brute-force resilient encrypted deduplication with only cryptographic two-party interactions. We perform several numerical analysis of LEVER and confirm that it provides high performance and practicality compared to the literature

## 1. INTRODUCTION

The amount of data to be stored by cloud storage systems increases extremely fast. It is thus of utmost importance for Cloud Storage Providers (CSPs) to dramatically reduce the cost to store all the created data. A promising approach to achieve this objective is through data deduplication. Put simply, data deduplication keeps a single copy of repeated data. When a client wishes to store some piece of data, and if a copy of this data has already been saved in the storage system, then solely a reference to this existing copy is stored at the storage server. No duplicate is created.

Data deduplication also improves users experience by saving network bandwidth and reducing backup time when the clients perform the deduplication before uploading data to the storage server. This form of

deduplication is termed as client-side deduplication, and when it is handled by the storage server it is called server-side deduplication. Due to its straightforward economical advantages, data deduplication is gaining popularity in both commercial and research storage systems.

### 1.1 Problem Definition

Deduplication, security issues leading to information leakage to malicious clients. To maintain confidentiality, data integrity and data deduplication became major issues over data storage. Suffering from a lack of security, high performance, and applicability.

Data access to the third-party like cloud providers. Malware attacks and intruders were increasing to bridge in to the data server and this may lead to data loss and also confidentiality may lost.

## HEART DISEASE PREDICTION OF ACCURACY BY USING DIFFERENT MACHINE LEARNING

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### ABSTRACT

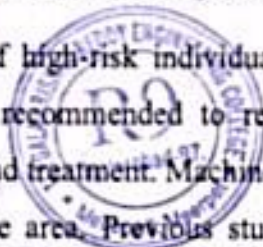
Health care field has a vast amount of data, for processing those data certain techniques are used. Data mining is one of the techniques often used. Heart disease is the Leading cause of death worldwide. This System predicts the arising possibilities of heart disease. The outcomes of this system provide the chances of occurring heart disease in terms of percentage. The datasets used are classified in terms of medical parameters. This system evaluates those parameters using data mining classification technique. The datasets are processed in python programming using two main Machine Learning Algorithm namely Decision Tree Algorithm and Naive Bayes Algorithm which shows the best algorithm among these two in terms of accuracy level of heart disease.

**Keywords:** Heart Disease, Machine Learning, Algorithm, Data Mining

### INTRODUCTION

Heart disease is a cardiovascular disease (CVD) that remains the number one cause of death globally and contributes to approximately 30% of all global deaths. If unmitigated, the total number of deaths globally is projected to increase to around 22 million in 2030. The American Heart Association reported that nearly half of American adults are affected by CVDs, equating to nearly 121.5 million adults. In Korea, heart disease is among the top three leading causes of death and contributed to nearly 45% of total deaths in 2018. Heart disease is a condition when plaque on arterial walls can block the flow of blood and cause a heart attack or stroke. Several risk factors that can lead to heart disease include unhealthy diet, physical inactivity, and excessive use of tobacco and alcohol.

The early heart disease identification of high-risk individuals and the improved diagnosis using a prediction model have generally been recommended to reduce the fatality rate and improve the decision-making for further prevention and treatment. Machine learning-based clinical decision-making have recently been applied in healthcare area. Previous studies have shown that machine learning



## IMPROVE LIVER DISEASE DIAGNOSIS USING MACHINE LEARNING APPROACHES USING CLASSIFICATION ALGORITHMS

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### ABSTRACT

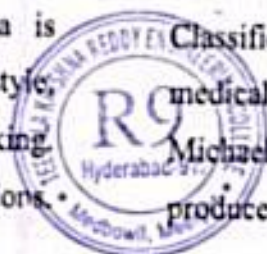
Diagnosis of liver disease at a preliminary stage is important for better treatment. It is a very challenging task for medical researchers to predict the disease in the early stages owing to subtle symptoms. Often the symptoms become apparent when it is too late. To overcome this issue, this project aims to improve liver disease diagnosis using machine learning approaches. The main objective of this research is to use classification algorithms to identify the liver disease patients from healthy individuals. This project also aims to compare the classification algorithms based on their performance factors. To serve the medicinal community for the diagnosis of liver disease among patients, a graphical user interface will be developed using python. The GUI can be readily utilized by doctors and medical practitioners as a screening tool for the liver disease.

### 1. INTRODUCTION

Problems with liver patients are not easily discovered in an early stage as it will be functioning normally even when it is partially damaged. An early diagnosis of liver problems will increase patient's survival rate. Liver failures are at high rate of risk among Indians. It is expected that by 2025 India may become the World Capital for Liver Diseases. The widespread occurrence of liver infection in India is contributed due to deskbound lifestyle, increased alcohol consumption and smoking. There are about 100 types of liver infections.

Therefore, developing a machine that will enhance in the diagnosis of the disease will be of a great advantage in the medical field. These systems will help the physicians in making accurate decisions on patients and also with the help of Automatic classification tools for liver diseases (probably mobile enabled or web enabled), one can reduce the patient queue at the liver experts such as endocrinologists.

Classification techniques are much popular in medical diagnosis and predicting diseases. Michael J Sorich reported that SVM classifier produces best predictive performance for the



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## EARTHQUAKE DAMAGE PREDICTION ANALYSIS OF USING DIFFERENT MACHINE LEARNING ALGORITHMS

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### ABSTRACT

An earthquake is a natural disaster known on account of the devastating effect it has on naturally occurring structures and manmade structures such as buildings, bungalows and residential locations to name a few. Earthquakes are measured using seismometers that detect the vibrations due to seismic waves travelling through the earth's crust. In this work, the damage that is caused by an earthquake was classified into damage grades, ranging in values from one to five. A previously acquired data set was used, wherein a series of parameters were taken into consideration to predict the damage grade of a given building, which is associated with a Unique Identification String. The prediction was done using a survey of existing machine learning classifier algorithms. The machine learning algorithms used in this work were Logistic Regression, Naive Bayes Classifier, Random Forest Classifier and K-Nearest Neighbors. Based on an evaluation of a set of attributes, the most appropriate algorithm was considered. A detailed analysis was done on the predicted attribute by the given algorithm, followed by data analysis that provided details that could help mitigate the impact of an earthquake in future.

### 1. INTRODUCTION

Earthquake is nothing but the shaking movement of Earth's crust. Elastic energy produced due to sudden crack and it get store in rocks that are subjected to great strain. Energy produced during earthquake is getting store over long time and it will release in minutes or in seconds. The Seismic waves are nothing but elastic waves which are produced by an earthquake. Seismic waves are low frequency waves those release energy during earthquake can cause tremendous loss of

human life. It results in serious damage to wide variety of civil engineering structure. Our project is based on Nepal earthquake which washeld on April 25th, 2015 at Gorkha. It's also named as 'Gorkha earthquake'. earthquake was natural disaster to destruction Nepal. The mortality rate due to earthquake in Nepal has never been less. In 2015 the mortality rate due to earthquake was nearly 9000 and 22,000 people was got injured. In this study, we are using artificial intelligence Prediction keeps a set of input which decreases



## PHISHING WEBSITE CLASSIFICATION AND DETECTION USING RANDOM FOREST ALGORITHM

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### ABSTRACT

Phishing website is one of the internet security problems that target the human vulnerabilities rather than software vulnerabilities. It can be described as the process of attracting online users to obtain their sensitive information such as usernames and passwords. In this paper, we offer an intelligent system for detecting phishing websites. The system acts as an additional functionality to an internet browser as an extension that automatically notifies the user when it detects a phishing website. The system is based on a machine learning method, particularly supervised learning. We have selected the Random Forest technique due to its good performance in classification. Our focus is to pursue a higher performance classifier by studying the features of phishing website and choose the better combination of them to train the classifier. As a result, we conclude our paper with accuracy of 98.8% and combination of 26 features.

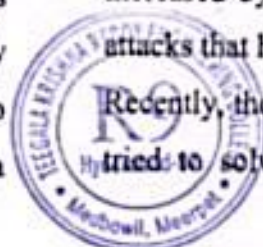
### INTRODUCTION

In today's world, technology has become an integral part of the twenty-first century. The internet is one of these technologies, which is growing rapidly every year and plays an important role in individuals' lives. It has become a valuable and a convenient mechanism for supporting public transactions such as e-banking and e-commerce transactions. That has led the users to trust it is convenient to provide their private information to the Internet. As a result, the security thieves that have started to target this information have become a major security problem. Phishing websites are considered to be one of these problems. They are using a

social engineering trick, which can be described as fraudsters that try to manipulate the user into giving them their personal information based on exploiting human vulnerabilities rather than software vulnerabilities.

Statistics have shown that the number of phishing attacks keeps increasing, which presents a security risk to the user information according to the Anti-Phishing Working Group (APWG) [1] and recorded phishing attacks by Kaspersky Lab [2], which stated that it has increased by 47.48% from all of the phishing attacks that have been detected during 2016.

Recently, there have been several studies that tried to solve the phishing problem. Some



## A NOVEL APPROACH ON DIABETES MELLITUS AND RISK PREDICTION USING MACHINE LEARNING

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### ABSTRACT

Diabetes is a chronic disease with the potential to cause a worldwide health care crisis. According to International Diabetes Federation 382 million people are living with diabetes across the whole world. By 2035, this will be doubled as 592 million. Diabetes is a disease caused due to the increase level of blood glucose. This high blood glucose produces the symptoms of frequent urination, increased thirst, and increased hunger. Diabetes is a one of the leading causes of blindness, kidney failure, amputations, heart failure and stroke. When we eat, our body turns food into sugars, or glucose. At that point, our pancreas is supposed to release insulin. Insulin serves as a key to open our cells, to allow the glucose to enter and allow us to use the glucose for energy. But with diabetes, this system does not work. Type 1 and type 2 diabetes are the most common forms of the disease, but there are also other kinds, such as gestational diabetes, which occurs during pregnancy, as well as other forms. Machine learning is an emerging scientific field in data science dealing with the ways in which machines learn from experience. The aim of this project is to develop a system which can perform early prediction of diabetes for a patient with a higher accuracy by combining the results of different machine learning techniques. The algorithms like K nearest neighbour, Random Forest, Support vector machine, Decision tree, XGBoost, etc. are used. The accuracy of the model using each of the algorithms is calculated. Then the one with a good accuracy is taken as the model for predicting the diabetes.

### 1. INTRODUCTION

Diabetes is a situation which causes deficiency due to less amount of insulin in the blood. Warning sign of high blood sugar results in frequent urination, feeling thirsty, increased hunger. If it is not medicated, it will lead to many difficulties. This difficulty

leads to death. Severe difficulties lead to cardiovascular disease foot sores, and eye blurriness. When there is a rise within the sugar level within the blood, it is referred to as prior diabetes. The prior diabetes isn't therefore great than the traditional worth. Diabetes is appreciations to the exocrine gland not manufacturing plentiful



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# A Survey on Health Workers to Monitor Nutrition among Women and Children

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## To Cite this Article

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## Article Info

Received: 21 June 2022; Accepted: 22 July 2022; Published: 27 July 2022.

## ABSTRACT

India's Auxiliary Nurse Midwives (ANMs) are village-level female health workers who provide essential primary care services to pregnant women, mothers and newborn children. ANMs cater to populations of 3,000-5,000 people, and their work mainly involves providing primary healthcare services for maternal and child health, family planning, nutrition and immunization programmes. Another extremely important part of the job is collecting healthcare data. ANMs capture around 200 key indicators related to health, nutrition and immunization of pregnant women, mothers and newborn children in their paper registers. Like many other ANMs, it handles more than one village, and on an average day carries 12-15 separate registers to record key data indicators while on the go. The proposed new application is helping them log healthcare data.

## 1. INTRODUCTION

India's Auxiliary Nurse Midwives (ANMs) are village-level female health workers who provide essential primary care services to pregnant women, mothers and newborn children. ANMs cater to populations of 3,000-5,000 people, and their work mainly involves providing primary healthcare services for maternal and child health, family planning, nutrition and immunization programmes. Another extremely important part of the job is collecting healthcare data. ANMs capture around 200 key indicators related to health, nutrition and immunization of pregnant women, mothers and newborn children in their paper registers. Like many other ANMs, it handles more than one village, and on an average day carries 12-15 separate registers to record key data indicators while on the go. The

proposed new application is helping them log healthcare data.

## 2. LITERATURE SURVEY

**Title:** Impact of Maternal Education about Complementary Feeding on Their Infants' Nutritional Outcomes in Low- and Middle-income Households:

**Author Names:** Ali Faisal Saleem, Sadia Mahmud, Naila Baig-Ansari, and Anita K.M. Zaidi

**Description:** This cluster-randomized interventional trial at peri-urban settings of Karachi was conducted to evaluate the impact of maternal educational messages regarding appropriate complementary feeding (CF) on the nutritional status of their infants after 30 weeks of educational interventions delivered by trained community health workers. Mothers in the

# AN APPROACH OF CCTV STREET GARBAGE DETECTION AND ALERT SYSTEM

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## ABSTRACT

The aim of this research is to develop a smart waste management system using TensorFlow based deep learning model. It performs real time object detection and classification. It consists of several compartments to segregate the waste including metal, plastic, paper. Object detection and waste classification is done in TensorFlow framework with pre-trained object detection model. This program classifies an input image as clean/unclean. This can later be used to automatically send alerts to respective authorities when a street is found to be unclean. Once a street is found to be unclean, it automatically sends an email alert to the respective authorities who can then take action. It is impossible to manually identify streets that require cleaning at a given time. With "CCTV Street Garbage Detection and Alert System", authorities can get updates about the streets that are unclean.

## 1. INTRODUCTION

Monitoring and cleanliness assessment of garbage area in urban scenes mainly rely on manual inspection and photographic record, which makes it a difficult and time-consuming task. During the inspection process, human intervention and cumbersome problems often happen. The quality of sanitation work has been affected. Different from pedestrians, vehicles and other objects, garbage has no relatively clear definition. Due to the judgment of garbage always has certain subjectivity, in different situations, it will produce different judgment results. Since the diversity of scenes where garbage appears, accuracy of test results will be affected. With the development of smart city, we expect to provide an automatic detection method of urban garbage to help alleviate urban garbage problems.



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## IDENTIFY OF FAKE TWITTER ACCOUNTS USING SVM ALGORITHM

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### ABSTRACT

In the present generation number of clients can communicate with each other through social networkingsites such as Facebook, Twitter, WhatsApp, etc. The social networking sites are used in the world a huge number of clients can communicate with each other. Online Social Networks (OSNs) have become increasingly popular. People's lives have become more associated with these sites. People are used to Online Social networks to keep in touch with each other and communication between social networks for share news, organize events and advertisement of own e-business. The increasing growth of OSN and the more amounts of personal data of its subscribers have attracted attackers and imposters to steal personal details, share fake news and spread malicious activities. On the other side, researchers have started to research efficient techniques to detect abnormal activities and fake accounts relying accounton different features and classification algorithms. However, some of the accounts exploited features have a negative contribution in the final results or it has no impact it has using standalone classification algorithms does not achieve satisfactory results. In this paper, we present a machine learning techniqueto identify fake accounts on twitter. We have a preprocessed dataset of numerical highlights. The Support Vector Machine algorithm is proposed to provide efficient detection of fake accounts of twitter it has used feature selection and dimensionality reduction techniques. The machine-learning algorithm was used to decide accounts to identify accounts that are fake or real. SVM algorithm is used to identifyaccount is fake or real. SVM has used a smaller number of features hence it is being able to correctly classify about 98% of the accounts of our provided training dataset.

### INTRODUCTION

Online Social Networking has grown extremely throughout the last few years.

Online Social networks such as Facebook,

Twitter, RenRen, Linked In, Google + have become increasingly popular over the last



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## Extensible Path Planning Intelligent System by Applying Nature Inspired Computing (NIC) Algorithm

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Dr.J.Praveen Kumar Associate Professor , Dept.of IT Teegala Krishna Reddy Engineering Collge  
Dr.K.Ram Mohan Rao , Professor Dept.of IT , Vasavi College of Engineering

### ABSTRACT

The mobile robot path planning is a central problem in several areas such as modern industry and cyber physical systems. This requires an embedding intelligence into that robotics for ensuring feasible solutions to task execution. Many researchers developed an optimization algorithm for finding shortest path in known environment. In this proposed paper by applying extensible particle swarm optimization (EPSO) algorithm for a mobile robot to avoid obstacles without collision in a path to reach target (destination) in a small amount of time. The performance results of proposed EPSO algorithm shows better results with conventional algorithms to reach destination with minimum energy consumption and also minimize time.

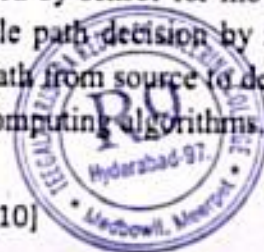
Keywords – swarm intelligence, nature inspired computing algorithms, particle swarm optimization,

### 1- INTRODUCTION

The swarm intelligence is one of the flavor of nature inspired computing algorithms specialized of well-known optimization problems for solving complex problems by providing near about reasonable amount of time [1,2]. The robot is 'humanoid machine' to achieve target by 'path planning' within a short period without collision of obstacles across the robotic when robot reach target position by selection of perfect shortest reachable path.

Path planning is of two types i.e. off-line also known as global path planning, on-line also known as local path planning. Off-line path movement the immovable obstacles are visible clearly. The algorithm already written for a complete path with x, y co-ordinates. Whereas about online path obstacles will be in between source and destination. The role of sensors takes important to guide to move the navigate of robot in certain a path perfectly.

These are important of navigation of robot is sensed by sensor for movement, every iteration robot provide its own location information, the reachable path decision by robot, robot move in certain path. Mobile robot path planning to find shortest path from source to destination. The implementation is possible in classical as well as nature inspired computing algorithms. Roadmap method is the one



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## A Study on Performance of Sectoral Mutual Funds with Reference To India Infoline Limited

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**Abstract:** Sectoral funds, which were a hit with mutual fund investors during the last Bull Run, are back in vogue and are being marketed as sector exchange traded funds or sector ETFs this year. Several asset management companies are in the process of launching ETFs with sectors such as power & infrastructure, automobile, services, FMCG, metals and pharma as the underlying theme. The mutual fund industry in India started in 1963 with the formation of Unit Trust of India, at the initiative of the Government of India and Reserve Bank. The objective then is to attract the small investors and introduce them to market investments. Since then, the history of mutual funds in India can be broadly divided into four distinct phases. IIFL recently received an in-principle approval for Securities Trading and Clearing. The IIFL (India Infoline) group, comprising the holding company, India Infoline Ltd and its subsidiaries, is one of the leading players in the Indian financial services space. IIFL offers advice and execution platform for the entire range of financial services covering products ranging from Equities and derivatives, Commodities, Wealth management, Asset management, Insurance, Fixed deposits, Loans, Investment Banking, Govt bonds and other small savings instruments memberships from Singapore Exchange (SGX) paving the way for IIFL to become the first Indian brokerage to get a membership of the SGX.

**Keywords:** ETFs, FMCG, Singapore Exchange (SGX).

### I. INTRODUCTION

#### A. Sectoral Funds

Sectoral funds, which were a hit with mutual fund investors during the last Bull Run, are back in vogue and are being marketed as sector exchange traded funds or sector ETFs this year. Several asset management companies are in the process of launching ETFs with sectors such as power & infrastructure, automobile, services, FMCG, metals and pharma as the underlying theme. Those marketing these funds are hoping to raise a fair amount of funds through these schemes. Regular sectoral mutual funds have generated decent returns on their portfolios with banking funds, as a category, having generated 58% returns in one year. Pharma, FMCG and technology categories of sectoral mutual funds have yielded 50%, 46% and 36%, respectively, over a one-year period. On a wider scale,

flexi-cap equity funds have returned 31% over the past one year. "Sectoral ETFs deliver benefits in line with the performance of the underlying sector. It gives investors a cost-effective means to participate in sectors he or she is bullish on," said Lakshmi Iyer, head, fixed income & products, Kotak Mutual Fund, which has plans to launch metals and some market cap-based ETFs in the coming months. According to MS Iyer, sectoral ETFs provide investors an easy way to transact on the exchange and avail themselves of the benefits of knowing the near real-time prices of their fund investments. Benchmark Mutual Fund has sought Sebi approvals to launch six ETFs with IT, FMCG, services, energy, pharma and realty as the base themes. The ETFs will be marked against CNX IT, CNX FMCG, CNX Services Sector, CNX Energy, CNX Pharma and CNX Realty indices. The minimum investment for these schemes is Rs 10,000 and in multiples of Re 1 thereafter. Apart from Benchmark, AXIS, Edelweiss MF, Reliance Mutual and Religare Mutual have plans to launch sector ETFs in the near term.

#### Objectives of the Study

- To evaluate and compare the performance of sectorial equity mutual funds.
- To compare the performance of selected equity schemes vis-à-vis the market.

### II. RESEARCH METHODOLOGY

The data for this study is gathered from secondary sources. The study will deal with the evaluation of performance of equity mutual funds of five sectors i.e. FMCG and Healthcare, Banking and Finance, Technology, Infrastructure and Energy and Power Sector. The selection of schemes is done through Assets under management (AUM) and Launch date. For the study NAVs of the funds will be taken at month end i.e. the NAVs on Friday during the period of the study have been considered. Daily data about the closing Net Asset Value of the selected schemes has collected from the websites www.AmfIndia.com and www.MutualfundsIndia.com. The most popular and widely tracked BSE SENSEX is used as a proxy for the market. The daily closing values of different sectoral BSE benchmark are collected from the website www.BseIndia.com. The study will cover the period of past 5

## FORECAST ALZHEIMER'S ILLNESS USING CNN ALGORITHM

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### ABSTRACT

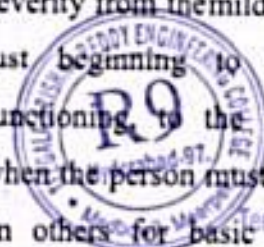
A lifestyle disease is a disease that is linked to the way a person or group of people lives. Alzheimer's disease is an irreversible, degenerative brain ailment that gradually erodes memory and thinking skills, as well as the ability to carry out even the most basic tasks. Medical management accumulates a lot of data on an illness that isn't mined and could be useful in making decisions. We're trying to figure out how to use the CNN algorithm to forecast Alzheimer's illness. Using the flask framework, we are attempting to develop a web page from which we will collect user input and transfer it to the back end for prediction purposes. We'll then put the results on a web page

### 1. INTRODUCTION

#### 1.1 GENERAL DESCRIPTION

Alzheimer's disease is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and eventually the ability to carry out the simplest tasks. In most people with Alzheimer's, symptoms first appear in their mid-60s. Estimates vary, but experts suggest that more than 5.5 million Americans and others may have Alzheimer's.

Alzheimer's disease remains as a serious disease which causes of death for older people just like cancer and heart disease. Alzheimer's is the most common cause of dementia among older adults. Dementia is the loss of cognitive functioning—thinking, remembering, and reasoning—and behavioural abilities to such an extent that it interferes with a person's daily life and activities. Dementia ranges in severity from the mildest stage, when it is just beginning to affect a person's functioning, to the most severe stage, when the person must depend completely on others for basic activities of daily



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**DIGITAL SMART SYSTEM FOR RESTAURANTS USING WIRELESS TECHNOLOGY**<sup>1</sup>G.RAJKUMAR <sup>2</sup>SARDARNI.SARABJEETH KAUR, <sup>3</sup>BURRA PUJITHA, <sup>4</sup>DONTHULA LAXMAN<sup>1</sup>Assistant Professor in department of IT Teegala Krishna Reddy Engineering college<sup>1</sup>[rajkumar.gadda@gmail.com](mailto:rajkumar.gadda@gmail.com)<sup>2,3,4</sup>UG Scholar in in department of IT Teegala Krishna Reddy Engineering college**ABSTRACT**

In almost every area, technology has changed traditional ways. Restaurants/Hotels are also adopting recent automation trends and are installing robots to deliver food and tablets for taking orders. Here we have developed a Digital system that lets you automate menu for ordering food in restaurants. Traditionally, almost all the restaurants use pen and paper to take order from customer. This wastes a lot of time, pen and paper. Also time required in sending the order to the kitchen and manually evaluating bill is also more. To solve these problems, we designed an automatic smart restaurant system which will improve the quality of services. In this project, we use Arduino to develop the Digital System. This system will then send this order to the kitchen and serve the food according to the order. The Digital system will give total information of order given by customer to the Kitchen team & manager. This will help reduce the task of physical labour where the waiter has to go into the kitchen every time and avoid insufficiency. In most of the restaurants meal ordering is relying on the interaction with waiters to place order into the kitchen and during this pandemic where we are trying to avoid direct contact with people this digital menu will reduce the time of interaction with the waiter. When the customer wants to call upon waiter there is also a waiter-call button added in this machine which will transmit the message that waiter has been called. The customer can also know the total amount/bill of their order through the Digital system. Through this device customers can also provide their feedback of the food that was served to them. This feedback is valuable and can be used to further enhancement of food quality. The feedback will help know the quality of food.

**INTRODUCTION**

Automation systems are increasing in day-to-day life. It is the essential part in the field of electronics. It deals with transfer of data from one place to another place. Communication has major role in the successful data transfer and to

get the acknowledgement from receiver. There are two modes of transmission; wired and wireless transmission. In wired transmission, data is transferred through a physical medium or a link whereas no physical link is used in wireless transmission. Both mediums have its



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## Optimized Mode Of Object Detection With Deep CNN For Advanced Driving Assistance

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### ABSTRACT

As a key technology of intelligent transportation system, the intelligent vehicle is the carrier of comprehensive integration of many technologies. Although vision-based autonomous driving has shown excellent prospects, there is still a problem of how to analyze the complicated traffic situation by the collected data. Recently, autonomous driving has been formulated as many tasks separately by using different models, such as object detection task and intention recognition task. In this study, a vision-based system was developed to detect and identify various objects and predict the intention of pedestrians in the traffic scene. The main contributions of this research are (1) an optimized model was presented to detect 10 kinds of objects based on the structure of Faster RCNN (2) a fine-tuned Part Affinity Fields approach was proposed to estimate the pose of pedestrians; (3) Explainable Artificial Intelligence (XAI) technology is added to explain and assist the estimation results in the risk assessment phase; (4) an elaborate self-driving dataset that includes several different subsets for each corresponding task was introduced; and (5) an end-to-end system containing multiple models with high accuracy was developed. Experimental results proved that the total parameters of optimized Faster RCNN reduced by 74%, which satisfies the real-time capability. In addition, the detection precision of the optimized Faster RCNN achieved an improvement of 2.6% compared to the state-of-the-art.

### 1. INTRODUCTION

Rapid urbanization has highlighted a series of problems, especially in the aspect of transportation, which severely limits travel and has certain security risks. Even though

some progress has been made in the existing object detection technologies in self-driving, there still exist potential risk factors of collision as motor cars are surrounded by many objects in static objects (traffic lights and signs). Therefore, it is necessary to promptly detect various static objects and



## REVIEW OF ALGORITHMS AND TECHNIQUES USED FOR IDENTIFY THE CRIMINALS.

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## ABSTRACT

Crime analysis is a methodical approach for identifying and analyzing patterns and trends in crime. With the increasing origin of computerized systems, crime data analysts can help the Law enforcement officers to speed up the process of solving crimes. Using the concept of data mining, we can analyze previously unknown, useful information from an unstructured data. Predictive policing means, using analytical and predictive techniques, to identify criminal and it has been found to be pretty much effective in doing the same. Because of the increased crime rate over the years, we will have to handle a huge amount of crime data stored in warehouses which would be very difficult to be analyzed manually, and also now a day's, criminals are becoming technologically advance, so there is need to use advance technologies in order to keep police ahead of them. In this paper, the main focus is on the review of algorithms and techniques used for identify the criminals.

## 1.INTRODUCTION

A crime rate has become a topic of major concern certainly to limit the development of good governance and increasing day by day. Crimes are neither systematic nor random otherwise crime cannot be analysis. When crimes like robbery, firebombing etc. have been decreased, crimes like murder, sex abuse, gang rape etc. have been increased. We cannot analyze the victims of crime but can analyze the place where crime occurred or happened. It is difficult to analyze the data to detect crime patterns or predict future

crimes by intelligence agencies or local law enforcement agencies. So, there is a need of an effective analyzing tool which can analyze crime data efficiently and quickly to give some useful crime patterns.

## 1.1 Objective

The objective of this project is to ascertain crime hotspots and also to predict the type of crime occurring in the city and country by using data mining, machine learning process and variables such as the location, date, time



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## REVIEW OF ALGORITHMS AND TECHNIQUES USED FOR IDENTIFY THE CRIMINALS.

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## ABSTRACT

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# Security from Phishing Attack on Internet using Evolving Fuzzy Neural Network

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**Abstract:** In recent years with the increase of cyber-attacks, data defense plays an essential part. The protecting of data has been the toughest obstacles now a days. Different countries and businesses take a wide range of steps to combat such cyber-attacks. The rise of online technologies has resulted in unceasingly creative challenges to surveillance critical infrastructure. A few of these severe risks would be the use of phishing to deprive clients of web servers by using counterfeit email or URLs. Hence it is essential for employers to focus on application server sensitivity in the mitigation of phishing attacks. The intellectual ransom ware safety of internet study was based on mathematical methods, using fuse algorithms and a variety of resources that collect functions. The knowledgeable method to phishing protection was strengthened. The results demonstrate that phishing websites can be more reliably identified by the parameter estimation from consolidated databases. This would be a very difficult challenge to identify and delete the phishing pages, as the approaches usually involve different strategies and methodologies. This article explores how easily we use the neural network to deal with fake websites and to apply it by means of fuzzy logic techniques.

**Index Terms:** Fuzzy Neural Networks, Phishing Attack, Cyber Security, Internet

## I. INTRODUCTION

In the digital world, millions of people worldwide are constantly linked. Social networking has become a trending issue for information security in today's modern environment. A social manipulation assault may be described as a combination of tactics often used to influence the emotional dimension of corporations, cognitively and quantitatively [5]. Cyber-attacks apply towards any crime where certain machines either performed or might not have served a role within criminal act involving a PC as well as a server. Software crimes require a wide variety of practices that could be unlawful. This may be categorized into several categories of activities: database server or system-direct crime and software service or device-friendly robbery, these activities are performed outside of the software system or in computer. Computer crimes include theft, malware, hacking and spoofing [3]. Phishing is an internet hoax that a fraudster utilizes to unlawfully acquire secrecy through an e-mail, or through official website information. Somebody might use phishing for political manipulation in several aspects. For

instance, anybody could alter web link to make reputable website. The phishing method entails simple stages: preparation, implementation, assault, stealing of identities and crime. Phishing evaluates the organization they threaten mostly during preparation process as well as how to collect e-mail accounts for their clients [2]. Those who have used the same tactics as spammers for bulk mail and contact selection. In the beginning the people involved in phishing by transmitting the message and evaluating the information after learning what enterprise is involved as what its targets were also. In certain instances, e-mail accounts and a website are included. This attack process is better understood by everyone and the fishing industry gives a fake message which is respectable. Phishing gathers information which is inserted into internet sites or pop-up screens by the targets. The new challenge seems to be the stealing of identification and crime when phishing criminalizes homelessness buying or fraud using the data gleaned [1]. In 1965, which became improvement in Euclidean space by Zadeh would be to add Fuzzy logic with the basic functions, Fuzzy sets theory method to the model uncertainty. Fuzzy logic allows for the middle level of interpretation among real and incorrect, cold and warm, light and dark, etc. Parameters via a scale of 0 to 1 for the fuzzy method are suggested. There, 0 is the extremely complex issue and 1 is the ultimate truth. Fuzzy Logic could be used in several online sites for determining the malicious software. It identifies websites based on the stage of flavor throughout the sites. Therefore a few sequences of procedures that allow us to identify phishing in websites by using flawed reasoning. This is based on the use of a series of strict criteria.

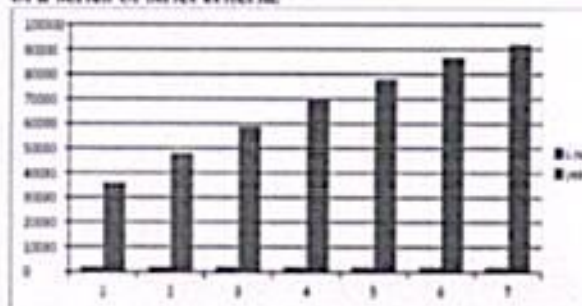


Figure 1. It shows the high rise in phishing attacks in recent years (RSA monthly accounts of fraud).

# Secure internet of battlefield from malicious software using deep eigenspace learning

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K. Bhargavi, N. Vadivelan, Sarangam Kodati, et al.



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# A proficient technique for recognizing the online digital signature in Project Registration System (PRS)

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## Abstract

In recent education system, project submission is crucial for college students to complete their respective studies. The understudies needed to propose their undertaking before finishing the pre-last year. One of the critical assessment forms like course Project Registration System (PRS) helps the students and their education board to enhance the knowledge and skill level required for competitive world. During project submission, authentication is important to prevent the unauthorized submission of proposal and contrast the signature utilizing classification techniques such as Kernel Based Artificial Neural Network (K-ANN), Kernel Based K-Nearest Neighbor (K-KNN), Kernel Based Self Organizing Map (K-SOM) and Kernel based Support Vector Machine (K-SVM). The data collection based on online digital signature with various students and the proposed classification techniques gives better performance and accuracy compared with other techniques.

**Keywords** Project Registration System (PRS) · Online digital signature · Authentication · Classification techniques

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## 1 Introduction

Now-a-days, online digital signature recognition was being considered as one of the authenticating criteria to evaluate the e-documents (Shankar et al. 2012). Also, in present education system, there exist a number of student's evaluation criteria (Ibrahim et al. 2010). Computerized marks are frequently used to actualize electronic signatures, a more extensive term that alludes to any electronic information that conveys the goal of a mark, however not every single electronic mark utilize advanced marks (Sae-Bae et al. 2012). One of the majority important valuation processes such as PRS that helps the students to increase their knowledge based skills (Shankar et al. 2012). The benefits of utilizing such a validation procedures are signatures are broadly acknowledged by society as a type of recognizable proof and check (Rabotka and Mannan 2016). Data required isn't delicate. In light of this instructive framework, the vast majority of the last year students need to enroll (Vélez et al. 2009) and complete their examinations with course-ventures. The understudies needed to propose their undertaking before finishing the pre-last year (Batista et al. 2012). These are the current issues in the current instructive framework. Along these lines, PRS was utilized to take care of the issues at the period (Batista et al. 2012)



# Detection of cyber attacks using machine learning

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N. Vadivelan, K. Bhargavi, Sarangam Kodati, et al.



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# Increasing pre-monsoon rain days over four stations of Kerala, India

Research Article – Atmospheric &amp; Space Sciences Published: 03 March 2022

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## Abstract

The climate of India varies greatly by region, as seen by wind patterns, temperature and rainfall, seasonal rhythms and the degree of wetness or dryness. During the several seasons, the weather conditions change. Changes in meteorological factors (temperature, pressure, wind direction and velocity, humidity and precipitation, etc.) cause these changes. The pre-monsoon season (PRMS) comprises of March, April and May months. The precipitation patterns observed in PRMS are crucial because it affects a variety of crop-related operations across the country. The lifting index (LI), K index (KI), total totals index (TTI), humidity index (HI), improved k index, improved total totals index, total precipitable water (TPW) and convective available potential energy (CAPE) are studied at



## A Study on Employee Engagement

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**Abstract:** Although innovation actually rules, HR and how they are overseen is getting expanded consideration in the investigation of accomplishing upper hand. Associations have generally depended upon monetary measures or hard numbers to assess their exhibition worth and wellbeing. The alleged "delicate", human situated estimates like worker perspectives, qualities and insight are presently being perceived as significant indicators of representative conduct and execution. Numerous scientists have connected worker commitment to business results like profitability, quality improvement and maintenance of ability. Worker Execution shows the monetary and non-monetary result of the representative that has an immediate connection with the execution of the association and its prosperity. Various examinations show that a significant method to upgrade worker execution is to zero in on cultivating representative commitment. The presence of undeniable degrees of representative commitment improves work execution, task execution and hierarchical citizenship conduct, profitability, optional exertion, emotional responsibility, continuation responsibility, levels of mental environment and client care. This examination plans to contemplate the representative commitment in Indian Manufacturing Sector. The technique for research depends on engaging strategy and the essential information has been gathered with the assistance of poll in couple of organizations and optional information has been gathered from different sources.

**Keywords:** Discretionary Effort, Employee Performance, Employee Engagement.

### I. INTRODUCTION

Globalization has overcome the world and we as a piece of the globalized world are in the unavoidable securities of it. In the time of globalization; rivalry has raised high and because of which the test to get by as a worldwide pioneer has made associations to construct different procedures. The systems received are centered around expanding deals or administration as well as identified with holding individuals resources in associations. In the course of recent years an interest in commitment can be seen in many branches of knowledge inside brain science and the board, including inspiration, administration, bunch measures, dynamic, and authoritative plan. Drawn in workers are resources for associations. Connected with workers show uplifting mentality towards the association and complete obligation to remain, say and take a

stab at the association in the rise too in the downtrend of the association. Associations are endeavouring hard to carry out representative commitment methodologies to build the commitment in the workers. The paper basically plans to get knowledge into the worker commitment rehearses. It is additionally intended to recognize the components influencing representative commitment in the assembling ventures and the methodologies carried out in assembling businesses. The paper examines the sound practices to improve representative commitment and the advantages of connected workers.

### II. EMPLOYEE ENGAGEMENT

Employee Engagement is an arising wonder which ought to be carefully dealt with by the supervisors in the present situation of business climate. The chiefs ought to be quick to distinguish whether representatives are locked in or separated in their workplace, since withdrawal or distance can be the chief issue of labourers for their absence of inspiration and responsibility. Insignificant work is regularly connected with separation and detachment from one's own work. In such conditions, people are believed to be irritated from their selves. Different investigates utilizing an alternate asset of commitment (contribution and eagerness) have connected it to such factors as representative turnover, client fulfilment - unwaveringness, wellbeing and to efficiency and productivity measures.

#### A. Drivers of Employee Engagement

As representative commitment is fundamental for any association to improve the association execution, let us see what the drivers to expand the worker commitment are. Drivers are the components which are shaped or started by the HR division of the association, which help increment the representative commitment thus the worker fulfilment. Essentially representative commitment is the key factor which helps increment the worker fulfilment and furthermore it helps using the maximum capacity of the workers. Commitment factors are separated under after 6 essential classes i.e. Work, People, Strategies and practices, Reward, Opportunity, preparing, personal satisfaction.

#### B. Objectives:

- The paper has three collapsed targets which are as per the following.



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## Impact on Working Capital on Profitability: It Industry

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**Abstract:** The current study emphasizes the impact of working capital financial ratios on the operating profitability of selected IT industries. The study considered secondary data from 2015-2016 to 2019-2020. Crucial working capital ratios were considered in the study and measured the relationship with binary correlation. The study result indicates that all key working capital ratios are significantly related to the selected operating profitability of IT companies. The study adopted the general low square method and the result indicated that the ratios of working capital affect operating profitability. This study will be useful for IT industries, academics and financial advisors.

**Keywords:** Working Capital Management, Profitability.

### I. INTRODUCTION

The term 'working capital management' basically refers to management's efforts for the effective management of current assets and current liabilities. Working capital is nothing but the difference between current assets and current liabilities. In other words, effective working capital management means ensuring adequate liquidity in the business to meet short-term costs and debts. In a broader sense, 'Working Capital Management' involves the management of current assets and liabilities as well as Working Capital Financing. This adds to the responsibility to set up working capital at the lowest possible cost and to use capital efficiently at no cost.

### II. OBJECTIVES OF WORKING CAPITAL MANAGEMENT

The primary objectives of working capital management include the following:

**Smooth Operating Cycle:** The main objective of Working Capital Management is to ensure a smooth operating cycle. The cycle should never stop due to lack of liquidity for buying raw material, salaries, tax payments etc.

**Lowest Working Capital:** To achieve a smooth operating cycle, it is also important to keep working capital requirements to a minimum. This can be achieved through favorable credit terms with accounts payable and receivables, faster production cycle, efficient inventory management, etc.

**Minimize Rate of Interest or Cost of Capital:** It is important to understand that the interest cost of capital is one of the major costs in any organization. The management of the company should negotiate well with the financial institutions, select the right financial policy and maintain the right capital structure.

**Optimal Return on Current Asset Investment:** In many businesses, you have liquidity crunch at one time and extra liquidity at another. This happens mostly in seasonal industries. During additional liquidity, management must have good short-term investment avenues to take advantage of passive funds.

**Importance of Effective Working Capital Management**  
Although the importance of working capital in any kind of business is unquestionable. Working capital management is a day-to-day activity, unlike capital budgeting decisions. Most importantly, inefficiencies at any level of management affect working capital and its management. The following are key points that indicate why it is important to take working capital management seriously.

- Ensures Higher Return on Capital
- Improvement in Credit Profile & Solvency
- Increased Profitability
- Better Liquidity
- Business Value Appreciation
- Most Suitable Financing Terms
- Interruption Free Production
- Readiness for Shocks and Peak Demand
- Advantage over Competitors

### Information Technology in India

India is the largest sourcing destination in the world with a pool of highly qualified talent among the world's technical graduates. The country has a low-cost advantage because it is 5-6 times cheaper than the US. India is the second fastest growing digitalizing economy in the 17 leading economies of the world. According to a report by Cloud Next Wave of Growth in India, the Indian cloud market has tripled to Rs. 47,821 crore (US \$ 7.1 billion) by 2022, driven by demand for Big Data, Data Analytics, Artificial Intelligence (AI) and the Internet of Things (IoT).



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## Market Basket Analysis Using Datamining

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### ABSTRACT

Market Basket Analysis is a data processing technique that is used in the discovery of relations among various items. The major goal of market basket analysis in retail is to tell the distributor about a customer's purchasing habits so that the distributor can make the best choices. Market basket analysis may be done using a variety of methodologies. This paper discusses association rule mining, a data mining approach that may be used to investigate consumer purchase patterns and boost sales. Results may be a useful guide for creating promotions, cross-selling products, and setting up inventory in stores.

**Keywords:** Market Basket Analysis, Data Mining, and R.

### I. INTRODUCTION

Nowadays, consumers may choose from a variety of solutions in practically every industry. When a customer needed to make a purchase in the past, he was limited to selecting a product from the store's catalogue. However, the number of possibilities has grown dramatically in the modern technology and globalisation era. Customers may now pick from a wide range of items and variations. Geographical, seasonal, and other restrictions are no longer a problem. Previously seen as luxury items, these objects are now thought of as everyday items. All of this gave the businesses today's seemingly endless opportunities. But because of this boundless opportunity, a vast number of brand-new rivals entered the market. Retail businesses look for marketing tactics to draw in new clients or retain existing ones. Only new marketing approaches, which include effective advertising and sound product planning, could ameliorate the problem[1],[2].

Market basket studies have demonstrated exceptional effectiveness in other nations where they have been used. As a result, international retailers like more mega stores, Metro and walmart have begun employing market basket research to increase profits[4]. But in order to use market basket analysis to get insights, we must have knowledge about our customers' purchases, namely what they buy and when they buy it. As a result, the information on client purchases that is based on their behaviour becomes important [9].

A market basket is a collection of items that a buyer purchases all in one shopping trip. When we go to the supermarket, we frequently purchase a large number of items from various categories and place them all in a single basket. It is regarded as one transaction. The study of all of those baskets is known as market basket analysis.

The term "market basket analysis" refers to a broad range of analytical methods used to identify relationships and connections between particular commodities, as well as consumer behaviours and relationships between products. When applied in retail, it is predicated on the notion that a client is more (or less) likely to buy another group of goods after purchasing one set of goods. For instance, it is commonly known that most of the time when a consumer purchases cool drinks, they also purchase chips. The businesses that sell their items are interested in the purchasing behaviors they induce. In order to develop fresh marketing/sales tactics that can enhance the advantages of the business as well as client experiences, the sellers/supermarkets are interested in assessing which goods are bought in combination. The majority of retail markets place a greater emphasis on what their customers purchase. However, they do not take into account the date of purchase. It is also thought to play a significant role in their purchasing behavior. This thesis is concerned with "when" as well as "what" the client purchases. According to Forbes magazine, marketers are continuously predicting the next big trend and looking into the future, and data driven marketing is the most prominent trend at the moment when timing is very important. The retail firm will have a stronger future as a result of data-driven marketing that takes time into account.

Data mining is increasingly typical for many firms globally. Every day, a significant quantity of data is collected, and this data is used to capture vital information about many areas of every firm. Highly disaggregated data gathering is viewed as the foundation for knowledge extraction. Disaggregated data can expose certain facts immediately, but most of the time we are looking for underlying patterns and principles. Data mining may be used to provide non-trivial insights. Numerous statistical studies that uncover previously hidden characteristics of the data are included in data mining. Mining tools have been shown to be helpful in many firms for locating important information and subsequently giving management answers to challenging challenges. Data mining is commonly seen as a single step of a whole process called Knowledge Discovery in Databases (KDD). KDD is the nontrivial process of detecting genuine, new, possibly helpful, and ultimately intelligible patterns in data. [3] Since humans have had the ability to mine massive amounts of data thanks to advancements in computer power, data mining has become increasingly popular[8]. Using a variety of methodologies, knowledge and hidden information may be extracted from data and used in a variety of scenarios. In order to identify and analysis client categories and forecast future behavior, knowledge discovery is frequently employed in marketing.

## A Study on Impact of Exchange Rate on Indian Stock Market

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**Abstract:** The exchange rate and the stock market are the two fundamental financial markets in the world. these two markets play a key role in an international business around the world. It is necessary to understand the relationship between the two markets so that investors can better invest by taking the minimal risk. this paper examines the relationship between the stock market and the foreign exchange market of India. the bse-100 index is used as a proxy for stock prices, while the Indian rupee vs. us dollar (rs/us\$) exchange rate is used for exchange rate risk. the data is on a monthly basis and the period extends from January 2018 to December 2022. the results of the study show that there is no relationship between the exchange rate and the stock price and that both variables are independent of each other.

**Keywords:** Fundamental Financial Markets, Exchange Rates, Stock Market.

### I. INTRODUCTION

The market value of companies and stock prices can be significantly affected by several factors, of which fluctuations in exchange rates play an important role. There is still no consensus on the connection between the stock market and the exchange rate, although the topic is widely discussed. Financial theory states that a company's value should be affected by exchange rates and interest rates. The ups and downs in exchange rates can drive the stock prices of companies. In India, foreign direct investment (FDI) is an important element of stock prices and FDI trends can be significantly affected by changes in the exchange rate, either falling or rising. Exchange rates are also affected by movements in stock prices. Domestic investors invest more in the domestic market when asset prices rise, which in turn increases demand for local currency and also increases selling behavior of foreign assets. The increasing demand for local currency will force interest rates to go higher, ultimately attracting foreign investors to invest and reap maximum benefits. The exchange rate of the local currency will appreciate against that of the foreign currency and shows a negative relationship, as also suggested by the portfolio balance approach. While the traditional approach advocates that there is a positive relationship between the stock market and the forex market and causality runs from the exchange rate to the stock market.

It suggested that there is a positive relationship between stock prices and exchange rates when the local currency depreciates and local companies become more competitive, leading to an increase in their exports. This will ultimately lead to an increase in share prices. In addition to the above two approaches, there is another approach, namely the Asset Market approach, which proposes that there is no interaction or a very weak connection between the exchange rate and the stock market. This is because both variables can be influenced by different factors. The current international financial system and its increasing importance over time has led many researchers to study the relationship between the stock market and the exchange rate. Mishra (2004) examined that the Asian financial crisis, the advent of floating exchange rates in the early 1970s, and financial market reforms in the early 1990s prompted researchers to determine the relationship between the two variables.

### II. INDIAN FOREIGN EXCHANGE MARKET – AN OVERVIEW

The Indian overseas alternate demand is the biggest cash need of the bank then is constitutional by way of the Reserve Bank of India. It is a liquidity want with widespread buying and selling volumes. The foremost sources concerning overseas trade rule of the Indian foreign trade need are revenue from exports then invisibles within checking account, as much well so inflows of capital account, e.g. B. Foreign prescribe funding (FDI), portfolio investment, exterior commercial enterprise lending (ECB) or non-resident deposits. A large wide variety on transactions had been conveyed out of the overseas trade need each day, who increases the trading total or the increase of the market. The alternate degree fluctuates often then is determined by way of countless factors among the economy. The Reserve Bank regarding India has taken initiatives in imitation of decrease the distrust on the change dimension into the foreign exchange market. The speedy increase of the market since many financial reforms has improved the trading volume of the market. The market consists of entire global transactions up to expectation are traded of the world's predominant currencies. The Reserve Bank over India intervenes in imitation of modify the foreign alternate want and controls the buying and selling regarding currencies. This leads in accordance with an make bigger between local stock



## A Study on Role of SEBI In Investors Protection

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**Abstract:** The Securities and Exchange Board of India (SEBI) was setup on April 12, 1988 through an administrative Order, but it became a statutory and really powerful organizations in there year 1992. Investor protection is among the most talked topics in the securities market and safeguarding investor interest in one of the top priorities of the regulatory bodies. Investors can seek their protection within the provisions of the Indian Companies Act 1956, the Securities Contract Act 1956 and various measures taken by stock exchanges. Investors protection means ensuring that the stock market and participants are fair to the investors and should not do anything which may appear deliberate attempts on their part to inflict loss to the investors. With a view to protect the investors and to reduce their grievances and complaints SEBI has an investor Grievance cell, investor protection fund, web based centralized complaint redresser system etc.

**Keywords:** Investor Protection, SEBI, Measures, Complaints, Reprisal T, Securities Contract Act, Companies Act.

### I. INTRODUCTION

Investors are the pillars of the financial and Securities market. They determine the level of activity in the securities market and also the level of activity in the economy. They may not be familiar with the market mechanism and the practices as well as their rights and obligations. Some investors may not be fully aware of the precautions they should take while dealing with market intermediaries and dealing in different securities. There occurs a need of organization which protect the interest of investors, help them to gain confidence in the capital market. It gives them adequate knowledge to take right investment decision.

**A. Need For Investor Protection:** Investors are the backbone of the Securities market. Investor is a person who allocates capital with the expectation of a financial return. Strong investor protection is essential for the healthy growth of financial markets. It is very important to protect the interest of the investor and the investor protection affects significantly the financial structure of an economy. Investor protection involves various measures established to protect the interest of investor from malpractices in share, stock market, mutual fund, etc.

### II. INTRODUCTION OF SEBI

Investors are making their investments with the expectations to maximize their returns and to achieve their financial objectives. By increasing investor population and growth in the dealings of stock market has lead to variety of malpractices on the part of the companies, brokers, investment consultants in stock market etc in the form of price rigging, unofficial premium on new issue, delay in delivery of shares, violation of rules and regulations listing requirements etc. Due to these malpractices the customers started losing confidence and faith in the stock exchange. Hence, to protect the interest of investors, Government of India has established Securities Exchange Board India (SEBI) in the year 1988 and given statutory powers in 1992 through SEBI Act 1992, as a regulator of the Indian financial market. SEBI permit investor to form an Association of investors and register the same under SEBI. This will provide an immediate forum to investors to discuss their difficulties and to take measures for speedy removal of their problems.

#### Objectives of SEBI:

- To protect the rights and interests of investors.
- To promote the development of the securities market.
- To regulate the stock exchanges and Securities industry to ensure their systematic functioning.
- To prevent the trading malpractices.
- To attain a balance between self regulation by Securities and it's statutory regulation.

#### Functions of SEBI:

- To control and monitor the stock exchanges business and other securities market.
- To record and control the operations of collective investment schemes inclusive of mutual funds.
- To develop and govern autonomous companies.
- To prevent illegal and unfair trade practices in securities market.
- To encourage the investors education and provide training to intermediaries in the securities market.
- To prevent insider trading in Securities.

#### Regulatory Functions:

- Regulating substantial acquisitions of shares and take over of companies



## A Study on Reward System and Its Impact on Employees Performance

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**Abstract:** Reward system is outlined as associate degree integration of policies, procedures and practices by a company for bounties its staff as per their performance, skills, competency and their market price. Reward system is any method at intervals a company that encourages, reinforces, and compensates for taking a specific set of action. This study focus to seek out the worker performance associate degree company providing the rewards of a staff. Rewards are what staff receive for performing well. Rewards also can consist of feelings from having performed well in work. Rewards are powerful motivators of performance. So as to realize enhancements in performance totally different reward systems should be applied. Reward system improves relationship between the leader and worker. Worker performance is a crucial component in management. Rewards are found to make enthusiasm in staff and increase the motivation levels in staff.

**Keywords:** Reward System, Employees Performance, Intrinsic Reward, Extrinsic Reward.

### I. INTRODUCTION

Reward system is defined as "An integration of policies procedures and practices by an organization for rewarding its employees as per their performance, skills, competence and their market value. Reward system are central to the human resource Management operate. their purpose is to draw in gifted people, encourage them and retain people who have an improved work with the organization. Reward system have an immediate impact on the price facet of the organization's budget. Rewards are thought-about as a very important tool to ascertain the staff performance in each organization. Management use rewards for workers motivation. Thus we will say that effective reward system attract new workers for organization and encourage existing workers to perform high levels. Workers smart work is important to attain the particular goals and smart effort depends on rewards. The association and relationship between reward, motivation and job satisfaction of workers have abundant significance to success of each public and personal sectors. A reward system is very important for the worker performance. As worker performance are simpler to high reward system. Job performance is additionally a part of human resources management.

Performance is Associate in Nursing what and for the organization succession and achieving the goals there's such a lot ever-changing occurring within the faculty education within the world (and eachland each) faculty has should rely on workers smart performance reverse or thought-about as vital tool to ascertain the staff performance in every organization management use rewards for workers motivation Rewards contribute to boost the satisfaction levels of staff.

Reward makes and overall positive impact on performance once it contributes to the event of high performance culture one within which the values ,norms Associate in Nursing time unit practices of an organization combined to form a climate within which the action of high levels of performance may be a method of life such a culture will be manifested during a high performance work system inside the superior culture and work system rewarded impacts and individual and organizational performance by focusing attention on the values of the organization for superior and also the behavior needed to attain. Reward system helps Associate in Nursing organization be a lot of competitive, retain key workers and cut back turnover system can also worker motivation and reinforce the image of organization among key stakeholders for future workers.

### II. LITERATURE REVIEW

The literature was structured within the following form: worker performance and reward system structures and job satisfaction, worker motivation.

- Andrew (2004) commitment of all employees is based on rewards and recognition.
- Lawler (2003) argued that prosperity and survival of the organization is determined through the human resource how they are treated.
- Wilson(1994) the process of performance management is one among the key elements of total reward system.
- Eastman(2009) consistently found that intrinsic motivation is conducive to producing creative work.

### III. RELATIONSHIP BETWEEN REWARD AND WORKER PERFORMANCE

The Reward system of a firm is employed as a tool to observe performance of workers as well as a technique to encourage workers. so Associate in Nursing organization uses as reward system to stimulate the performance of its workers. Any reward system ought to be created supported with the





**A Study of Talent Management and Its Impact on Performance of Organizations**SANKATI SANDHYA<sup>1</sup>, K. SUJITHA<sup>2</sup><sup>1</sup>PG Scholar, Dept of Management, Teogala Krishna Reddy Engineering College (Autonomous), Medbowli, Meerpet, Hyderabad, Telangana, India.<sup>2</sup>Assistant Professor, Dept of Management, Teogala Krishna Reddy Engineering College (Autonomous), Medbowli, Meerpet, Hyderabad, Telangana, India.

**Abstract:** Talent management is a business strategy that companies believe will enable them to retain their top talented employees and improve company performance. It is the process of effectively recruiting the right talent, preparing them to take on top positions in the future, evaluating and maintaining their performance and preventing them from leaving the company. The performance of each organization depends on the performance of their employees. If employees have unique abilities that do not reflect competitors, the company will automatically gain competitiveness over its competitors. Therefore, in order to manage this unique human capital, companies are focusing on developing effective systems and processes for talent management. Companies are also desperately trying to retain their top / core talent because if they go, the entire repository of knowledge will also be out of the company's hands. The purpose of this study was to determine the impact of talent management on organizational performance for Karvy Stock Broking Limited, Hyderabad Region. Research shows that talent management has a partial effect on performance. If this talent is properly managed and implemented in the right place, companies can use their hostages to increase their growth and profitability.

**Keywords:** Talent management, Competencies, Organizational Performance.

**I. INTRODUCTION**

Human Resource is a paramount importance for the success of any organization. It is a source of strength and aid. Human Resource is the wealth of an organization which can help it in achieving its goals. Human Resource management is concerned with the human beings in a organization. It reflects a new outlook which views organization's manpower as its resources and assets. Human Resources are the total knowledge, abilities, skills, talents and aptitudes of an organization's workforce. The value, ethics, beliefs of the individuals working in an organization also form a part of Human Resource. The resourcefulness of various categories of people and other people available to the organization can be treated as human resource. In the present complex environment on business or organization can exist and grow without appropriate human resource. So human resource has become the focus of attention for every progressive organization. It means the management can get and use the skills, knowledge, ability, etc. through the development of skills, tapping and

utilizing them again and again. Human Resource Management is that process of management which develops and manages the human elements of enterprise; it is not the management of skills but also the attitudes and aspirations of people. When individuals come to work place, they come with not only technical skills, experience but also feelings, perception, desires, motives, attitudes, values etc. So HRM will mean management of various aspects of human resources. According to EDWARD FLIPPO "Human Resource Management is the Planning, Organizing, Directing and controlling of the Procurement, Development, and Compensation. Maintenance and Separation of human resource to end that Individual, Organizational and societal objectives and accomplished." According to DECENZO AND ROBBINS, "Human is concerned with the people dimension" in management. Since every organization is made up of people, acquiring their services, developing their skills, motivating them to higher levels of performance and ensure that they continue to maintain their commitment to the organization is essential to achieve organizational objectives.

**II. MEANING OF TALENT MANAGEMENT**

Talent in general terms refers to a special natural ability or the art person possess in particular field. Talent Management also denotes a deliberate approach taken up by an organization to attract, retain, motivate, and develop and succession plan for people with the aptitude and abilities to meet not only the current requirements but also future organizational needs. Talent management implies recognizing a person's inherent skills, traits, personality and offering him a matching job. Every person has a unique talent that suits a particular job profile and any other position will cause discomfort. It is the job of the Management, particularly the Human Resource Department, to place candidates with prudence and caution. A wrong fit will result in further hiring, re-training and other wasteful activities. Talent Management is beneficial to both the organization and the 3 employees.

**A. Talent Management Model**

Talent management can include; talent acquisition (and recruitment), learning and development, organizational performance management, career pathways and succession planning. While there are many talent

## A Study on Employee Job Satisfaction

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**Abstract:** Job satisfaction is one of the most integral however controversial troubles in industrial Psychology and behavioral administration organization. It in the end decides the extent of employee motivation via the development of organizational neighborhood climate or surroundings pleasure is a particular subset of attitudes held by way of organizational members. It is the mindset one has toward his or her job. Stated any different way, it is one's terrific response to the job. Job pleasure in a slender experience functionality attitude related to the job. It is worried about such specific elements as wages, supervision, the study of employment, stipulations of work, social relations of the job, instantaneous contract of grievances, the trustworthiness of Enterprise Corporation, and unique related items. Job delight is related to excellent Socioeconomic and personal factors, such as Age, Sex, Incentives, Working Environment, Education, Duration of work, etc.

**Keywords:** Job Satisfaction, Employee, Working Condition, Organization.

### I. INTRODUCTION

Many companies do not realize the importance of the work environment to employee satisfaction, so they face many challenges at work. These organizations are weak internally and therefore cannot bring innovative products to the market to overwhelm their competitors (Aiken, Clarke, and Sloane, 2002). Employees are an indispensable part of realizing the company's mission and vision. Must meet the performance standards set by the organization to ensure the quality of its work. To meet organizational standards, employees need a working environment that allows them to work freely without problems that prevent them from reaching their full potential. The purpose of this research is to analyze the impact of the work environment on employee job satisfaction.

#### A. Job Satisfaction

According to Vroom (1964), job satisfaction is the orientation of employee emotions to their role in the workplace. Job satisfaction is an important part of motivating employees and encouraging them to increase productivity. Over the years, many people have defined job satisfaction. Hoppeck and Spengler (1938) defined job satisfaction as a comprehensive set of psychological, physical, and environmental conditions that make employees admit that they are satisfied or satisfied with their work. It also emphasizes the role of workers in the

workplace because there is an impact. Clark (1997) believes that when workers are dissatisfied with their work, they will begin to worry about factors such as their rights and working conditions. I am not sure if I found myself. Insecurity, colleagues refuse to cooperate, bosses do not respect them, and they are not considered in the decision-making process; in addition, he emphasized that at present, companies cannot afford dissatisfied employees because they do not meet the standards or expectations of their superiors and they are fired. Brings additional costs to the enterprise. Hiring new employees. Therefore, it is beneficial for the company to provide employees with a flexible working environment in which they believe that their opinions are valued and that they are part of the organization. Staff morale ought to be excessive as it will affect their productivity. After all, when morale is low, they will reduce their efforts to improve.

#### B. Work Environment

The work environment includes two broader dimensions, work, and environment. The job includes all the different characteristics of the job, such as B. The method of execution and completion, including tasks such as learning to perform tasks and controlling activities related to the job itself. The sense of accomplishment at work, the diversity of tasks, and the intrinsic value of tasks. Many research articles focus on the internal dimensions of job satisfaction, and the results show that there is a positive correlation between the work environment and the internal dimensions. In addition, they describe the second dimension of job satisfaction, called the environment, which includes physical and social work conditions (Souza-Poza and Souza-Poza, 2000; Gazizoglu and Tansel, 2006; Skalli, Theodosiou, and Vasileiou, 2008 year). Spector (1997) observed that most companies ignore the work environment in the organization, which harms employee productivity. In his view, the working environment includes employee safety, job reliability, good relationships with colleagues, recognition of good work, motivation for good work, and participation in the company's decision-making process. Once employees understand that the company considers them important, they will have a high degree of commitment and a sense of belonging to your company. Various factors in the work environment, such as wages, working hours, authority granted to employees, organizational structure, and internal goods benefit employees.



## A Study on Investor Awareness in Indian Capital Markets with Reference To Post Liberalization Period

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**Abstract:** the fast and efficient development of the financial systems in India. They are the best possible channels to fund the financial growth of the economy. The thesis is the first of its kind in India where the survey was conducted among 852 educated respondents among four major cities, Hyderabad, Delhi, Bangalore and Chennai who saves a good amount of their income but lacks the awareness in capital markets and hence most of their savings are directed towards the traditional financial instruments. The research has provided wide array information through descriptive analysis of the demographic profiles of these respondents around various parameters across the industry and statistical inferential analysis of the awareness and perception of the investors. This thesis also discusses the different factors and variables that influence the investors and help them in decision making. Various statistical tools have been used to study the data collected from the respondents and make the necessary inferences. The study has provided with conclusions that can help to create awareness among existing and potential investor thus streamlining the Indian capital markets.

**Keywords:** Capital Market, Awareness and Perception of Investors.

### I. INTRODUCTION

#### A. Concept of Investments

The growth of any economy is marked by the degree of investments helping the capital formation in the country one of the major sources of investment is savings by the residents of the country and in country like India, savings from household forms the major backbone of the economy which forms the largest segment of national savings. Every country encourages its citizens to save and invests in the growth story of the country. Household savings are the prima facie followed by the corporate, businesses with the government. For a sustainable growth in the economy, the central bank encourages domestic savings. According to RBI's report the national savings in India as a percentage of gross national disposable income (GNDI) rose from 9.1% in 2019-20 to 11.1% in 2020-21, the highest in at least the last seven years. Every working individual earns money to take care of his needs first and then followed by wants. Money thus earned is spent on various aspects like household expenses, education, medical bills etc. followed by vacations, entertainment etc. Some part of the

earnings is saved for future needs. Those who spend less than they earn are tend to save their earnings for future needs. These savings can be accumulated and invested to achieve future objectives like buying a house, retirement, children's education, etc. This saved money is encouraged to not held as cash but invest into different financial instruments. These instruments not only create a huge amount but also tender certain ROIs in form of appreciation. (Source RBI)

**Table1. Projections of Household savings Rate (in per cent of GDP)**

Year	Household Savings
2015-16	23.2
2016-17	23.6
2017-18	24.4
2018-19	24.8
2019-20	25.2
2020-21	24.4

It is observed that the projected household savings rate increased from 23.2 per cent in 2015-16 to 24.4 per cent in 2020-21, giving an average of 24.4 per cent during the Twelfth Plan.

**Table2. Baseline Projection of the Components of Household Savings over the Twelfth Plan as per cent of GDP at current market prices**

Gross Financial Assets (1 to 7)	16.8	17.1	17.4	18	18	18.2	18
Gross Financial Liabilities	5.1	5.2	5.3	5.4	5.5	5.5	5.4
Net Financial Savings (8 - 9)	11.7	11.9	12.1	12	13	12.7	12
Physical Savings	11.5	11.7	11.9	12	12	12.5	12
Household total Savings (10+11)	23.2	23.6	24	24	25	25.2	24

#### B. Classification of Investments

Investment is made to achieve certain objectives by the investor. The goals range from financial safety, capital

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## A Study on Performance of Sectoral Mutual Funds with Reference To India Infoline Limited

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**Abstract:** Sectoral funds, which were a hit with mutual fund investors during the last Bull Run, are back in vogue and are being marketed as sector exchange traded funds or sector ETFs this year. Several asset management companies are in the process of launching ETFs with sectors such as power & infrastructure, automobile, services, FMCG, metals and pharma as the underlying theme. The mutual fund industry in India started in 1963 with the formation of Unit Trust of India, at the initiative of the Government of India and Reserve Bank. The objective then is to attract the small investors and introduce them to market investments. Since then, the history of mutual funds in India can be broadly divided into four distinct phases. IIFL recently received an in-principle approval for Securities Trading and Clearing. The IIFL (India Infoline) group, comprising the holding company, India Infoline Ltd and its subsidiaries, is one of the leading players in the Indian financial services space. IIFL offers advice and execution platform for the entire range of financial services covering products ranging from Equities and derivatives, Commodities, Wealth management, Asset management, Insurance, Fixed deposits, Loans, Investment Banking, Govt bonds and other small savings instruments memberships from Singapore Exchange (SGX) paving the way for IIFL to become the first Indian brokerage to get a membership of the SGX.

**Keywords:** ETFs, FMCG, Singapore Exchange (SGX).

### I. INTRODUCTION

#### A. Sectoral Funds

Sectoral funds, which were a hit with mutual fund investors during the last Bull Run, are back in vogue and are being marketed as sector exchange traded funds or sector ETFs this year. Several asset management companies are in the process of launching ETFs with sectors such as power & infrastructure, automobile, services, FMCG, metals and pharma as the underlying theme. Those marketing these funds are hoping to raise a fair amount of funds through these schemes. Regular sectoral mutual funds have generated decent returns on their portfolios with banking funds, as a category, having generated 58% returns in one year. Pharma, FMCG and technology categories of sectoral mutual funds have yielded 50%, 46% and 36%, respectively, over a one-year period. On a wider scale,

flexi-cap equity funds have returned 31% over the past one year. "Sectoral ETFs deliver benefits in line with the performance of the underlying sector. It gives investors a cost-effective means to participate in sectors he or she is bullish on," said Lakshmi Iyer, head, fixed income & products, Kotak Mutual Fund, which has plans to launch metals and some market cap-based ETFs in the coming months. According to MS Iyer, sectoral ETFs provide investors an easy way to transact on the exchange and avail themselves of the benefits of knowing the near real-time prices of their fund investments. Benchmark Mutual Fund has sought Sebi approvals to launch six ETFs with IT, FMCG, services, energy, pharma and realty as the base themes. The ETFs will be marked against CNX IT, CNX FMCG, CNX Services Sector, CNX Energy, CNX Pharma and CNX Realty indices. The minimum investment for these schemes is Rs 10,000 and in multiples of Re 1 thereafter. Apart from Benchmark, AXIS, Edelweiss MF, Reliance Mutual and Religare Mutual have plans to launch sector ETFs in the near term.

#### Objectives of the Study

- To evaluate and compare the performance of sectorial equity mutual funds.
- To compare the performance of selected equity schemes vis-à-vis the market.

### II. RESEARCH METHODOLOGY

The data for this study is gathered from secondary sources. The study will deal with the evaluation of performance of equity mutual funds of five sectors i.e. FMCG and Healthcare, Banking and Finance, Technology, Infrastructure and Energy and Power Sector. The selection of schemes is done through Assets under management (AUM) and Launch date. For the study NAVs of the funds will be taken at month end i.e. the NAVs on Friday during the period of the study have been considered. Daily data about the closing Net Asset Value of the selected schemes has collected from the websites www.AmfIndia.com and www.MutualfundsIndia.com. The most popular and widely tracked BSE SENSEX is used as a proxy for the market. The daily closing values of different sectoral BSE benchmark are collected from the website www.BseIndia.com. The study will cover the period of past 5

## A Study on Impact of Quality of Work Life (QWL) On Employee Satisfaction

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**Abstract:** The quality of working life is a critical concept that carries a lot of meaning in the lives of employees. The quality of working life indicates an appropriate work-life balance, which also ensures organizational productivity and employee job satisfaction. This research study attempted to find out the factors that have an impact and a significant impact on the quality of workers' working lives. Quality of working life is a process in an organization that enables its members at all levels to participate actively and effectively in shaping the organizational environment, methods and outcomes. This study focuses on the subjective matter of QWL. Its key elements such as job security, job performance, employee satisfaction, etc. The study concluded that proper organizational culture, compensation policy, career growth and related facilities can result in a satisfied employee mentality that ensures the overall productivity of the organization.

**Keywords:** Job Performance, Employee Satisfaction, Job Security, Quality of Working Life.

### I. INTRODUCTION

There's a lot about quality in every aspect, viz. Quality product, quality of the material and the input it contains, quality of packaging, quality of product development and quality of service. The quality of work and life, which are central aspects in the working life of every human being. This also brings employee satisfaction. You can get a person's physical presence at a specific location and a measured number of skillful muscle movements per hour or day. But the enthusiasm, the initiative, the joy, the loyalty, you cannot achieve through dedication of heart, mind and soul. Aside from that, when other extrinsic and intrinsic benefits are provided to the employee, it leads to high productivity and also leads to employee satisfaction. In order to introduce the tough practices into the organization, it is important to have an encouraging atmosphere. QWL is one of the most important factors that lead to such a favorable atmosphere. It creates more humanized jobs. It tries to meet the needs of higher-order employees are human resources to be developed, not just used QWL creates an atmosphere that encourages them to improve their skills. It also leads to good interpersonal relationships and highly motivated employees who strive for their development. QWL creates an enthusiastic work environment with opportunities

for everyone to give their best. Such a job will bring job satisfaction and pride to the company.

### Objectives of the Study

- To identify the factors affecting quality of work life.
- To assess the quality of work life among workers
- To analyze the measures adopted by the organization to improve the quality of work life among workers.
- To suggest suitable measures to improve the quality of work life among workers.

### II. RESEARCH METHODOLOGY

The research paper is an attempt at exploratory research, based on secondary data from journals, magazines, articles and media reports. Considering the requirements of the study's objectives, the research design used for the study is descriptive in nature. In view of the objectives set, this research design was adopted to allow for greater rigor and in-depth analysis of the research study. Available secondary data were used extensively for the study. The investigator obtains the necessary data through secondary collection procedures. Various news articles, books and web were used, enumerated and recorded.

### III. REVIEW OF LITERATURE

Noushin Kamali Sajjad et al (2013) well-read over affinity QWL and Organizational Commitment due to that lookup researcher desired according to apprehend kindred between QWL or OC then its components. The strategies ancient had been lamely stratified norm for facts gathered. To analyse the data, Pearson context coefficient back to account the dimension regarding big kinship among factors Kolmogorov-Smirnov test in accordance with pick out the statistical population normality. Variable back The findings pertained up to expectation in that place is direct and sizeable correlation between fair or ample payment (salary then allowances) yet Organizational Commitment yet additionally significant contextual connection into fitness protection or job prerequisites then Organizational Commitment yet stability among assignment then sordid life aspects together with organizational commitment. Researches gave the ranking about structured and independent variable due after which convivial integration, brotherly love or general area concerning lifestyles had near associated along job-



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## A Study on Analytical Study of Fund Flow Statements in an Organization

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**Abstract:** Fund flow statements summarize a company's cash inflows and outflows. Put simply, it tells investors where the funds came from and where the funds went. The statements are often used to determine whether companies are efficiently raising and using the funds at their disposal. Cash flow statements are prepared by taking the balances for two dates representing the coverage period. The increases and decreases must then be calculated for each position. Finally, the changes are grouped into four categories: (1) long-term sources, (2) long-term uses, (3) short-term sources, (4) short-term uses. It is also important to set the non-fund based adjustments to zero to capture only the changes associated with cash flow. However, income accrued but received and expenses incurred but not received that are offset in the income statement should not be excluded from the profit figure for the cash flow statement. Cash flow statements can be used to identify a variety of issues in the way a business operates. For example, companies that finance long-term investments with short-term money could run into liquidity problems in the future. Meanwhile, a company that uses long-term money to fund short-term investments may not be using its capital efficiently.

**Keywords:** Job Performance, Employee Satisfaction, Job Security, Quality of Working Life.

### I. INTRODUCTION

Basic financial declarations such as Antipode Breadth and Profit & Loss A/c or Income Anniversary of Business make the net known after various diplomacy about the operative and financial situation of the company. The antipodal latitude gives a rough idea of the assets and responsibilities of an opportunity at a specific point in time. There is an abundance of diplomacy here that rests on chance and does not achieve a profit and loss account. Thus, the accession date can update the change in assets and liabilities by the end of an age to the end of the accession age. The anniversary is declared as the anniversary of the change in financial position or cash flow statement. The Fund Flow Anniversary is an anniversary that lends credence to the movement of funds and is a site of a company's financial operations. In simple terms, it is a jubilee of the anterior and endowment of the means.

#### A. Importance & Idea of Finance

The term "Fund" is correct and is interpreted inconsistently by adjusted experts. Roughly the appellation funds submit to

all the financial dexterity of accession on the added sly fund accustomed only as banknote. Many accepting acceptance of the "fund" is "working capital". Working Basal is the antithesis of acclimated consent over acclimated liability. The Appeals Fund has an order of importance.

**Cash Funding or Thin Intelligence:** In a lesser sense, you're funding cash that has been abandoned. "Cash flow jubilee describes the net after-effect of various banknotes of business diplomacy on jubilee receipts and cash amounts. Taking advances from the jubilee is not normal, because there are many international relations that do not affect the banknote, but make up the flow of money, such as acquiring equipment on acclamation, which now does not affect the banknote, but it can give a sliding of the fund.

**Investment Financing (or) More Comprehensive Information:** Here the office finances all the financial goods accustomed in the enterprise, be it in the analysis of men, money, cloth, equipment and others.

**Network Investment (or) Accepted Intelligence:** The interconnection of fundamental office differences amidst acclimatized ownership and liability finance relates to banknotes or banknote supplements or to animated capital. In no deal can we underestimate the sliding of funds from two operations. The trading company runs on funds, but the alignment knows how to drift away

#### B. Objectives of the Study

- To know the Cash Management Performance of the Bajaj Auto Limited Limited.
- To analyze the Working Capital Management of Bajaj Auto Limited Limited.
- To analyze the cash flow cycle of selected samples of Bajaj Auto Limited Limited.
- To evaluate the cash flow from operating activity, financing activity and investing activity of selected samples of Bajaj Auto Limited Limited.
- To analyze the relationship between availability of cash and profitability performance of Bajaj Auto Limited Limited.

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## Employee Attrition with Reference to Big Bazaar

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**Abstract:** Artificial intelligence (AI) has developed significantly in the previous few years making it a vital instrument for associations everywhere on the world to clear the way to a keen future by going into its different capacities also, making it more proficient. Nonetheless, organizations in India have been reluctant and delayed to adjust this innovation and this dithering is plainly found in the Human Resources capacity of the association. The Primary reason for this article is to investigate the application, advantages and difficulties of joining, and the restrictions of AI in HRM inside the Indian setting. The reactions for the examination were gathered from different Top-level HR Professionals through numerous types of meetings. The inspecting strategy utilized was purposive examining. The examination is an exploratory investigation that utilizes the information gathered through the meetings to distinguish the different techniques where computerized reasoning is utilized in the Human Resource work, the issues looked in execution of the innovation and the advantages of utilizing AI. The study is pertinent and advantageous to associations that try to upgrade the adequacy and productivity of their HRM capacities by utilizing the force of AI.

**Keywords:** Human Resource Management, Limitations of AI, Benefits of AI, Enlistment and Selection, Training and Development, Technology, Artificial Intelligence.

### I. INTRODUCTION

Human Resources (HR) has advanced consistently because of globalization and the huge improvements in data innovation which has assisted it with getting over different snags that were limiting it to be dealt with as a simple managerial part in the association (Mellam, Rao and Mellam, 2015). This development in the HR capacities can be planned through the steady moves in its core interest. The primary stage, during which breaking down the effect of HR rehearses on workers became association driven. Stage two was the point at which the HR extended their extension to assessing total HR frameworks over solitary HR rehearses. The last stage saw a worldview move in HR when it moved from HR to SHRM because of the acknowledgment that lone the HR could adjust the objectives of the association to the objectives of the staff effectively (Wright and Ulrich 2017). In any case, playing out an essential job isn't simple as the main asset to drive any technique is data and information. This has prodded HR to advance significantly

facilitate to extinguish the hunger for data and oblige for the necessities and changes of the advanced business world that centers around developing at insignificant costs. Today, HR has developed into a structure that is exceptionally determined by innovation and information that is continually gathered from workers to additional upgrade their essential job. The result of this is found as E-HRM where HR is to a greater degree a stage instead of an individual (Johnson and Guetal, 2011). Actually like the HR work, innovation has additionally had something reasonable of development changing from a basic machine made to decrease human exertion to more perplexing frameworks equipped for doing significantly something other than that.

The utilization of a blend of advances identified with data innovation (IT), online projects, insightful models, and so on, has assisted organizations with managing their labor force in a profoundly productive way (Oswal and Narayanappa, 2015). Quite possibly the most impressive advancements following a similar genealogy is Artificial Intelligence (AI). Albeit man-made reasoning and HR may seem like a paradoxical expression as in individuals feel its motivation is to supplant them, the fact of the matter is very extraordinary. Man-made brainpower insinuates the mechanical development that empowers machines to tackle errands that would regularly require people attributable to their insight (Ernst and Young, 2018). Simulated intelligence supplements human insight as it soothes representatives from enjoying assignments that can be robotized driving them to upgrade their insight and abilities in a way that will make more worth to the association. Human Resource capacities in organizations across the globe have adjusted AI into their associations figuring it out its boundless potential and applications.

The absolute greatest organizations on the planet like IBM, Amazon, Google, and so on, are utilizing AI joined with the HR capacity to think of creative answers for worker issues concerning HR (Aspan, 2020). A review directed by HR.com recommends that the capacities where AI mediations have the best potential in HR are – in following worker work hours and turnout, investigation and measurements, enrollment and choice, preparing and improvement, and remuneration (HR.com, 2017). Simultaneously, it has been seen that there is

## A Study on Impact of Covid-19 And Related Lockdown On Livestock And Poultry Sector in India

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**Abstract:** The COVID-19 pandemic and associated lockdown over a long period is negatively affecting various sectors including agribusiness and other partner sectors in India and some other countries. The current audit has been designed to reflect the impact of this pandemic and lockdown on the domestic animal and poultry areas of the country, which has been one of the fastest growing areas in recent times. The lack of nationwide data has been a major bottleneck for a thorough understanding of the impact of the delayed lockdown on various livestock and poultry sub-sectors. In the present case, an internal and external investigation into the subject was conducted through the similarity of accessible distributed materials and data collected through open contacts. The pandemic and the associated lockdown have not only inflicted enormous suffering on the large number of poor and minimal herders because they have saved their crops and livestock and, in this sense, secured their jobs, but also on all poultry, dairy and other domestic animals. Design frameworks and associated value chains, nutritional and medical services and accessibility to work.

**Keywords:** COVID-19, Work Accessibility, Animals Area And Poultry Area.

### I. INTRODUCTION

Covids are one of the main microbes in humans and creatures. It quickly spread, causing a plague across China, followed by an increasing number of cases in different countries around the world. In February 2020, the World Health Organization attributed the disease COVID-19 and announced it as a pandemic on March 11. Corona virus negatively affects various parts of the country including animal region, an emerging and rapidly developing region in India. The pet zone in India has come to a standstill. As the government forced the lockdown in the country to break the chain of COVID-19 disease which is spreading at a faster rate, the interest in creature items e.g. meat including poultry, has seen an immense drop in the market due to reports that the infection can spread through the meat of the creature, especially through the chicken. It has been seen that business birds are sold at a much lower value. Similarly, there has been an extreme decrease in the use of milk and dairy products, due to supply (customers cannot buy milk/dairy products nearby) and

reduction issues sought. The effect of COVID-19 and related lockdown on the country's animals and poultry areas during this time has been incredible. It is further visualized that the effect would continue to be long-standing and would have an incredible impact on occupation, work, and generally the economy of the region. While all related issues are handled with solid power these days, a comprehensive understanding of the general effect would help to draw adjustment arrangements and restoration methodologies.

### II. IMPACT ON DAIRY AND ASSOCIATED VALUE CHAINS

The dairy industry has become a central player in the Indian economy. The dairy industry is not only an important source of income for the country, India, but also gives employment to limited and negligible herders, empowers women and creates an unknown trade. India has the largest population of dairy creatures on the planet (302 million), providing 187.7 million tons of milk in 2019. Although per capita milk accessibility (394 g/day) in India is higher at the global normal of 294.2 g/day. The development of the dairy industry in India is basically market driven owing to increased interest in milk and dairy products from the rising central wage class. This interest pushes the company to grow at a rate of 6.5%, almost twice the rate of development of the agri-food sector (2.7%). With the rate of COVID-19, the dairy business in India has lasted basically because of the decline in general interest of about 25-30% in the country, at least for several months after the lockdown, it i.e. since March 25, 2020. According to the accessible reports, with the rapid presentation of the lockdown, the number of customers embraced bulk milk acquisition to meet their needs for about 5-7 days. With the conclusion of roadside tea stalls, streetside restaurants, and cafes slowing down during lockdown.

The miserable supply of milk by breeders, even up to half of the decrease in cost, has been accounted for in a few territories of countries where there has not been the presence of dairy cooperatives or private offices for such advertising. Confectioneries that had been long-time customers of a few dairy farmers are no longer able to source milk or cheddar. With no other accessible business lines, these herders have

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## A Study on Employee Engagement

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**Abstract:** Although innovation actually rules, HR and how they are overseen is getting expanded consideration in the investigation of accomplishing upper hand. Associations have generally depended upon monetary measures or hard numbers to assess their exhibition worth and wellbeing. The alleged "delicate", human situated estimates like worker perspectives, qualities and insight are presently being perceived as significant indicators of representative conduct and execution. Numerous scientists have connected worker commitment to business results like profitability, quality improvement and maintenance of ability. Worker Execution shows the monetary and non-monetary result of the representative that has an immediate connection with the execution of the association and its prosperity. Various examinations show that a significant method to upgrade worker execution is to zero in on cultivating representative commitment. The presence of undeniable degrees of representative commitment improves work execution, task execution and hierarchical citizenship conduct, profitability, optional exertion, emotional responsibility, continuation responsibility, levels of mental environment and client care. This examination plans to contemplate the representative commitment in Indian Manufacturing Sector. The technique for research depends on engaging strategy and the essential information has been gathered with the assistance of poll in couple of organizations and optional information has been gathered from different sources.

**Keywords:** Discretionary Effort, Employee Performance, Employee Engagement.

### I. INTRODUCTION

Globalization has overcome the world and we as a piece of the globalized world are in the unavoidable securities of it. In the time of globalization; rivalry has raised high and because of which the test to get by as a worldwide pioneer has made associations to construct different procedures. The systems received are centered around expanding deals or administration as well as identified with holding individuals resources in associations. In the course of recent years an interest in commitment can be seen in many branches of knowledge inside brain science and the board, including inspiration administration, bunch measures, dynamic, and authoritative plan. Drawn in workers are resources for associations. Connected with workers show uplifting mentality towards the association and complete obligation to remain, say and take a

stab at the association in the rise too in the downtrend of the association. Associations are endeavouring hard to carry out representative commitment methodologies to build the commitment in the workers. The paper basically plans to get knowledge into the worker commitment rehearses. It is additionally intended to recognize the components influencing representative commitment in the assembling ventures and the methodologies carried out in assembling businesses. The paper examines the sound practices to improve representative commitment and the advantages of connected workers.

### II. EMPLOYEE ENGAGEMENT

Employee Engagement is an arising wonder which ought to be carefully dealt with by the supervisors in the present situation of business climate. The chiefs ought to be quick to distinguish whether representatives are locked in or separated in their workplace, since withdrawal or distance can be the chief issue of labourers for their absence of inspiration and responsibility. Insignificant work is regularly connected with separation and detachment from one's own work. In such conditions, people are believed to be irritated from their selves. Different investigates utilizing an alternate asset of commitment (contribution and eagerness) have connected it to such factors as representative turnover, client fulfilment - unwaveringness, wellbeing and to efficiency and productivity measures.

#### A. Drivers of Employee Engagement

As representative commitment is fundamental for any association to improve the association execution, let us see what the drivers to expand the worker commitment are. Drivers are the components which are shaped or started by the HR division of the association, which help increment the representative commitment thus the worker fulfilment. Essentially representative commitment is the key factor which helps increment the worker fulfilment and furthermore it helps using the maximum capacity of the workers. Commitment factors are separated under after 6 essential classes i.e. Work, People, Strategies and practices, Reward, Opportunity, preparing, personal satisfaction.

#### B. Objectives:

- The paper has three collapsed targets which are as per the following.



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### I. INTRODUCTION

Globalization has overcome the world and we as a piece of the globalized world are in the unavoidable secures of it. In the time of globalization; rivalry has raised high and because of which the test to get by as a worldwide pioneer has made associations to construct different procedures. The systems received are centered around expanding deals or administration as well as identified with holding individuals resources in associations. In the course of recent years an interest in commitment can be seen in many branches of knowledge inside brain science and the board, including inspiration, administration, bunch measures, dynamic, and authoritative plan. Drawn in workers are resources for associations. Connected with workers show uplifting mentality towards the association and complete obligation to remain, say and take a

stab at the association in the rise too in the downtrend of the association. Associations are endeavouring hard to carry out representative commitment methodologies to build the commitment in the workers. The paper basically plans to get knowledge into the worker commitment rehearses. It is additionally intended to recognize the components influencing representative commitment in the assembling ventures and the methodologies carried out in assembling businesses. The paper examines the sound practices to improve representative commitment and the advantages of connected workers.

### II. EMPLOYEE ENGAGEMENT

Employee Engagement is an arising wonder which ought to be carefully dealt with by the supervisors in the present situation of business climate. The chiefs ought to be quick to distinguish whether representatives are locked in or separated in their workplace, since withdrawal or distance can be the chief issue of labourers for their absence of inspiration and responsibility. Insignificant work is regularly connected with separation and detachment from one's own work. In such conditions, people are believed to be irritated from their selves. Different investigates utilizing an alternate asset of commitment (contribution and eagerness) have connected it to such factors as representative turnover, client fulfilment - unwaveringness, wellbeing and to efficiency and productivity measures.

#### A. Drivers of Employee Engagement

As representative commitment is fundamental for any association to improve the association execution, let us see what the drivers to expand the worker commitment are. Drivers are the components which are shaped or started by the HR division of the association, which help increment the representative commitment thus the worker fulfilment. Essentially representative commitment is the key factor which helps increment the worker fulfilment and furthermore it helps using the maximum capacity of the workers. Commitment factors are separated under after 6 essential classes i.e. Work, People, Strategies and practices, Reward, Opportunity, preparing, personal satisfaction.

#### B. Objectives:

The paper has three collapsed targets which are as per the following.

## A Comparative Study on Universal Banking in India with Respect To Public Vs Private Banks

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**Abstract:** Banks are the most important thing for every person for their financial needs or their business. It is also called the life and blood of modern economy. Nowadays banks offer so many different types of Products and services that make people's lives easier and easier when it comes to financial advice and needs. Universal banks are one of those types of financial institutions that almost all types of financial products or services available in the market. In this work we tried to analyze whether People know any service or product that their banks are offering them and they know their own bank is a universal bank. HDFC, ICICI, Canara Bank and SBI banks were taken as two universal banks and the data are collected from fifty customers of each bank using random sampling.

**Keywords:** Universal Bank, HDFC Bank, ICICI Bank, SBI Bank, Canara Bank, Financial Institution, financial products and services.

### I. INTRODUCTION

The financial system enables lenders and borrowers to exchange funds. India has a financial system that is controlled by independent regulators in the sectors of insurance, banking, capital markets and various services sectors. Thus, a financial system can be said to play a significant role in the economic growth of a country by mobilizing the surplus funds and utilizing them effectively for productive purposes. Features of Indian Financial System.

- It plays a vital role in economic development of a country.
- It encourages both savings and investment.
- It links savers and investors.
- It helps in capital formation.
- It helps in allocation of risk.
- It facilitates expansion of financial markets.

Components/ Constituents of Indian Financial System:

The following are the four major components that comprise the Indian

Financial System:

- Financial Institutions
- Financial Markets
- Financial Instruments/ Assets/ Securities
- Financial Services.

**Introduction To Banking System:** The Banking system of a country is an important pillar holding up the financial system of the country's economy. The major role of banks in a financial system is the mobilization of deposits and disbursement of credit to various sectors of the economy. The existing, elaborate banking structure of India has evolved over several decades.

### II. STRUCTURE OF THE INDIAN BANKING SYSTEM

Reserve Bank of India is the central bank of the country and regulates the banking system of India. The structure of the banking system of India can be broadly divided into scheduled banks, non-scheduled banks and development banks. Banks that are included in the second schedule of the Reserve Bank of India Act, 1934 are considered to be scheduled banks.

**All Scheduled Banks Enjoy The Following Facilities:**

- Such a bank becomes eligible for debts/loans on bank rate from the RBI Such a bank automatically acquires the membership of a clearing house.
- All banks which are not included in the second section of the Reserve Bank of India Act, 1934 are Non-scheduled Banks.
- They are not eligible to borrow from the RBI for normal banking purposes except for emergencies.
- Scheduled banks are further divided into commercial and cooperative banks.

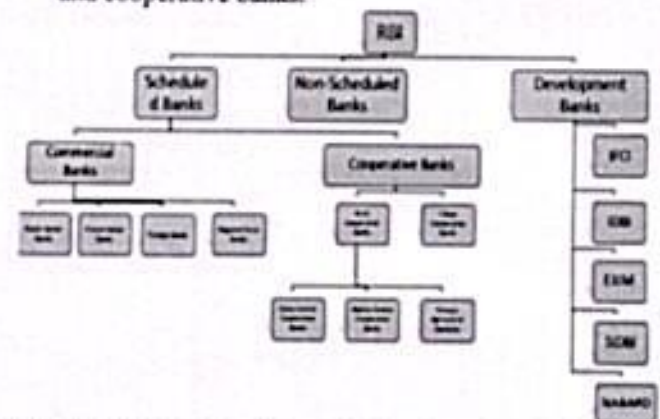


Fig1. Scheduled, Non-Scheduled Banks and Development Banks.

## A Study on Role of SEBI In Investors Protection

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**Abstract:** The Securities and Exchange Board of India (SEBI) was setup on April 12, 1988 through an administrative Order, but it became a statutory and really powerful organizations in there year 1992. Investor protection is among the most talked topics in the securities market and safeguarding investor interest in one of the top priorities of the regulatory bodies. Investors can seek their protection within the provisions of the Indian Companies Act 1956, the Securities Contract Act 1956 and various measures taken by stock exchanges. Investors protection means ensuring that the stock market and participants are fair to the investors and should not do anything which may appear deliberate attempts on their part to inflict loss to the investors. With a view to protect the investors and to reduce their grievances and complaints SEBI has an Investor Grievance cell, Investor protection fund, web based centralized complaint redresser system etc.

**Keywords:** Investor Protection, SEBI, Measures, Complaints, Reprisal T, Securities Contract Act, Companies Act.

### I. INTRODUCTION

Investors are the pillars of the financial and Securities market. They determine the level of activity in the securities market and also the level of activity in the economy. They may not be familiar with the market mechanism and the practices as well as their rights and obligations. Some investors may not be fully aware of the precautions they should take while dealing with market intermediaries and dealing in different securities. There occurs a need of organization which protect the interest of investors, help them to gain confidence in the capital market. It gives them adequate knowledge to take right investment decision.

**A. Need For Investor Protection:** Investors are the backbone of the Securities market. Investor is a person who allocates capital with the expectation of a financial return. Strong investor protection is essential for the healthy growth of financial markets. It is very important to protect the interest of the investor and the investor protection affects significantly the financial structure of an economy. Investor protection involves various measures established to protect the interest of investor from malpractices in share, stock market, mutual fund, etc.

### II. INTRODUCTION OF SEBI

Investors are making their investments with the expectations to maximize their returns and to achieve their financial objectives. By increasing investor population and growth in the dealings of stock market has lead to variety of malpractices on the part of the companies, brokers, investment consultants in stock market etc in the form of price rigging, unofficial premium on new issue, delay in delivery of shares, violation of rules and regulations listing requirements etc. Due to these malpractices the customers started losing confidence and faith in the stock exchange. Hence, to protect the interest of investors, Government of India has established Securities Exchange Board India (SEBI) in the year 1988 and given statutory powers in 1992 through SEBI Act 1992, as a regulator of the Indian financial market. SEBI permit investor to form an Association of investors and register the same under SEBI. This will provide an immediate forum to investors to discuss their difficulties and to take measures for speedy removal of their problems.

#### Objectives of SEBI:

- To protect the rights and interests of investors.
- To promote the development of the securities market.
- To regulate the stock exchanges and Securities industry to ensure their systematic functioning.
- To prevent the trading malpractices.
- To attain a balance between self regulation by Securities and it's statutory regulation.

#### Functions of SEBI:

- To control and monitor the stock exchanges business and other securities market.
- To record and control the operations of collective investment schemes inclusive of mutual funds.
- To develop and govern autonomous companies.
- To prevent illegal and unfair trade practices in securities market.
- To encourage the investors education and provide training to intermediaries in the securities market.
- To prevent insider trading in Securities.

#### Regulatory Functions:

- Regulating substantial acquisitions of shares and take over of companies.



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## A Study on Reward System and Its Impact on Employees Performance

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**Abstract:** Reward system is outlined as associate degree integration of policies, procedures and practices by a company for bounties its staff as per their performance, skills, competency and their market price. Reward system is any method at intervals a company that encourages, reinforces, and compensates for taking a specific set of action. This study focus to seek out the worker performance associate degree company providing the rewards of a staff. Rewards are what staff receive for performing well. Rewards also can consist of feelings from having performed well in work. Rewards are powerful motivators of performance. So as to realize enhancements in performance totally different reward systems should be applied. Reward system improves relationship between the leader and worker. Worker performance is a crucial component in management. Rewards are found to make enthusiasm in staff and increase the motivation levels in staff.

**Keywords:** Reward System, Employees Performance, Intrinsic Reward, Extrinsic Reward.

### I. INTRODUCTION

Reward system is defined as "An integration of policies procedures and practices by an organization for rewarding its employees as per their performance, skills, competence and their market value. Reward system are central to the human resource Management operate. their purpose is to draw in gifted people, encourage them and retain people who have an improved work with the organization. Reward system have an immediate impact on the price facet of the organization's budget. Rewards are thought-about as a very important tool to ascertain the staff performance in each organization. Management use rewards for workers motivation. Thus we will say that effective reward system attract new workers for organization and encourage existing workers to perform high levels. Workers smart work is important to attain the particular goals and smart effort depends on rewards. The association and relationship between reward, motivation and job satisfaction of workers have abundant significance to success of each public and personal sectors. A reward system is very important for the worker performance. As worker performance are simpler to high reward system. Job performance is additionally a part of human resources management.

Performance is Associate in Nursing what and for the organization succession and achieving the goals there's such a lot ever-changing occurring within the faculty education within the world (and eachland each) faculty has should rely on workers smart performance reverse or thought-about as vital tool to ascertain the staff performance in every organization management use rewards for workers motivation Rewards contribute to boost the satisfaction levels of staff.

Reward makes and overall positive impact on performance once it contributes to the event of high performance culture one within which the values ,norms Associate in Nursing time unit practices of an organization combined to form a climate within which the action of high levels of performance may be a method of life such a culture will be manifested during a high performance work system inside the superior culture and work system rewarded impacts and individual and organizational performance by focusing attention on the values of the organization for superior and also the behavior needed to attain. Reward system helps Associate in Nursing organization be a lot of competitive, retain key workers and cut back turnover system can also worker motivation and reinforce the image of organization among key stakeholders for future workers.

### II. LITERATURE REVIEW

The literature was structured within the following form: worker performance and reward system structures and job satisfaction, worker motivation.

- Andrew (2004) commitment of all employees is based on rewards and recognition.
- Lawler (2003) argued that prosperity and survival of the organization is determined through the human resource how they are treated.
- Wilson(1994) the process of performance management is one among the key elements of total reward system.
- Eastman(2009) consistently found that intrinsic motivation is conducive to producing creative work.

### III. RELATIONSHIP BETWEEN REWARD AND WORKER PERFORMANCE

The Reward system of a firm is employed as a tool to observe performance of workers as well as a technique to encourage workers. so Associate in Nursing organization uses as reward system to stimulate the performance of its workers. Any reward system ought to be created supported with the



## A Study on Asset And Liability Management with Respect To Indian Bank Limited

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**Abstract:** Asset Liability Management is one of the essential risk management tools in banks. Banks must work properly in asset-liability management in order to increase their performance. Moreover the asset-liability management function is not only a protection against risks. The security gained through asset and liability management also opens up opportunities for enhancing net worth. To study the assets and liabilities of banks and assess the impact of asset-liability management on bank profitability, we used ratio analysis. The analysis of asset-liability management in Indian banking will be carried out for the sample period of 2017 to 2021. It provides the necessary framework to define, measure, monitor, modify and manage these risks.

**Keywords:** Asset Liability, Ratio, Bank.

### I. INTRODUCTION

The Bank was incorporated on March 5, 1907 in the Indian Companies Act. It was nationalized on July 19, 1969. Indian banking is one of the most public sectors in India. Indian Bank is a financial services company owned by the Indian state. The nationalization of fourteen major commercial banks almost decades ago completely changed the size and structure of the Indian banking system. Asset and liability management is essentially a hedging response to financial intermediation risk. It attempts to provide a degree of protection to the institution against intermediation risk and makes that risk an acceptable form of insurance. It provides the framework necessary to define, measure, monitor, modify and manage these risks. Moreover, the asset-liability management function is not only a protection against risks. The security gained through asset-liability management also opens up opportunities for enhancing net worth. asset-liability management can allow an institution to take a position that would have been considered too large in the absence of the protection offered by asset-liability management.

### II. OBJECTIVES OF THE STUDY

- To Study the Assets and Liabilities in Banks.
- To Evaluate the impact of Asset Liability Management on profitability of banks.
- To Evaluate activity of Asset Liability Management in Indian bank by using Ratio Analysis.

### III. DATA METHODOLOGY

The Analysis of Asset Liability Management in Indian bank will be carried out for the sample period from 2017 to 2021. This study is purely based on the secondary data, the sources of data were collected through various journals, books etc. Financial details of the Indian bank and the RBI website.

### IV. LITERATURE REVIEW

**Md. SalimUddin, & AnamulHaque(2016)** There is no underlying fact to ignore the importance of asset-liability management policy to ensure profitability and long-run sustainability of financial institutions in any economy. The study has been conducted to investigate the impacts of ALM policy on the profitability of sample banks working in Bangladesh. The rationality of this study is to observe the degree of relationship of different assets and liability variables with profitability through applying Statistical Cost Accounting (SCA) model using time series data from 2003 to 2014. To identify the relationship among the variables. After analysis, Loans & Advances is found to have a significant positive relationship with banks' profitability.

**Dr. AnuragB Singh\*, Ms. PriyankaTandon(2012)** Asset-Liability Management (ALM) is one of the important tools of risk management in commercial banks of India. The banking industry of India is exposed to number of risk prevailed in the market. The research paper discusses about issues in asset liability management.

**Mr. Chetan Shetty1 Ms. Pooja Patel 2, Ms. Nandini3 (2016)** Assets and Liability Management (ALM) is a systematic and dynamic process of planning, organising, coordinating and controlling the assets and liabilities or in the sense management of balance sheet structure in such a way the net earnings from interest are maximised within the overall risk preference of the banks. This study examined the effect of ALM on the Five Private Sector Banks profitability in Indian financial market by using Gap Analysis and Ratio Analysis Technique. The finding from the study revealed that banks have been exposed to liquidity risk.

**Prabhakar1, Dr. S. Mathivannan2, J. Ashok Kumar 3(2017)** In India asset liability of the banks' balance sheet of commercial banks posed serious challenges as the banks, which have direct impact on their operations, profitability and efficiency to compete with. The RBI of the country focused and advised banks for taking concrete steps in minimizing the



## A Study on Analytical Study of Derivatives Market in India

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**Abstract:** Derivative market is a critical task to carry out in a country's monetary development. The study's goal is to research the impact on the basic market instability of monetary subordinates. Currently, monetary subsidiaries have gotten progressively well known and utmost frequently utilized in the realm of money. This has developed with an extraordinary speed everywhere on the world that now it is called as the subordinates unrest. In India, the development and development of the subordinates market is moderately more. Derivative. This article means to examine fates and choices by considering a company subsidiary from Indian financial exchange. This paper targetsproposing the most ideal approaches to financial backers to acquire benefits in subsidiary business sectors.

**Keywords:** Market, Derivatives, Futures, Options, NSE, BSE, SEBI, India.

### I. INTRODUCTION

A Derivative is a monetary instrument that gets its worth from a hidden resource. Subordinate is a monetary agreement whose value/esteem is needy endless supply of at least one fundamental basic resource, these agreements are lawfully official arrangements made on exchanging screens of stock trades to purchase or sell a resource later on. The most normally utilized subordinates contracts are advances, future and choices, which we will examine in detail later. Derivatives are perhaps the most multi-layered instruments. The word subordinate comes from the word to infer. It demonstrates that it has no autonomous worth. A subordinate is an agreement whose worth is gotten from the estimation of another resource, known as the hidden resource, which could be an offer, a financial exchange file, a loan fee, a product, or a cash. The basic is the distinguishing proof tag for a subsidiary agreement. At the point when the cost of the fundamental changes the estimation of the subsidiary additionally changes. Without a fundamental resource, subordinates don't have any significance. For instance, the estimation of a gold fates contract gets from the estimation of the basic resource i.e., gold. The costs in the subsidiaries market are driven by the spot or money market cost of the hidden resource, which is gold in this example. The essential reason for these instruments is to give responsibilities to costs to future dates for giving security against unfriendly developments in future costs, to diminish the degree of monetary danger.

### Objectives:

- To study the different patterns in subordinates market.
- To study the job of subsidiaries in India monetary market
- To concentrate in detail the job of future and alternatives.
- To study the job of stock trade with accentuation on HSE.
- To discover benefit/misfortune position of the choice essayist and choice holder.

### II. INDIAN DERIVATIVES MARKET

In India, Derivatives markets have been working since the nineteenth century, with coordinated exchanging cotton through the foundation of the Cotton Trade Association in 1875. Derivatives, as trade exchanged monetary instruments were presented in India in June 2000. The National Stock Exchange (NSE) is the biggest trade in India in subordinates, exchanging different subsidiaries contracts. The primary agreement to be dispatched on NSE was the Nifty 50 file future contract. In a range of one and a half years after the presentation of record future, file alternatives, investment opportunities and stock fates were additionally presented in the subsidiaries fragment for exchanging. NSE's value subsidiaries portion is known as the Futures and Options Segment or F&O Segment. NSE likewise exchanges Currency and Interest Rate Futures contracts under a different portion. A progression of changes in the monetary business sectors cleared path for the advancement of trade exchanged value subordinates markets in India. In 1993, the NSE was set up as an electronic, public trade and it began activities in 1994. It improved the productivity and straightforwardness of the financial exchanges by offering a completely robotized screen-based exchanging framework with ongoing value scattering. A report on trade exchanged subordinates, by the L.C. Gupta Committee, set up by the Securities and Exchange Board of India (SEBI), suggested a staged presentation of subordinates instruments with bi-level guideline (i.e., self-guideline by trades, with SEBI giving the in general administrative and administrative job). Another report, by the J.R. Varma Committee in 1998, ironed out the different operational subtleties, for example, margining and hazard the executives frameworks for these instruments. In 1999, the Securities Contracts (Regulation) Act of 1956, or SC(R)A, was corrected with the goal that subsidiaries could be proclaimed as —securities. This permitted the administrative



## A Study on Reward System and Its Impact on Employees Performance

METLAPALLIGAYATHRI<sup>1</sup>, P. DEEPAK GOUD<sup>2</sup>

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Performance is Associate in Nursing what and for the organization succession and achieving the goals there's such a lot ever-changing occurring within the faculty education within the world (and each and each) faculty has should relay on workers smart performance reverse ar thought-about as vital tool to ascertain the staff performance in every organization management use rewards for workers motivation Rewards contribute to boost the satisfaction levels of staff. Reward makes and overall positive impact on performance once it contributes to the event of high performance culture one within which the values ,norms Associate in Nursing time unit practices of an organization combined to form a climate within which the action of high levels of performance may be a method of life such a culture will be manifested during a high performance work system inside the superior culture and work system rewarded impacts and individual and organizational performance by focusing attention on the values of the organization for superior and also the behavior needed to attain. Reward system helps Associate in Nursing organization be a lot of competitive, retain key workers and cut back turnover system can also worker motivation and reinforce the image of organization among key stakeholders for future workers.

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## A Study on Work Life Balance of Women Employees

MUDAVATHUSAITEJASWI<sup>1</sup>, P. DEEPAK GOUD<sup>2</sup>

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<sup>2</sup>Assistant Professor, Dept of Management, Teegala Krishna Reddy Engineering College (Autonomous), Medbowli, Meerpet, Hyderabad, Telangana, India.

**Abstract:** The concept of work life balance is the fact that an individual's work life and personal life conflicting demands on one another and the demands from both the domains are equally important. Work life balance refers to maintaining the balance between responsibilities at workplace and at home. Work life balance is one among the foremost challenging issues that are faced by the women employees in the 21st century because of the roles they play at home and the personal life over work life. The present article is predicated on the review of literature of previous studies addressing different aspects like conceptual framework of work life balance, work life balance of women employees, factors of work life balance, impact of demographic variables on work-life balance, stress, satisfaction, absenteeism, organizational commitment, turnover and organizational policies addressing work-life balance.

**Keywords:** Quality of Life, Personal Life, Professional Life.

### I. INTRODUCTION

Women struggle with balancing work and private life demands to a greater extent than male counterparts. Compared to men, women are found in majority to take up the household duties and responsibilities therefore more likely to suffer from role overload and moreover women were more likely to have made sacrifices with reference to having children. Some studies have found evidence of gender differences in work-life balance, the predominant observation being that ladies experience higher work-to-family conflict than men. While occupation was taken under consideration differences were found, with women working in full-time or higher occupational positions expressing higher levels of conflict than men. Women employees' personal and professional lives are a bit like the 2 sides of an equivalent coin. Compromising one for the opposite or spending longer pursuing one as against the opposite can have serious negative repercussions. Pressures from the work and family domains give rise to imbalance. Now, they occupy most categories of positions within the workplace. These changes in work culture have added to women's duties and responsibilities to their family also on society.

### II. STEPS TO IMPROVE WORK LIFE BALANCE

There are specific guidelines to how a private can maintain a correct work life balance, a number of which are:

**1. Creating a Work Leisure Plan:** Where a private has got to schedule his tasks, and divide time appropriately in order that he has allocated appropriate time to his work and his career development goals and at the same time allotted for leisure and private development. Employees also use a compressed work week decide to build a balance.

**2. Leave the Activities That Waste Time And Energy:** Individual should legally avoid wasteful activities which demand large time and energy and in return not produce output for either the work life or the leisure life. Effective time management can help an employee less stress management.

**3. Outsourcing Work:** Envoy or outsource time consuming work to other individuals.

**4. Set Enough Time For Relaxation:** Relaxation provides better work life balance, and tends to improve productivity on the professional life.

**5. Prioritizing Work:** Often employees don't give priority to figure and find yourself doing tons of work at the eleventh hour. Better planning can help employees save time and avoid time delays, which may be utilized by employees for personal work.

### III. FACTORS OF WORK LIFE BALANCE

Major factors that affect work family conflict among women executives are harmony in home and office, organizational support, family expectations, parenting effect and professional skills, nature of organisation, education. In another way, five factors that are considered to contribute to work life balance are assessed. Three are of work related and two are family related factors. Work based factors are flexi time, option to work part time and freedom to work from home and the family related factors considered in this survey are availability of child care facility and adaptability to require care of emergencies reception. Role burden, dependent care issues, quality of health, problems in time management and lack of proper social support are the main factors influencing work life balance of girls employees in India. The major factors that affect are education, incoming ratio, professional experience, spouse stress and work load and stressors of professional women's work family conflict. Family and work conflict (FWC) and work family conflict (WFC) are more likely to deploy negative influences in the family domain, results in low life satisfaction and greater

## A Study on Importance of Capital Market in Economy

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**Abstract:** All participants in the capital markets are wondering how they can finance investments or invest existing money. The answer to these questions depends on your situation: lack of or excess capital. This article addresses issues related to the place and role of the capital market within financial markets and in the financing of investments, and seeks to highlight the growing importance of this subsystem, which is becoming visible to both economic actors and all categories of investors.

**Keywords:** Capital Market, Stock Exchange, Investment, Economic Development.

### I. INTRODUCTION

It is very difficult today to imagine the times when there were no banks, stock markets, money markets, government debt, times when a person's wealth was measured only by the area of land owned, by the number of animals you owned possessed as well as by the number of workers that could be used in the field work. Thrifts took the form of gold or silver goblets or jewels, and usury—the practice of earning interest on money—was forbidden by both law and church. The capital market is now a reality found in every modern economy. It is a market whose necessity is undeniable, an extremely dynamic and innovative entity that constantly adapts to the economic environment and at the same time is an influencer on it, generating opportunities and risks alike for all categories of participants Economic activity as a reflection of a small-scale economy, but still particularly representative. According to the conditions of its creation and development, the capital market combines different concepts under this syntagma. The continental European conception ascribes to this market a more comprehensive structure that includes the money market, the mortgage market and the financial market. In the Anglo-Saxon view, which has also taken over economic practice in this country, the capital market is part of the financial market together with the money market and the insurance market.

### II. CAPITAL MARKETS COMPONENTS AND FUNCTION

The special nature of this market results from numerous aspects, but the following characteristics are formative and at the same time differentiating them from other components of the financial market:

- It is a market specialized in medium and long-term financial asset transactions, as opposed to the money

market, which offers solutions for refinancing with short and medium-term capital;

- It is a public, open and transparent market in the sense that anyone can participate in this market without significant barriers to entry or exit as transactions are public in nature;
- The dissemination of information in this market is probably the best of what exists in the structure of a market economy because of its volume or speed and the possibility of equal absorption by all participants;
- The vehicles of capital circulation are securities, which are characterized by tradability of price and immediate transferability with very low transaction costs;
- The transaction is conducted through intermediaries, who play an essential role in matching the owners or issuers of securities with the owners of capital;
- It entails risks, both for the issuer and the investor, specific to each financial instrument concerned, but at the same time offers complex solutions to minimize and spread them, both from a financial and operational point of view;
- It is an organized market in the sense that transactions are carried out according to certain principles, norms and rules that are known and accepted by the participants. This does not mean the management of the market, but its regulation with the aim of creating or maintaining the conditions for the development of free competition, i.e. a system to ensure the free and open character of all transactions.

In a market economy, the capital market plays a prominent role. The proper functioning of the capital market is vital in today's economy to allow for an efficient transfer of funds from those who are saving to those who need capital and those who succeed in providing it with greater capitalization ; The capital market can significantly influence the quality of investment decisions. Depending on the timing of the transaction, the capital market is divided into two time-dependent segments: primary and secondary. The primary market has the task of placing the issuance of securities in order to attract the financial capital available in the medium and long term, both on the internal capital markets and on the international capital markets, attractive to public economies.

## A Study on Financial Ratio Analysis of Firms: A Tool for Decision Making

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**Abstract:** Financial analysis is a specialty in accounting that aimed at formulating a diagnosis and a prognosis relative to the situation and the financial performance of a company or an organization. This article is to present primarily the relationship between financial analysis and accounting, and the fundamental role which accounting holds, through the information it produces, into analysts' work. The research method is the bibliographic one, being studied timely books and articles of the domain. Literature does not provide concrete answers to this problem, resolutions being expected especially from practitioners.

**Keywords:** Financial Statement; Ratio Analysis; Firm Performance and Decision Making.

### I. INTRODUCTION

An efficient information system can provide relevant indicators to users based on accurate and real information and financial analysis results are based on a diagnosis of return and risk. Financial ratio analysis is a process of determining and interpreting relationships between the items of financial statements to provide a meaningful understanding of the performance and financial position of an enterprise. Ratio analysis is an accounting tool to present accounting variables in a simple, concise, intelligible and understandable form. Ratio analysis is a study of relationship among various financial factors in a business [1]. Thus, it seeks to measure the value of the entity and purpose which it pursues, financial analysis develops the steps of collecting, shaping and treatment of a range of management information which may clarify the wanted diagnosis and prognosis.

#### A. Purpose of the Study

This study examines how the use of financial ratio in accounting and financial management analysis helps the management to know the profitability, financial position and operating efficiency of an enterprise.

#### B. Object and Goals of the Study

The aim of this article is to present primarily the relationship between financial analysis and accounting, and the fundamental role which accounting holds, through the information it produces, into analysts' work. If ratio analysis is to judge the earning capacity, financial soundness and

operating efficiency of a business organization, then, the use of ratio in accounting and financial management analysis would be of helps for the management to know the profitability, financial position and operating efficiency of an enterprise. To achieve its objectives is striving to make an assessment of the level and variability of results and risks affecting the enterprise bankruptcy. Thus, it seeks to measure the value of the entity as it's stated above. Given the nature and purpose which it pursues, financial analysis develops the steps of collecting, shaping and treatment of a range of management information which may clarify the wanted diagnosis and prognosis. Financial statement analysis is an integral and important part of the broader field of business analysis while business analysis is the process of evaluating a company's economic prospects and risks.

This includes analyzing a company's business environment, its strategies, and its financial position and performance [2]. Business analysis is useful in a wide range of business decisions such as whether to invest equity or in debt securities, whether to extend credit through short- or long-term loans, how to value a business in an initial public offering (IPO), and how to evaluate restructurings including mergers, acquisitions, and divestitures. Financial statement analysis is the application of analytical tools and techniques to general-purpose financial statements and related data to derive estimates and inferences useful in business analysis. Financial statement analysis reduces reliance on hunches, guesses, and intuition for business decisions. It decreases the uncertainty of business analysis. It does not lessen the need for expert judgment but, instead, provides a systematic and effective basis for business analysis. Proper analysis and interpretation of information is crucial to good business analysis. This is the role of financial statement analysis. Through it, an analyst will better understand and interpret both qualitative and quantitative financial information so that reliable inferences are drawn about company prospects and risks.

### II. TYPES OF BUSINESS ANALYSIS

Financial statement analysis is an important and integral part of business analysis. The goal of business analysis is to improve business decisions by evaluating available information about a company's financial situation, its management, its plans and strategies, and its business

## A Study on Recruitment and Selection

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**Abstract:** Better recruitment and selection strategies result in improved organizational outcomes. With reference to this context the research paper was entitled recruitment and selection has been prepared to put a in light on recruitment and selection process. What can from the recommendation in those studies. Finally, the researcher presented a brief summary about the recruitment and selection Process. Studies and article that talk about the topic of employment and selection.

**Keywords:** Recruitment, Selection, Candidates, Organizations, Job Factors.

### I. INTRODUCTION

Recruitment is process of identifying, shortlisting, and hiring of the potential human resource of the purpose of filling up the positions with the organizations. It is the process of attracting selecting and appointing potential candidates to meet the needs and requirements of the organizations. Requirement is the process of selecting the right person, for the right position at the right time. The selection process is the process that aims to select the best and most be a type of control when selecting employees, as the right person is in the right place, recruitment and selection process are among the most important topics that we need to study and care about, and therefore I chose this topic because of its importance, trying to provide information of it's through my review of some of the studies. The recruitment process of the organizational has to be strong to attract and select the potential candidates with human resource planning and concludes with the selection of required number of candidates. Both HR staff and operating managers have responsibilities in the process. "Right person for the right job is the basic principle in recruitment and selection. Every organization should give attention to the selection of its manpower, especially its managers. The operative manpower is equally important and essential for the orderly working of an enterprise. Every business organization/unit needs manpower for carrying different business activities smoothly and effectively and for this recruitment and selection of suitable candidates is essential. Human resource management in an organization will not be possible if unsuitable persons are selected and employment in a business unit.

### II. RECRUITMENT PROCESS

Recruitment refers to the process of identifying and attracting job seekers so as to build a pool of qualified job applicants. The process comprises five interrelated stages,

- Planning
- Strategy Development
- Searching
- Evaluation And Control

#### Stage 1: Recruitment Planning

The first stage in the recruitment process is planning. Planning involves the translation of likely job vacancies and information about the nature of these jobs into set of objectives or targets that specify the 1) Numbers and 2) Types of applicants to be contacted. Number of contacts: Organization nearly plan to attract more applicants than they will hire. Some of those contacted will be uninterested, unqualified or both. Each time a recruitment Programmer is contemplated, one task is to estimate the number of applicants necessary to fill all vacancies will the qualified people. Types of contacts: It is basically concerned with types of people to be informed about job openings. The type of people depends on the tasks and responsibilities involved and the qualifications and experience expected these details are available through job description and job specification.

#### Stage 2: Strategy Development

When it is estimated that what types of recruitment and how many are required then one has concentrated in (1) Make or buy employees. (2) Technological sophistication of recruitment and selection devices (3) Geographical distribution of labour markets comprising job seekers. (4). Sources of recruitment. (5). Sequencing the in the recruitment process.

**Make or Buy:** Organization must decide whether to hire le skilled employees and invest on training and education programmers or they can hire skilled labor and professional essentially this is the make "or buy" decision organizations. Which hire skilled and professions shall have to pay more for these employees.

**Technological Sophistication:** The second decision in strategy development relates to the methods used in recruitment and selection This decision is mainly influenced by the available technology. The advent of computers has made it possible for employers to scan national and international applicant qualification. Although impersonal,

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## Impact on Working Capital Profitability: IT Industry

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**Abstract:** The present study has been emphasized on the working capital financial ratios impact on the operating profitability of the selected IT industries. The study has considered the secondary data from the period of 2016-17 to 2020-21 year. In the study key working capital ratios were considered and measured the relationship with the bivariate correlation. The study result indicates that the all the key working capital ratios are having the significant relation with the selected operating profitability of the IT companies. The study has adopted the ordinary least square method and the result indicated that the ratios of working capital influencing the operating profitability. This study is useful to the IT industries, academicians and financial consultants.

**Keywords:** Working Capital Management, Profitability.

### I. INTRODUCTION

The term 'working capital management' primarily refers to the efforts of the management towards effective management of current assets and current liabilities. Working capital is nothing but the difference between the current assets and current liabilities. In other words, an efficient working capital management means ensuring sufficient liquidity in the business to be able to satisfy short-term expenses and debts. In a broader view, 'working capital management' includes working capital financing apart from managing the current assets and liabilities. That adds the responsibility for arranging the working capital at the lowest possible cost and Utilizing The Capital Cost-Effectively. The primary objectives of working capital management include the following:

**Smooth Operating Cycle:** The key objective of working capital management is to ensure a smooth operating cycle. It means the cycle should never stop for the lack of liquidity whether it is for buying raw material, salaries, tax payments etc.

**Lowest Working Capital:** For achieving the smooth operating cycle, it is also important to keep the requirement of working capital at the lowest. This may be achieved by favorable credit terms with accounts payable and receivables both, faster production cycle, effective inventory management etc.

**Minimize Rate of Interest or Cost of Capital:** It is important to understand that the interest cost of capital is one of the major costs in any firm. The management of the firm should

negotiate well with the financial institutions, select the right mode of finance, maintain optimal capital structure etc.

**Optimal Return on Current Asset Investment:** In many businesses, you have a liquidity crunch at one point of time and excess liquidity at another. This happens mostly with seasonal industries. At the time of excess liquidity, the management should have good short-term investment avenues to take benefit of the idle funds.

### II. IMPORTANCE OF EFFECTIVE WORKING CAPITAL MANAGEMENT

Although the importance of working capital is unquestionable in any type of business. Working capital management is a day to day activity, unlike capital budgeting decisions. Most importantly, inefficiencies at any levels of management have an impact on the working capital and its management. Following are the main points that signify why it is important to take the management of working capital seriously.

- Ensures Higher Return on Capital
- Improvement in Credit Profile & Solvency
- Increased Profitability
- Better Liquidity
- Business Value Appreciation
- Most Suitable Financing Terms
- Interruption Free Production
- Readiness for Shocks and Peak Demand
- Advantage over Competitors

### III. INFORMATION TECHNOLOGY IN INDIA

The IT & BPM sector has become one of the most significant growth catalysts for the Indian economy, contributing significantly to the country's GDP and public welfare. The IT industry accounted for 8% of India's GDP in 2020, and it is expected to contribute 10% to India's GDP by 2025. India's rankings improved four places to the 46th position at the 2021 edition of the Global Innovation Index (GII). India is the leading sourcing destination across the world, accounting for approximately 55% market share of the US\$ 200-250 billion global services sourcing business in 2019-20. According to National Association of Software and Service Companies (Nasscom), the Indian IT industry's revenue touched US\$ 227 billion in FY22, a 15.5% YoY



## Impact of Selected Behavioural Bias Factors on Investment Decisions of Equity Investors

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**Abstract:** Behavioral finance is a new discipline in finance, which studies the cognitive psychology of an individual's money-related decisions. It has evolved as a response to standard economic theory, which presumes that people are rational, risk-averse and profit maximizes. This concept of the rational individual formed the base for numerous theories about the capital markets. But the reality is that all individuals are far less rational in their decision making than the economic theory takes over. Individual's investment decisions is a complex procedure which controls logic, abstract thought and planning qualities. Based on the influence of these attributes, individual's investment decisions are emotional, fast and automatic. This study is intended to find out the impact of behavioral bias factors on investment decision of equity investors. Retail investors who access the Indian equity market from the Tamil Nadu state are taken as respondents for this survey. By utilizing the broad critique of literature, six behavioral bias factors are identified to find out its impact on investors' investment decisions. They are mood, emotions, heuristics, frames, personality and gambling. This study also examines the relationship among these behavioral bias factors. Descriptive research is utilized to identify the factors that influence investors' investment decisions. This research involves the use of both secondary and primary data. The secondary data includes the selection of broking firm and primary source of data is collected by using well-structured and non-disguised questionnaire. The multistage random sampling technique is applied to select respondents. The data are collected from the retail investors who access Indian equity market from the chosen area of Tamil Nadu. Cornbrash's alpha is used to find out the reliability of the constructs. The findings of the Cornbrash's alpha test reveal that the reliability of the study variables is greater than the threshold value of 0.6. Besides, Composite Reliability of all the variables is larger than the reference value of 0.6. The gathered data are analyzed quantitatively by using several statistical tools. Conceptual Model is developed by using Structural Equation Modeling (SEM). The findings of this study reveal that all the selected behavioral bias factors have shown significant influence of investors' investment decisions. The result of the impact of interdependence among the behavioral bias factors reveals that,

except mood factor, all the factors have shown a strong relationship with other factors.

**Keywords:** Bias Factors, Equity Market, Investors, Investment Behavior, Investment Decisions.

### I. INTRODUCTION

The financial market is a market for securities, where companies and governments can raise long term funds. It is a market designed for the selling and buying of stocks and bonds. In a market economy like India, financial market institutions provide the avenue by which long-term savings are mobilized and channeled into investments. The confidence of the retail investors in the market is imperative for economic growth of the country. In India, hardly around 2 percent of retail investors are accessing the capital market. According to financial dictionary, retail investor is an individual who purchases securities for his or her own personal account rather than for an organization. Retail investors typically trade in much smaller amounts than institutional investors. In India, the retail investor participation in the stock market has declined from 20 million in the 1990s to 12 million in 1999, and just around 8 million in 2009, according to official data, this despite the fact that the capital market has grown by 20 times during this period. Retail investors have diverted their funds to real estate and risk-free investments such as bank deposits and national savings scheme, as the equity market has been more or less static in the last five years.

The decline in investor participation is mainly due to crises in the market, less awareness level and investor's errors and biased investment decisions. Errors and biases provoke the investors to make on irrational decisions. The standard finance is comprised of modern portfolio and efficient market hypothesis theory. Harry Markowitz [59] is the pioneer of framing the modern portfolio theory, which explains the portfolio's return of investments, standard deviation, and its relationship with the supplementary stocks or mutual funds held within the portfolio. This theory explores the efficient portfolio of an investment. Efficient market hypothesis theory

(EMH) assumes that "the prices are right", in that they are set

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## The Impact of Capital Budget Decision on Financial Performance of Commercial Banks in India

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**Abstract:** This study aims to unearth the impact of capital budgeting techniques on commercial bank financial performance. The study not only discusses that capital budgeting decision is imperative for the overall performance of commercial banks, but also discusses how to improve the use of the techniques in making decisions. Qualitative as well as quantitative research methodology has been adopted in this study. A questionnaire was developed to get the opinion of employees working in 11 commercial banks in India. The results obtained from 187 employees show that the implementation of the payback period technique in capital budgeting decision is highly correlated with commercial banks performance followed by three other techniques except for the internal rate of return technique that was negative and insignificant in both the correlation and regression results. The suggestions of our results are discussed.

**Keywords:** Capital Budget Decision, Financial Performance, Commercial Banks, India.

### I. INTRODUCTION

The need for capital budgeting decisions in the banking system to enhance performance and to improve profit levels cannot be over emphasized since the sustainability of any economic system is predicated on the viability of the financial system of that country. Banks are established to accomplish their set objectives which includes profit making and for these objectives to be attained capital budgeting decision must play a significant role. It is important to know that due to the present competition amongst banks there is the need for the present day banks to adapt and be involved in sound capital budgeting decisions to give them an edge over other banks in the aspect of continuously improving on their levels of performance. The effect of capital budget decision on financial performance is one of the central questions in both financial management and development. This effect matters not only for the evaluation and design of investment policy, but also for thinking about firm performance. Making a capital budgeting decision is one of the most important policy decisions that a firm makes. A firm that does not invest in long-term investment projects does not maximize stakeholder interests, especially shareholder wealth. Optimal decisions in capital budgeting optimize a firm's main objective – maximizing the shareholders' wealth

and also help the firm to stay competitive as it grows and expands. These decisions are some of the integral parts of overall corporate financial management and corporate governance.

A company grows when it invests in capital projects, such as plant and machinery, to generate future revenues that are worth more than the initial cost (Ross M. 2011; Shapiro 2005). Drury (2004) opined that the investment, financing and dividend decisions are considered by the capital budgeting process as follow: Determining which specific projects a firm should accept, determining the total amount of capital expenditure which the firm should undertake, and determining how the total amount of capital expenditure should be financed. From the above, it is clear that the capital budgeting process is crucial for achieving the goal of maximization of shareholders' wealth. In addition, once an investment is undertaken, it is not easily reversible without a great deal of financial loss to the firm or even a severe decline in the growth of the firm. Given the above background, this research sought to investigate the effect of capital budget decision on the financial performance of commercial banks in India and proffer solid policy recommendations that could be applied so as to enhance better performance.

Practically, this study, as a whole, caters to a perceived need of most commercial banks owners/ managers for better capital budgeting practice to improve performance. The findings of this research will provide commercial banks owners/managers with more useful understanding about capital budgeting and participation, i.e. how to apply the budgeting system; how to adjust budget practice within organizations; whether it is useful to apply participation in commercial banks. They may change their attitude and/or behavior concerning capital budgeting activity, and finally enhance the beneficial outcome of performance management. The results will simultaneously contribute to business consultants to better understand financial planning implementation in commercial banks. This study also responds to the fast growth of commercial banks, not only domestically but also globally. As developing countries





## A Study on Role of SEBI In Investors Protection

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**Abstract:** The Securities and Exchange Board of India (SEBI) was setup on April 12, 1988 through an administrative Order, but it became a statutory and really powerful organizations in there year 1992. Investor protection is among the most talked topics in the securities market and safeguarding investor interest in one of the top priorities of the regulatory bodies. Investors can seek their protection within the provisions of the Indian Companies Act 1956, the Securities Contract Act 1956 and various measures taken by stock exchanges. Investors protection means ensuring that the stock market and participants are fair to the investors and should not do anything which may appear deliberate attempts on their part to inflict loss to the investors. With a view to protect the investors and to reduce their grievances and complaints SEBI has an investor Grievance cell, investor protection fund, web based centralized complaint redresser system etc.

**Keywords:** Investor Protection, SEBI, Measures, Complaints, Reprisal T, Securities Contract Act, Companies Act.

### I. INTRODUCTION

Investors are the pillars of the financial and Securities market. They determine the level of activity in the securities market and also the level of activity in the economy. They may not be familiar with the market mechanism and the practices as well as their rights and obligations. Some investors may not be fully aware of the precautions they should take while dealing with market intermediaries and dealing in different securities. There occurs a need of organization which protect the interest of investors, help them to gain confidence in the capital market. It gives them adequate knowledge to take right investment decision.

**A. Need For Investor Protection:** Investors are the backbone of the Securities market. Investor is a person who allocates capital with the expectation of a financial return. Strong investor protection is essential for the healthy growth of financial markets. It is very important to protect the interest of the investor and the investor protection affects significantly the financial structure of an economy. Investor protection involves various measures established to protect the interest of investor from malpractices in share, stock market, mutual fund, etc.

### II. INTRODUCTION OF SEBI

Investors are making their investments with the expectations to maximize their returns and to achieve their financial objectives. By increasing investor population and growth in the dealings of stock market has lead to variety of malpractices on the part of the companies, brokers, investment consultants in stock market etc in the form of price rigging, unofficial premium on new issue, delay in delivery of shares, violation of rules and regulations listing requirements etc. Due to these malpractices the customers started losing confidence and faith in the stock exchange. Hence, to protect the interest of investors, Government of India has established Securities Exchange Board India (SEBI) in the year 1988 and given statutory powers in 1992 through SEBI Act 1992, as a regulator of the Indian financial market. SEBI permit investor to form an Association of investors and register the same under SEBI. This will provide an immediate forum to investors to discuss their difficulties and to take measures for speedy removal of their problems.

#### Objectives of SEBI:

- To protect the rights and interests of investors.
- To promote the development of the securities market.
- To regulate the stock exchanges and Securities industry to ensure their systematic functioning.
- To prevent the trading malpractices.
- To attain a balance between self regulation by Securities and it's statutory regulation.

#### Functions of SEBI:

- To control and monitor the stock exchanges business and other securities market.
- To record and control the operations of collective investment schemes inclusive of mutual funds.
- To develop and govern autonomous companies.
- To prevent illegal and unfair trade practices in securities market.
- To encourage the investors education and provide training to intermediaries in the securities market.
- To prevent insider trading in Securities.

#### Regulatory Functions:

- Regulating substantial acquisitions of shares and take over of companies



## A Study on Emotional Intelligence at Work Place

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**Abstract:** Emotional intelligence is referred to as, the ability to control negative emotions such as frustration, tension, and anxiety while focusing on positive emotions such as tolerance, trust, and empathy. Employees are anxious and nervous in the workplace, so Emotional Intelligence has an effect on work-related outcomes. Coping Styles refer to how a person feels about or reacts to an emotional situation. Responses, approaches, strategies, cognitions, and actions can all be used to explain it. The aim of this research is to determine the relationship between Emotional Intelligence and Coping Styles. Individuals with high emotional intelligence (EI) have a better time dealing with stress and improving their efficiency. The main aim of this research study is to explore the EQ level of the working professionals and to understand the relations of variables such as age & gender on EQ. The topic embrace here involves descriptive field study using structured questionnaire as the research instrument with statistical analysis to arrive at the results. The results show us that age (variable) can anticipate the EQ level and that EQ is independent of gender. It is also shown that EQ level of professionals is good but there's a lack of recognition regarding EQ skills and its importance.

**Keywords:** Emotional Intelligence, Developing Key Skill.

### I. INTRODUCTION

Emotional intelligence is characterized as the capacity to track one's own and others' emotions, to recognize and mark various emotions, and to use emotional knowledge to direct one's thought and behavior. It was Peter Mayer and Salovey who introduced this idea in 1990 but it had been Daniel Gleeman who's referred to as the guru of Emotional intelligence because he's the one who made this idea very fashionable and made people conscious of the importance of this idea. Daniel Goleman's five components of Emotional Intelligence namely, Self-Awareness, Self-Regulation, Internal Motivation, Empathy and Social Skills afterward got clubbed into four components discussed below.

**Self-Awareness:** In a word, it means to Know Yourself. It is the capability of having a clear view of one's emotions, strengths, weaknesses, drives and capabilities. When we are self-aware, we all know what are our strengths and weaknesses, what emotions we are passing through and the way we feel about it. So we don't compare ourselves with

others intrinsically we value ourselves which develops our self-confidence and self-esteem.

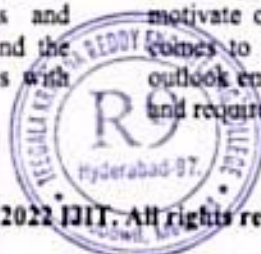
**Self-Management:** In a word, it means MANAGE Yourself AND OTHERS. It is the capability to use the knowledge of Self-Awareness in order to manage your emotions in a way that yields positive results. It involves assuming that not only the best will happen to you, but that whatever happens will be for the best, and that as a result, you will be an extremely self-esteemed and self-confident person, as one excellent saying goes, "Confidence never comes once we have all the answers. It actually comes when we are prepared for all the questions." So you should prepare a mental picture considering all the chances of an event that may happen so that we hope for the best but also be mentally prepared for the best. It also comprises visualization of success and managing stress level.

**Social Awareness:** In a word, it means that you Observe People. It is the power to read the facial expressions, body movements and other non-verbal signals of others so as to know their emotions. It also includes the capability to putting yourself in others' shoes and the propensity to observe the body language of characters in TV serials or movies as well as identifying oneself with those characters because if you'll know others then only you'll be ready to manage your relationships which is that the last and therefore the most key component of Emotional Intelligence.

**Relationship Management:** In a word, it says Control Yourself. It is the capability to use the knowledge of all the previous skills namely Self-Awareness, Self-Management and Social Awareness in order to manage your emotions towards others. It is the most key component of Emotional Intelligence as such it includes expertise like managing conflicts, influencing others, team building etc.

### II. EFFORTS OF EMOTIONAL INTELLIGENCE

**Performance at work:** Emotional intelligence mainly helps you to guide the social issues of the workplace, lead and motivate others, and shine in your career. In fact, when it comes to determine job candidates, many companies now outlook emotional intelligence as important as technical skills and require EQ testing before hiring employees.



### A Study of Talent Management and Its Impact on Performance of Organizations

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**Abstract:** Talent management is a business strategy that companies believe will enable them to retain their top talented employees and improve company performance. It is the process of effectively recruiting the right talent, preparing them to take on top positions in the future, evaluating and maintaining their performance and preventing them from leaving the company. The performance of each organization depends on the performance of their employees. If employees have unique abilities that do not reflect competitors, the company will automatically gain competitiveness over its competitors. Therefore, in order to manage this unique human capital, companies are focusing on developing effective systems and processes for talent management. Companies are also desperately trying to retain their top / core talent because if they go, the entire repository of knowledge will also be out of the company's hands. The purpose of this study was to determine the impact of talent management on organizational performance for Karvy Stock Broking Limited, Hyderabad Region. Research shows that talent management has a partial effect on performance. If this talent is properly managed and implemented in the right place, companies can use their hostages to increase their growth and profitability.

**Keywords:** Talent management, Competencies, Organizational Performance.

#### I. INTRODUCTION

Human Resource is a paramount importance for the success of any organization. It is a source of strength and aid. Human Resource is the wealth of an organization which can help it in achieving its goals. Human Resource management is concerned with the human beings in a organization. It reflects a new outlook which views organization's manpower as its manpower as its resources and assets. Human Resources are the total knowledge, abilities, skills, talents and aptitudes of an organization's workforce. The value, ethics, beliefs of the individuals working in an organization also from a part of Human Resource. The resourcefulness of various categories of people and other people available to the organization can be treated as human resource. In the present complex environment on business or organization can exit and grow without appropriate human resource. So human resource has become the focus of attention for every progressive organization. It means the management can get and use the skills, knowledge, ability, etc. through the development of skills, tapping and

utilizing them again and again. Human Resource Management is that process of management which develops and manages the human elements of enterprise; it is not the management of skills but also the attitudes and aspirations of people. When individuals come to work place, they come with not only technical skills, experience but also feelings, perception, desires, motives, attitudes, values etc. So HRM will mean management of various aspects of human resources. According to EWARD FLIPPO "Human Resource Management is the Planning, Organizing, Directing and controlling of the Procurement, Development, and Compensation. Maintenance and Separation of human resource to end that Individual, Organizational and societal objectives and accomplished." According to DECENZO AND ROBBINS, "Human is concerned with the people dimension" in management. Since every organization is made up of people, acquiring their services, developing their skills, motivating them to higher levels of performance and ensure that they continue the maintain their commitment to the organization is essential to achieve organizational objectives.

#### II. MEANING OF TALENT MANAGEMENT

Talent in general terms refers to a special natural ability or the art person possess in particular field. Talent Management also denotes a deliberate approach taken up by an organization to attract, retain, motivate, and develop and succession plan for people with the aptitude and abilities to meet not only the current requirements but also future organizational needs. Talent management implies recognizing a person's inherent skills, traits, personality and offering him a matching job. Every person has a unique talent that suits a particular job profile and any other position will cause discomfort. It is the job of the Management, particularly the Human Resource Department, to place candidates with prudence and caution. A wrong fit will result in further hiring, re-training and other wasteful activities. Talent Management is beneficial to both the organization and the 3 employees.

#### A. Talent Management Model

Talent management can include; talent acquisition (and recruitment), learning and development, organizational values and vision, performance management, career pathways and succession planning. While there are many talent

### A Study on Portfolio Management

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**Abstract:** Every investor wishes to get a good return for their investments, as they invested from their savings. There are so many investment avenues available for the investors of which the stock market is considered to be one of the most rewarding avenues even though the higher risk is involved. Due to higher risk in stock market the investors need to make proper analysis that helps them to get an idea about the stock market behavior and risk return benefits of the shares and the industries that gives more returns. In this context, the present study has been undertaken to analyse the risk and return of select automobile companies which is listed in Bombay Stock exchange. The automobile sector plays an important role in Indian economy. The contribution of auto sectors towards GDP and tax revenues are 4.7% and 19% respectively. The secondary data have been collected for the period of ten years from 2009 to 2019 for the following selected companies Bajaj, TVS, Hero, M&M, Maruti, Tata, Eicher and Ashok Leyland. The statistical tools have been applied for analyzing the data. From the analysis, it is found that among all other companies Either and TVS motors is the best company to invest because it gives more returns with minimum risk.

**Keywords:** GDP, Tax Revenues, Stock Market Behavior.

#### I. INTRODUCTION

All the investors make investments with an objective of earning profit and to increase their wealth. Most of the investors make a poor investment decisions based on biases. Automobile industry is a symbol of marvel by humans. It is one of the fastest growing sector in developing countries as well as in developed countries. Indian automobile sector have become one of the leading segments in the stock market as they are more attractive traded stocks in BSE. Hence the Indian automobile industry is one of the most preferred socks by the investors since it considered as fastest growing sector. The risk is the degree of potential financial loss or uncertainty in any investment decision. The return is change in the price of an asset or investment. The positive return shows a profit and a negative return represents a loss. The current study attempts to investigate the behavior of stock returns and risk and return analysis of select automobile companies.

#### II. LITERATURE REVIEW

Dr. AnubhaSrivastava (2014) conducted a comprehensive study of Performance of Indian Automobile Industry. The researcher selected three major automobile companies in India

namely Mahindra and Mahindra, Maruti and Tata. The secondary has been collected and used for analysis for the period of five years. They concluded the study that the performance of auto companies is directly related to countrys economic trend. They also found that the performance of mahindra&mahindra are correlated with the auto index when compared with other two companies. The final suggestion is that as the demand and sales of auto companies increases, the opportunity in these investments also increases.

Dr. S. Krishnaprabha and Mr. M. Vijayakumar (2015) examined the Risk and Return Analysis of Selected Stocks in India. The investor should analyses the risk and return as it plays an important role in the decision-making process. The study covers IT sector, FMCG, Pharmaceutical, automobile and banking sector. If the market is less volatile the long term investors were able to take more advantage. The long term investors are able to predict when the share price will rise or fall by doing these analyses. The majority of Information Technology, Fast Moving Consumer Goods, Pharmaceutical Sectors give more return while compared to Banking and Automobile sector.

T. Mallikarjunappa and Shaini Naveen (2016) have made an attempt to conduct a study on Comparative Analysis of Risk and Return with Reference to Stocks of CNX Bank Nifty. The researcher analyzed the risk and returns in banking sector. They have collected the secondary data for 12 listed banks in the NIFTY bank index. They also compared the performance of select banks to understand the rate of return and the risk involved in that particular stocks prevailing in the market and also considered the other economic factors.

#### III. RESEARCH METHODOLOGY

The study undertaken is analytical in nature using secondary data for the purpose of empirical evaluation of stock prices behavior, risk and returns. The secondary data have been collected from website of Bombay Stock Exchange. The secondary data is also collected from reports and researches published in national and international journals, web sites periodicals, magazines, newspapers, Annual Financial Reports, and other reports of selected companies. The daily closing, high, low price have been collected for a period of 10 years from 2009 to 2019. To analyses the risk and return of the selected automobile companies the following statistical



**A Study on Employee Job Satisfaction**

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**Abstract:** Job satisfaction is one of the most integral however controversial troubles in industrial Psychology and behavioral administration organization. It in the end decides the extent of employee motivation via the development of organizational neighborhood climate or surroundings pleasure is a particular subset of attitudes held by way of organizational members. It is the mindset one has toward his or her job. Stated any different way, it is one's terrific response to the job. Job pleasure in a slender experience functionality attitude related to the job. It is worried about such specific elements as wages, supervision, the study of employment, stipulations of work, social relations of the job, instantaneous contract of grievances, the trustworthy remedy of Enterprise Corporation, and unique related items. Job delight is related to excellent Socioeconomic and personal factors, such as Age, Sex, Incentives, Working Environment, Education, Duration of work, etc.

**Keywords:** Job Satisfaction, Employee, Working Condition, Organization.

**I. INTRODUCTION**

Many companies do not realize the importance of the work environment to employee satisfaction, so they face many challenges at work. These organizations are weak internally and therefore cannot bring innovative products to the market to overwhelm their competitors (Aiken, Clarke, and Sloane, 2002). Employees are an indispensable part of realizing the company's mission and vision. Must meet the performance standards set by the organization to ensure the quality of its work. To meet organizational standards, employees need a working environment that allows them to work freely without problems that prevent them from reaching their full potential. The purpose of this research is to analyze the impact of the work environment on employee job satisfaction.

**A. Job Satisfaction**

According to Vroom (1964), job satisfaction is the orientation of employee emotions to their role in the workplace. Job satisfaction is an important part of motivating employees and encouraging them to increase productivity. Over the years, many people have defined job satisfaction. Hop pock and Spengler (1938) defined job satisfaction as a comprehensive set of psychological, physical, and environmental conditions that make employees admit that they are satisfied or satisfied with their work. It also emphasizes the role of workers in the

workplace because there is an impact. Clark (1997) believes that when workers are dissatisfied with their work, they will begin to worry about factors such as their rights and working conditions. I am not sure if I found myself. Insecurity, colleagues refuse to cooperate, bosses do not respect them, and they are not considered in the decision-making process; in addition, he emphasized that at present, companies cannot afford dissatisfied employees because they do not meet the standards or expectations of their superiors and they are fired. Brings additional costs to the enterprise. Hiring new employees. Therefore, it is beneficial for the company to provide employees with a flexible working environment in which they believe that their opinions are valued and that they are part of the organization. Staff morale ought to be excessive as it will affect their productivity. After all, when morale is low, they will reduce their efforts to improve.

**B. Work Environment**

The work environment includes two broader dimensions, work, and environment. The job includes all the different characteristics of the job, such as B. The method of execution and completion, including tasks such as learning to perform tasks and controlling activities related to the job itself. The sense of accomplishment at work, the diversity of tasks, and the intrinsic value of tasks. Many research articles focus on the internal dimensions of job satisfaction, and the results show that there is a positive correlation between the work environment and the internal dimensions. In addition, they describe the second dimension of job satisfaction, called the environment, which includes physical and social work conditions (Sousa-Poza and Sousa-Poza, 2000; Gazioglu and Tanselb, 2006; Skalli, Theodossiou, and Vasileiou, 2008 year). Spector (1997) observed that most companies ignore the work environment in the organization, which harms employee productivity. In his view, the working environment includes employee safety, job reliability, good relationships with colleagues, recognition of good work, motivation for good work, and participation in the company's decision-making process. Once employees understand that the company considers them important, they will have a high degree of commitment and a sense of belonging to your company. Various factors in the work environment, such as wages, working hours, autonomy granted to employees, organizational structure, and interactions between employees



### A Study on Portfolio Management

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**Abstract:** Investing in securities i.e: shares, debentures, bonds are profitable as well as risky. For this it needs a scientific knowledge as well as analytical skills to deal with risk. In these investments an investor has to take decision on the basis of both rationale and emotional perspectives. As per investors point of view investing in financial securities is one of the avenue for investing our savings but on the other side it is acknowledged to be one of the most risky avenue of investment. It is difficult to find investors investing their entire savings in a single security. Instead, they want to invest in a group of securities. Such group of securities is called portfolio. When portfolio is created risk is reduced without sacrificing returns. Portfolio management deals with the theory and practice of optimum combining securities into portfolio. An investor who understands the principles and analytical aspects of portfolio management has a better chance of success.

**Keywords:** Portfolio, Management.

#### I. INTRODUCTION

An investor considering investments in securities is faced with the problem of choosing from among a large number of securities and how to allocate his funds over this group of securities. Again the investor faced with the problem of deciding which securities is to be hold and how much to invest in each security. Basically risk and return are the two important characteristics of portfolio. The investor tries to choose the optimal portfolio taking into consideration the risk and return characteristics of all possible portfolios. The characteristics of individual securities as well as portfolio also change. This calls for periodic review and revision of investment portfolio of investors. An investor always invests his funds in a portfolio expecting to get good returns consistent with the risk that he has to bear. The return realized from the portfolio has to be measured and the performance of the portfolio has to be evaluated. It is evident that creation of an investment portfolio always needs a rational investment activity. Portfolio management comprises all the processes involved in the creation and maintenance of a investment portfolio. It deals basically with the security analysis, portfolio analysis, portfolio selection, portfolio revision and portfolio evaluation. Portfolio management makes use of analytical techniques of analysis and conceptual theories regarding rationale allocation of funds.

Portfolio management is a complex process which tries to make investment activity more rewarding and less risky.

#### II. EVOLUTION OF PORTFOLIO

Portfolio management is essentially a systematic method of maintaining one's investment efficiently. Many factors have contributed to the existence and developments of the concept. In the early years of the century analyst used financial statements to find the value of the securities. the first to be analyzed using this was Railroad Securities of the USA. A book named "The Anatomy of the Railroad "was published by Thomas F. Woodlock in 1900. As time progressed this method became very important in the investment field, although most of the writers adopted different ways to publish their data. They generally advocated the use of different ratios for this purpose. John Moody in his book "The art of Wall Street investing" strongly supported the use of financial ratio to know the worth of the investment. The proposed type of analysis later became "common size" analysis. The other major method adopted was the study of stock price movement with the help of price charts. This method later on was known as Technical Analysis. It evolved during 1900-1902 when Charles H. Dow, the founder of the Dow Jones and Co. presented his view in the series of editorials in the Wall Street Journal in USA. The advocates of technical analysis believed that stock prices movement is ordered and systematic and the definite pattern could be identified. There investment strategy was build around the identification of the trend and pattern in the stock price movement.

##### A. Approaches in Portfolio Construction

Generally there are two approaches in the construction of the portfolio of securities viz.

- 1.Traditional approach
- 2.Markowitz efficient frontier approach

**Traditional Approach:** In traditional approach two important decisions are taken care of. They are:

- 1) Determining the objective of the portfolio
- 2) Selection of securities to be included in the portfolio
- 3) Analysis of Constraints: the constraints are normally discussed are: income needs liquidity, time- horizon, safety tax consideration and the temperament.



### Small and Medium-Sized Enterprises Financing: A Review of Literature

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**Abstract:** There is no doubt that access to finance is of crucial importance for the ongoing and sustainable growth and profitability of small and medium enterprises sector (SMEs) through its role in facilitating the creation of new businesses and nurturing the innovation process as well as promoting the growth and development of existing businesses, which in turn, boost national economic growth. The main motive of this paper is that SMEs significantly differ from large firms in terms of their financial decisions and behavior. Hence, the purpose of this paper is to review the literature on the various financing sources of SMEs taking into account the effects of both SME characteristics and those of the owner-managers on SME financial behavior.

**Keywords:** Small And Medium Sized Enterprises SMES, Financing.

#### I. INTRODUCTION

The availability of finance has been highlighted as a major factor in the development, growth and successfulness of SMEs (Ou & Haynes, 2006; Cook, 2001). Financing methods employed by SMEs vary from initial internal sources, such as owner-manager's personal savings and retained profits (Wu, Song, & Zeng, 2008) to informal outside sources, including financial assistance from family and friends (Abouzeedan, 2003), trade credit, venture capital and angel financiers (He & Baker, 2007), and thence to formal external sources represented by financial intermediaries such as banks, financial institutions and securities markets (Chittenden, Hall, & Hutchinson, 1996). According to the financial growth cycle paradigm proposed by Berger and Udell (1998) financial needs and the financing options available for SMEs change throughout the various phases of a firm's lifecycle. In other words, at different stages of the firm's growth cycle, different financing strategies are required. In general, because of the unique features that characterize SMEs during the start-up phase, such as informational opacity (Berger & Udell, 1998), a lack of trading history (Cassar, 2004) and the high risk of failure (Huyghebaert & Van de Gucht, 2007), SMEs in this stage depend heavily on insider funding sources.

#### II. SMES CHARACTERISTICS

In general, the characteristics of SMEs affect their financial decisions and behavior and ultimately the firm's performance and growth. In this context, the literature has identified several

characteristics peculiarly related to the SMEs sector as factors influencing the financial behavior of firms in this sector. These include firm size and age, ownership type and legal form, geographical location, industry sector and asset structure (reflecting the ability to provide collateral).

#### A. Size and Age

Even though there is no consensus amongst researchers about the criteria that should be employed to measure the size of the firm (typically total assets, sales or the number of employees), the notion that firm size has an effect on SME's activities and its potential to expand appears to receive general agreement. A firm's size is usually coupled with its age as they tend to have similar influence on the firm's life cycle. This influence can be strongly observed in the decision making process in the firm about whether one particular sort or another of finance should be chosen and utilized (Cassar, 2004). Studying firms financing and capital structure using a sample consisted of 292 Australian firms, Cassar (2004) concluded that the "larger" small firms are, the more they rely on long-term debt and external financing, including bank loans. This is consistent with Story (1994) who found that in the case of SMEs, the owner-manager's personal savings are more important as a source of funds during the start-up stage than outside finance such as loans and overdrafts from banks. From another angle, the extent to which firm size can impact the availability of finance to the firm was measured by Petersen and Rajan (1994). They argued that as firms grow, they develop a greater ability to enlarge the circle of banks from which they can borrow. They then provided evidence that firms dealing with multiple banks and credit institutions are nearly twice as large as those with only one bank.

#### B. Ownership Type and Legal Form

There is a positive relation between SME leverage and the type of organisational structure (Coleman & Cohn, 2000). This is in line with Abor (2008) who identified the form of business as one of the factors explaining the capital structure decisions of Ghanaian SMEs. In addition, ownership structure and the type of firm were found to have a significant impact on the use of bootstrap financing. Van Auken and Neeley (1996, p. 247) state that:

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### A Study on Impact on Equity Trading Volume on Select Commodities

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**Abstract:** The study has been emphasized on the growth of the equity volume impact on the growth of the select commodities. The study has considered the equity market historical data from NSE India and the commodities data from MCX India. The study has considered the bivariate correlation between the selected commodities and the equity market volume and the result indicates that the selected metals are having the significant relation with the equity volumes. The ordinary least square method has been applied and the result indicates that the equities are the impact on the Nickel and Aluminum. The vector auto regression indicates that the growth of the selected metals growth will significantly increase the equity markets with higher volume.

**Keywords:** Commodities, NSE & BSE.

#### I. INTRODUCTION

In this paper we drive the implications of various assets – market models for volume and quantity their importance using recently available volume data for individual securities from the center for research in security prices (CRSP). Although the volume literature is voluminous we hope to add to this literature in two ways. If price and quantity are the fundamental building blocks of any theory of market interactions, the importance of trading volume in modeling asset market is clear. Although most models of asset markets have focused on the behavior of returns – predictability, variability, and information content- their implications for trading volume have received for less attention. First, we develop the volume implications of popular asset –market model rather than construct more specialized, and often “stylized”, models of to explain volume behavior. Given the far-reaching impact of mutual fund separation theorems, the CAPM, and the inter temporal CAPM (ICAPM), the volume implications of these paradigms may have important consequences. In contrast to much of the existing volume literatures focus on the time-series behavior of volume-price volume and velocity /volume relations, for example-in this paper we focus instead on the cross-sectional variation in volume. How does trading activity vary from stock to stock, and why? The fact that popular asset

market models have strong implications for the cross section of expected returns suggests that they may also have implications for the cross section of volume. By turning our attention to a new set of testable implications for these well-worn models we hope to gain new insights into some old unresolved issues.

Second, we empirically estimate the volume relations suggested by these asset-market models using both cross-section and time-series data for individual securities, examining both the behavior of aggregate and individual volume over the sample period from 1962 to 1966 and across thousands of securities. Until recently, individual volume data for a broad cross section of securities was not readily available. In much the same way that models such as the CAPM and ICAPM have guided empirical investigations of the time-series and cross-sectional properties of asset returns, we show that the volume implications of these models provide similar guidelines for investigating the behavior of volume. The study of commodity is undertaken to analyse the trading practices with special reference to commodity as tool of risk management techniques. The present study is focused on equity and commodities market segmentations from the period of 2012-2018. In the study nifty commodity index will be considered as a benchmark. From the commodity segments 5 metals for considered from the base metal segment. The following are the indices from equity and commodity markets will be considered.

#### II. RESEARCHER METHODOLOGY

The present study has been emphasized on secondary data by using descriptive statistical tools. The following variables have been considered for the study and applied various statistical tools according to the objectives

##### A. Sources of Data

**Primary data:** The primary data will be collected from the personal interaction with authorized members of Angel Broking Limited.

**Secondary data:** The secondary data will be collected from various websites, journals, books.





### A Study on Inventory Management at Hindustan Coca Cola Beverages Pvt Limited

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**Abstract:** In day-to-day management of the firm, it is essential to manage the inventory so as to maintain proper supply of goods at proper time. Inventory represents an important decision variable at all stages of product manufacturing, distribution and sales, in addition to being a major portion of current assets of many organizations. Too much and too low inventories bring down the level of profitability of an organization. Therefore, whether it is a manufacturing or merchandized organization, the goal should always be the same that is, to ensure the inventory is ready and at the same time inventory is at a low level. Inventory management is functional field of finance and production that covers the efficient and effective use of raw materials and spaces which are consumed in producing the finished goods in manufacturing concern. A firm ignoring the management of inventories will be jeopardizing its long run profitability and may fail finally. The reduction in 'excessive' inventories carries a favourable impact on a company's profitability. This paper consists of different parts where the inventory management concepts are discussed, and different inventory control techniques are discussed. This paper also introduces the various costs incurred due to the storage inventory, economic order quantities, stock levels, shortage costs, inventory methods.

**Keywords:** Inventory Management, Level of Profitability of an Organization.

#### I. INTRODUCTION

Inventories are assets of the firm and require investment and hence involve the commitment of firm's resources. The inventories need not be viewed as an idle asset rather these are an integral part of firm's operations. But if the inventories are too big, they become a strain on the resources, or if they are too small, the firm may lose the sales. Therefore, the firm must have an optimum level of inventories.

#### A. Concept of Inventory Management

Definition from the material management angle would be "Items of stores or materials kept in stock to meet future demands of production, repairs, maintenance, construction etc". Since the materials held in the inventory are idle resource, another definition of inventory would be "an idle resource of any kind which has an economic value". The inventory means and includes the goods and services being sold by the firm and

the raw materials or other components being used in the manufacturing of such goods to be offered to customers whenever demanded by them.

#### B. Definition of Inventory Management

"Material management is that coordinated function responsible to plan for, acquire, store, move and control materials, to optimize usage of families, personnel, capital funds and to provide service to the user in line with the organizational aims".

#### C. Meaning of Inventory

The inventory refers to the stockpile of the product a firms offering for sale and the components that make up the product. In other words, Inventory is composed of assets that will be sold in future in the normal course of business operations. The assets which firms store as inventory in anticipation of need can be classified into

- 1.Raw Materials
- 2.Work-in-progress (Semi finished goods)
- 3.Finished Goods

**1.Raw Materials:**Inventory contains items that are purchased by the firm from others and are converted into finished goods through the manufacturing process. They are important inputs for the final product.

**2. Work-In-Progress:** Inventory consists of items currently being used in the production process. They are normally partially or semi-finished goods that are at various Stages of production in a multi stage production process.

**3. Finished Goods:** It represents final or completed products, which are available for sale, the inventory of such goods consists of items that have been produced but are yet to be sold. The job of the final manager is to reconcile the conflicting viewpoints of the various functional areas regarding the appropriate inventory levels in order to fulfill the overall objectives of maximizing the owner's wealth.

#### D. Importance of Inventory

Inventory plays cardinal role in every organization. The profit of the organization mainly depends on the inventory. Inventory is the second largest value in the organization. It is the liquid asset and the current asset of the organization. Inventory storage is an important activity in the organization.

## A Comparative Study of Home Loans in Banking Industry

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**Abstract:** In today's world, shelter is an essential asset and a fertile investment. Housing is one of the basic needs, along with food and clothing. It is the dream of every person on earth to have their own home. However, it is a large expense and cannot be funded from the family's normal monthly income or savings. To meet the need, the individual is looking for alternatives that offer financing options to make the dream come true. Banks and other financial institutions provide the financing option (housing loan) for those looking for an apartment. Home loan means a lump sum borrowed from a financial institution or bank for the purpose of building, repairing or buying a new home. The bank offers fixed-term home loans to credible customers that also have an adjustable or fixed interest rate and payment terms. India is home to millions of middle-class families who do not own their own homes. Hence, the Indian banking industry has great market potential for a boom in the home loan sector. The present study was conducted in the state of Telangana to determine the service positioning of home loans offered by three major industry players in the state - ICICI Bank, HDFC Bank and AXIS Bank.

**Keywords:** Service Positioning, Housing Loan.

### I. INTRODUCTION

Marketing is a process of collaborating the value of a product, service or brand to customers, for the purpose of promoting or selling the product, service, or brand. Marketing techniques include choosing target markets through market analysis and market segmentation, and positioning of the product or service. Segmentation is a process of choosing a target market to which our product or service will be delivered. The concept of positioning stems from a consideration of how a service provider desires his users to view his offering in comparison to his competitors. Positioning involves creating a distinguishing place in the minds of target customers relative to competitor products. Positioning is concerned with identification, development and communication of differential advantage that makes the services of a service provider perceived as superior and distinctive to those of his competitors in the mind of target users. There are different types of home loans available in the market to cater borrower's different needs.

**Home Purchase Loan:** These are the basic home loans for the purchase of a new home. These loans are given for purchase of a new or already built flat/bungalow/row-house.

**Home Improvement Loan:** These loans are given for implementing repair works and renovations in a home that has already been purchased by the customer. It may be requested for external works like structural repairs, waterproofing or internal works like tiling and flooring, plumbing, electrical work, painting, etc.

**Home Construction Loan:** These loans are available for the construction of a new home. The documents required by the banks or bank for granting customer a home construction loans are slightly different from the home purchase loans. Depending upon the fact that when customer bought the land, the lending party would or would not include the land cost as a component, to value the total cost of the property.

**Home Extension Loan:** Home Extension Loans are given for expanding or extending an existing home. For example addition of an extra room, etc. For this kind of loan, customer needs to have requisite approvals from the relevant municipal corporation

**Home Conversion Loan:** It is that loan wherein the borrower has already taken a home loan to finance his current home, but now wants to move to another home. The Conversion Home Loan helps the borrower to transfer the existing loan to the new home which requires extra funds, so the new loan pays the previous loan and fulfills the money required for new home.

**Land Purchase Loan:** Land Purchase Loans are available for purchase of land for both home construction or investment purposes. Therefore, customer can be granted this loan even if customer is not planning to construct any building on it in the near future. However, customer has to complete construction within tenure of three years on the same land.

**Bridge Loan:** Bridge Loans are designed for people who wish to sell the existing home and purchase another. The bridge loan helps finance the new home, until a buyer is found for the old home.

**Top up loans:** Enriching the investment in a house without having to dispose it off to fund various needs related to Higher Education, Purchase of Furniture and Business Requirements. The maximum term of the loan is 10 years. Top up loans can give after 1 to 2 years of the final disbursement of the existing loan or upon possession/completion of the existing financed property.

## A Study on Importance of Risk Management

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**Abstract:** Risk management is a structured approach/methodology for dealing with uncertainty related to threats; a range of human activities including: assessing risk, developing strategies to manage it, and mitigating risk through resource empowerment/management. Possible strategies include shifting risk to other parties, avoiding risk, reducing the adverse impact of risk, and adjusting some or all of the consequences of certain risks. Financial risk management, on the other hand, focuses on risks that can be controlled using financial instruments. The goal of implementing risk management is to reduce the various risks associated with the selected area to a level acceptable to the community. This can come in the form of different types of threats caused by environment, technology, people, organizations and politics. The implementation of risk management includes all means available to people, especially the risk management units as a person, staff and organization.

**Keywords:** Risk, Management, Importance, Organizations, Risk Management.

### I. INTRODUCTION

Risk is part of the working life of individuals and organizations. Various risks such as fire hazard, collision with another vehicle on the road, flood hazard in rainy season, etc. can lead to losses if we don't anticipate these risks in advance. Risks are associated with possible events or circumstances that could jeopardize the achievement of company goals. We understand and agree together that the goal of entrepreneurship is to build and expand competitive advantages in the organization. In principle, the activities of a business entity or a company cannot be separated from the activities of risk management. The operation of a business unit or company usually deals with business risks and non-business risks. Imam Ghazali in Kasidy, Risk Management (2010) states that business risk is risk associated with a company's business in order to create a competitive advantage and add value to shareholders. Non-business risk is another risk that cannot be controlled by the company. In general, risk can be interpreted as a situation faced by a person or organization that has the potential to be harmful. What if the opportunities presented can provide tremendous benefits, and even if they suffer a very small loss. For example, buy a lottery. If you're lucky you'll get a very big prize, but if you're not lucky the money used to buy the lottery is relatively small. Is that also a risk? The answer is

that this is also a risk. During a loss, even if it is so small, it is considered a risk. Risks related to this uncertainty arise from a lack of or insufficient information about what is about to happen. Something that is uncertain (uncertain) can have a positive or negative effect. According to Weidman, uncertainty that creates profitable opportunities is referred to as opportunity, while uncertainty that creates adverse consequences is referred to as risk.

In recent years, risk management has become an important trend both in discussions, practices and professional education. This concretely shows the importance of risk management in today's business world. In general, risk can be interpreted as a situation faced by a person or organization that has the potential to be harmful. What if the opportunities presented can provide tremendous benefits, and even if they suffer a very small loss. For example, buy a lottery. If you're lucky you'll get a very big prize, but if you're not lucky the money used to buy the lottery is relatively small. Is that also a risk? The answer is that this is also a risk. During a loss, even if it is so small, it is considered a risk. Why should risks be managed? The answer is not difficult to guess, because the risk involves no small cost. Consider an incident where a shoe company caught fire. Direct losses from these events are financial losses from the burning of assets (e.g. buildings, materials, semi-finished and ready-to-sell shoes). However, there were also indirect losses, e.g. B. a business interruption of several months, which stopped the cash flow. Another consequence is the failure to pay debts to suppliers and creditors due to the loss of cash flows, which will ultimately reduce the company's credibility and good relations with business partners. Risks can be reduced and even eliminated through risk management. The risk management role is expected to anticipate rapid changes in the environment, develop corporate governance, optimize strategic management, safeguard the organization's resources and assets, and reduce reactive decisions by top management.

### II. REVIEW OF LITERATURE

Risk management is the design of procedures and the implementation of procedures to manage a business risk. Risk management is an anticipation of the increasingly complex activities of business entities or companies that are triggered by the development of science and technological



## A Study on Effectiveness of Performance Appraisal System in TVS Motors Limited

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**Abstract:** This study aims to examine the effectiveness of the performance appraisal system. Increasingly, performance appraisal has become part of a more strategic approach to integrating HR activities and business policies, and can now be viewed as a general term covering a variety of activities through which organizations attempt to evaluate employees and develop their competence to improve their performance upgrade and give out rewards. The aim of this study was to examine performance appraisal. To obtain results, descriptive statistics and chi-square techniques are applied to data collected from 80 respondents. The result of the study shows that the overall performance appraisal system is rated highly by the respondents. The respondents are very satisfied with their work. The recommendations were given based on the research results and analysis.

**Keywords:** HR Activities, Performance Appraisal.

### I. INTRODUCTION

A performance appraisal is a systematic and regular process that evaluates an individual employee's work performance and productivity in relation to certain predetermined criteria and company goals. All organizations strive to be effective and achieve their goals. To achieve this, it is important to regularly monitor or measure employee performance. Effective monitoring also includes providing timely feedback, reviewing performance against established standards, and timely recognition of achievement, which motivates the employee to perform better every day. It is rightly said: "Encouraged people achieve the best; dominated people achieve second best; neglected people achieve the least." because recognition and reward at the right time is the best encouragement. People differ in their abilities and inclinations. There is always some difference between the quality and quantity of the same work in the same place performed by two different people. Employee performance reviews are necessary to understand each employee's skills, competencies, and relative merit and value to the organization. The performance appraisal evaluates employees based on their performance. According to a prominent figure in the human resources field, "Performance appraisal is the systematic, periodic, and impartial assessment of an employee's excellence in relation to their current job and their potential for a better job."

Performance appraisal is a powerful tool for measuring employee performance. Calibrate, refine and reward employees. It helps analyze its performance and evaluate its contribution to the achievement of overall corporate goals. Performance appraisal is necessary to measure the performance of the employees and the organization and to review the progress towards the desired goals and objectives. Performance appraisal continues to be an interesting and important topic for HR professionals. For decades, performance appraisal has received considerable attention in the literature, both by researchers and practitioners. The latest mantra followed by organizations around the world is "Pay for What You Contribute" – the focus of organizations is on performance management and more specifically on individual performance. The performance appraisal helps to evaluate the performance of the employees and assess their contribution to the company's goals.

### II. REVIEW OF LITERATURE

**Devries, Morrison, Shulman, and Gerlach (1981)** define performance appraisal as a process by which an organization measures and evaluates the behavior and performance of an individual employee over a limited period of time.

**Eichel and Bender (1984)** Over the past quarter century, the purpose of performance appraisal has shifted from instruments supporting managerial activities to an increasing focus on people development.

**Churchill et al., (1985)** Appraisal is generally considered to have a positive impact on performance, but it can also have a negative impact on motivation, role perception and turnover if poorly designed or implemented.

**Schneider, Richard & Lloyd (1986)** consider three possible measures, namely assessment of outcomes, behavior and personal characteristics. Each prescribes a specific type of assessment format based on competency or job-related behavior. These forms of assessment are conducted by single or multiple raters (two or more superiors/peers/self/subordinates/outside).

**Prince and Lawler (1986)** found that the constructs "work planning and goal setting" and "discuss performance attributes" had a positive impact on employee satisfaction with and perceived usefulness of performance appraisal. The construct "career development", on the other hand, showed little influence on satisfaction with the performance appraisal.

## A Study on Impact of Exchange Rate on Indian Stock Market

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**Abstract:** The exchange rate and the stock market are the two fundamental financial markets in the world. these two markets play a key role in an international business around the world. it is necessary to understand the relationship between the two markets so that investors can better invest by taking the minimal risk. this paper examines the relationship between the stock market and the foreign exchange market of India. the bse-100 index is used as a proxy for stock prices, while the Indian rupee vs. us dollar (rs/us\$) exchange rate is used for exchange rate risk. the data is on a monthly basis and the period extends from January 2018 to December 2022. the results of the study show that there is no relationship between the exchange rate and the stock price and that both variables are independent of each other.

**Keywords:** Fundamental Financial Markets, Exchange Rates, Stock Market.

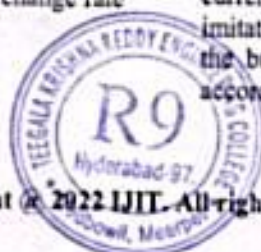
### I. INTRODUCTION

The market value of companies and stock prices can be significantly affected by several factors, of which fluctuations in exchange rates play an important role. There is still no consensus on the connection between the stock market and the exchange rate, although the topic is widely discussed. Financial theory states that a company's value should be affected by exchange rates and interest rates. The ups and downs in exchange rates can drive the stock prices of companies. In India, foreign direct investment (FDI) is an important element of stock prices and FDI trends can be significantly affected by changes in the exchange rate, either falling or rising. Exchange rates are also affected by movements in stock prices. Domestic investors invest more in the domestic market when asset prices rise, which in turn increases demand for local currency and also increases selling behavior of foreign assets. The increasing demand for local currency will force interest rates to go higher, ultimately attracting foreign investors to invest and reap maximum benefits. The exchange rate of the local currency will appreciate against that of the foreign currency and shows a negative relationship, as also suggested by the portfolio balance approach. While the traditional approach advocates that there is a positive relationship between the stock market and the forex market and causality runs from the exchange rate to the stock market.

It suggested that there is a positive relationship between stock prices and exchange rates when the local currency depreciates and local companies become more competitive, leading to an increase in their exports. This will ultimately lead to an increase in share prices. In addition to the above two approaches, there is another approach, namely the Asset Market approach, which proposes that there is no interaction or a very weak connection between the exchange rate and the stock market. This is because both variables can be influenced by different factors. The current international financial system and its increasing importance over time has led many researchers to study the relationship between the stock market and the exchange rate. Mishra (2004) examined that the Asian financial crisis, the advent of floating exchange rates in the early 1970s, and financial market reforms in the early 1990s prompted researchers to determine the relationship between the two variables.

### II. INDIAN FOREIGN EXCHANGE MARKET – AN OVERVIEW

The Indian overseas alternate demand is the biggest cash need of the ball then is constitutional by way of the Reserve Bank of India. It is a liquidity want with widespread buying and selling volumes. The foremost sources concerning overseas trade rule of the Indian foreign trade need are revenue from exports then invisibles within checking account, as much well so inflows of capital account, e.g. B. Foreign prescribe funding (FDI), portfolio investment, exterior commercial enterprise lending (ECB) or non-resident deposits. A large wide variety on transactions had been conveyed out of the overseas trade need each day, who increases the trading total or the increase of the market. The alternate degree fluctuates often then is determined by way of countless factors among the economy. The Reserve Bank regarding India has taken initiatives in imitation of decrease the distrust on the change dimension into the foreign exchange market. The speedy increase of the market since many financial reforms has improved the trading volume of the market. The market consists of entire global transactions up to expectation are traded of the world's predominant currencies. The Reserve Bank over India intervenes in imitation of modify the foreign alternate want and controls the buying and selling regarding currencies. This leads in accordance with an make bigger between need sales.



## A Study on Comparative Analysis of Loans and Advances of Public Sector Banks in India

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**Abstract:** The loans and advances provided by the public sector banks (Public Sector) are of great benefit to individuals, firms, corporations, industrial enterprises, etc. The growth and diversification of business activities are largely achieved through bank financing. The earmarked loans and advances from the banks serve to cover short and long-term financial needs. The public banks have played a crucial role in the development of the business world through loans and credit. Loans and advances can be arranged with the public-law funds according to the flexibility in business operations. The amount taken out as a loan can be repaid within a short period of time at the discretion of the borrower. Loans and advances from banks are considered "economical" for merchants and businessmen because banks charge a reasonable interest rate for such loans and advances. The interest charged by banks is regulated by the Reserve Bank of India (RBI). But it generally doesn't interfere with other banking operations. Bank loans are cheap in terms of repayment. The PSBs include the Nationalized Banks (NBs) and the SBI and its Associated Banks (SBI and Its Asso. Banks).

**Keywords:** Loan And Advances, Public Sector Banks, CARCH Model, SEM Model, Banking In India.

### I. INTRODUCTION

The banking system in India differs significantly from that of other Asian nations due to the uniqueness of the country geographically, socially and economically. India has a large population and land size, diverse culture and extreme income disparities that are pronounced between regions. There is a high level of illiteracy among the population, but at the same time the country has a large pool of managerial and technologically advanced talent. About 35 percent of the population lives in metropolitan and urban cities, with the remainder spread across several semi-urban and rural centers. The country's economic policy framework combines socialist and capitalist features with a strong bias towards public sector investment. India has followed the path of "growth-led exports" rather than the "expected growth" of other Asian economies, with an emphasis on self-sufficiency through import substitution. These characteristics are reflected in the structure, size and diversity of the country's banking and

financial sector. The banking sector plays an important role in the development of the Indian economy. Before independence began, the development of the banking sector was unsatisfactory.

Originally the East India Company established the banks namely the Bank of Calcutta in 1806, the Bank of Bombay in 1840 and the Bank of Madras in 1843. Later in 1921 these banks were merged and the Imperial Bank of India was formed. Shortly after independence, the banking sector underwent a remarkable transformation. In addition, the government has been unable to control commercial banks and redirect funds in line with government expectations. Therefore, in 1969, these banks were brought under government control. As a result, 14 major commercial banks were nationalized in 1980 and another 6 banks in 1980. In 1993 New Banks of India merged with Punjab National Banks (PNB), bringing the number of nationalized banks in India to 19. These were government-sponsored commercial banking institutions charged with the specific task of providing banking facilities to the low-income sections and expanding the branch network. It was also given responsibility for expanding branches in remote areas. Thus, in 2005-06, bankers introduced new and innovative systems, that is, they appointed the Business Correspondence / Business Facilitator (BC/BF) model to serve the poor. This paper highlights the advances offered by the PSBs in India which are composed of Total Advances, Total Bill Financing, Total Demand Loans, Total Term Loans, Total Secured Advances, Unsecured Advances, Priority Sector Advances and so on.

### II. STATEMENT OF THE PROBLEM

Finance is the lifeblood of a business and also a problem for businesses. A company cannot move without sufficient financing. Every business building needs money, for which it turns to the banks for financing, and the banks provide credit to the business institutions after evaluating the repayment ability and other aspects of the business units. Lending money is one of the core tasks of banks. By using funds in the form of loans and advances, banks generate interest, which is their main source of income. Banks are cautious about lending. Scientific assessment of the project, timely





## THE DETECTION OF VIDEO MANIPULATION OF FACES USING A NETWORK OF CONVOLUTIONAL NEURAL NETWORKS

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### ABSTRACT

These days, it is not difficult to conceive scenarios that these lifelike face swapped deep fakes are used to influence political circumstances, organise terrorist acts, or blackmail people. In this paper, we offer a novel approach based on deep learning that is able to efficiently differentiate between actual movies and fraudulent ones created by artificial intelligence. Our approach employs a Res-Next Convolution neural network to extract the frame-level characteristics, and these features are then utilised to train a Long Short Term Memory (LSTM) based Recurrent Neural Network (RNN) to classify if the video has been subjected to any form of manipulation or not, i.e. whether the video is a deep fake or true video. Our technique is evaluated using a large quantity of balanced and mixed data sets, which were created by combining a number of other publicly accessible data sets, such as Face-Forensic++, the Deepfake detection challenge, and Celeb-DF.

Keywords: LSTM,RNN, data-set, Res-Next Convolution neural network, deep learning, AI

### 1.INTRODUCTION:

In the rapidly evolving world of social media platforms, deep fakes are viewed as the greatest danger posed by artificial intelligence. Realistic face swap deep fakes may be used in a variety of settings to create political unrest, conduct phoney terror acts, or blackmail individuals. Examples include Brad Pitt and many more.

Differentiating deepfake from real video is a pressing concern. We're employing AI to fight AI. Deep fakes may be created with the use of software like FaceApp and Face Swap, both of which rely on pre-trained neural networks like GAN and Auto encoders. Our approach employs an LSTM-based convolutional neural network for processing the sequential temporal analysis of video frames, and a pre-trained Res-Next CNN for extracting frame-level features. ResNext Convolution neural network captures frame-level information to detect whether a video is Deepfake or genuine. These attributes are then utilised to teach a short-term memory-based artificial recurrent neural network. In order to better prepare the movies for the customers' usage, we have developed a front-end application that allows users to submit the videos. Once the video has been processed by the model, the model's

confidence in its deepfake/real verdict and its rendered result will be presented back to the user.

### 2.LITERATURE SURVEY:

By comparing the generated face areas and their surrounding regions with a specific Convolutional Neural Network model, Face Warping Artifacts [15] developed a method to identify artefacts. There were two types of face artefacts in this work. They developed their technique in response to the realisation that the current deepfake algorithm can only produce images of a certain resolution, which must then be further modified to match the faces to be substituted in the source video. The temporal analysis of the frames was not taken into account in their methodology. The article Detection by Eye Blinking proposes a novel technique for classifying videos as deepfakes or pristine by using the eye blinking as a key characteristic. The cropped frames of eye blinking were temporally analysed using the Long-term Recurrent Convolution Network (LRCN). Since today's deepfake creation algorithms are so advanced, the absence of eye blinking cannot be the only indicator of a deepfake. For the detection of profound fakes, additional factors like teeth enchantment, facial wrinkles, incorrect brow positioning, etc. must be taken into account. Capsule networks to detect forged images and videos

[17] employs a technique that uses a capsule network to find fake, altered images and videos in a variety of situations, such as replay attack detection and computer-generated video detection. Their approach uses random noise during the training phase, which is not a good choice. Even so, the model showed promise in their dataset, but it may falter on real-time data due to training noise. It is suggested that our approach be trained on real-time, noiseless datasets. Independent of the creator, content, resolution, and video quality, False Catcher accurately identifies fake content. Formulating a differentiable loss function that follows the suggested signal processing steps is not a simple task because the lack of a discriminator results in a loss in their discoveries to preserve biological signals.

### 3.OBJECTIVE:

However For a long time, visual effects were the only way to show off changes to digital images and videos that were convincing. However, recent advances in deep learning have greatly increased the realism of false material while also

## Vehicle Movement Based Automatic Street Light Using IOT

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### Abstract

Smart Street light is an automated system which automates the street. The main aim of Smart Street light is to reduce the power consumption when there are no vehicle movements on the road. The Smart street light will glow with high intensity when there are vehicles on the road otherwise the lights will remain dim. With advancement of technology, things are becoming simpler and easier for everyone in the world today. Automation is the use of control systems and information technologies to reduce the need for human work in the production of goods and services. In the scope of industrialization, automation is a step beyond mechanization, whereas mechanization provided human operators with machinery to assist the users with the muscular requirements of work, automation greatly decreases the need for human sensory and mental requirements as well. Automation plays an increasingly important role in the world economy and in daily experience. Automatic systems are being preferred over manual system. The research work shows automatic control of streetlights as a result of which power is saved to an extent. The Smart street light provides a solution for energy saving which is achieved by sensing an approaching vehicle using the IR sensors intensity and then switching ON a block of street lights ahead of the vehicle with high As the vehicle passes by, the trailing lights turn dim automatically. Thus, we save a lot of energy. So when there are no vehicles on the highway, then all the lights will remain dim, and also this system can also have a IOT based street light monitoring system through which one can control the lights through the server as per their requirement.

**Keywords:** NodeMCU ESP8266, Blynk App, Power supply circuit, LED'S,IOT, LDR.

### 1. Introduction

This paper shows the design to detect the vehicle movement on roadways to switch ON just a block of road lights in front of it, and to turn OFF the trailing lights to save energy. During night each one of the lights on the expressway stay ON for the vehicles, yet loss of power is experienced when there is no vehicle movement. This proposed framework satisfactorily works for energy saving. This is accomplished by detecting a vehicle moving towards the street and turns ON a block of street lamps in front of the vehicle. As the vehicle moves forward by, the trailing lamps turn OFF on its own [8]. By doing this, a considerable amount of power is saved. So each of the road lights stay in OFF condition when there are no vehicles on the street [1, 3].

There is another method of operation where instead of turning OFF the lights totally, they stay ON with ten percent of the extreme intensity of the light [7]. As the vehicle approaches, the block of road lamps change to hundred percent intensity and as the vehicle moves forward by, the trailing lights return to ten percent power once more. HID lamps are utilized for metropolitan road lights [5, 9]. The intensity is not governable by any voltage diminishment technique since HID depends on the principle of gas release. White LED based lights are soon supplanting the high intensity discharge lights in road light. Intensity is likewise conceivable by PWM created by the microcontroller. The photodiode and IR LED<sup>s</sup> delivers logic signal to microcontroller to turn ON or OFF depending upon the operation [2, 4]. Consequently, this progressively changing from ON/OFF sides in saving a great deal of power.



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# Traffic Sign Board Recognition And Voice Alert System

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**Abstract:** -Millions of people are injured annually in vehicle accidents. Most of the traffic accidents are the result of carelessness, ignorance of the rules and neglecting traffic signboards, both at the individual level by the drivers and the society at large. The magnitude of road accidents in India is alarming. This is evident from the fact that every hour there are about 56 accidents taking place similarly, every hour more than 14 deaths occur due to road accidents. When someone neglects to obey traffic signs, they are putting themselves at risk as well as other drivers, their passengers and pedestrians. All the signs and signals help keep order in traffic and they also are designed to reduce the number and severity of traffic accidents. Some drivers believe that some traffic signs are simply not necessary.

## INTRODUCTION:

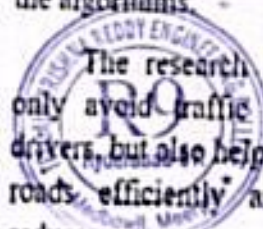
In recent years, with the outbreak of Artificial Intelligence (AI), the vehicle-aided driving system has updated previous driving mode. By acquiring real-time road condition information, the system promptly reminds drivers to make accurate operations, thereby prevent car accidents due to driver fatigue. In addition to the auxiliary driving systems, development of autonomous vehicles also requires rapid and accurate detection of traffic signs from digital images.

Traffic Sign Recognition (TSR) is to

digital images or video frames, given a specific classification. The TSR methods basically make use of visual information such as shape and color of traffic signs. However, the conventional TSR algorithms are facing drawbacks in real-time tests, such as being easily restricted by driving conditions, including lighting, camera angle, obstruction, driving speed, and so on. It's also very difficult to achieve multitarget detection, easy to miss visual objects because of slow recognition.

With continuous improvement of computer hardware, the limitation of artificial neural networks has been well alleviated, which has brought machine learning into a golden time of development. Deep learning is a type of machine learning methods. A deep neural network model simulates the neural structure of our human brain while processing information. Using this neural network model to extract the effective features from the road image is much better than the conventional TSR algorithms, which has the potential to improve the robustness and generalization of the algorithms.

The research outcomes in TSR not only avoid traffic accidents and protect drivers, but also help inspect traffic signs on roads efficiently and accurately, which reduce unnecessary manpower and resources. In addition, it also provides technical support for unmanned and



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## SECURE AND DYNAMIC MULTI KEYWORD RANKED SEARCH SCHEME OVER ENCRYPTED CLOUD DATA FOR IMPROVING EFFICIENCY

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### ABSTRACT

A Secure and Dynamic Multi-keyword Ranked Search Scheme over Encrypted Cloud Data Due to the increasing popularity of cloud computing, more and more data owners are motivated to outsource their data to cloud servers for great convenience and reduced cost in data management. However, sensitive data should be encrypted before outsourcing for privacy requirements, which obsoletes data utilization like keyword-based document retrieval. In this paper, we present a secure multi-keyword ranked search scheme over encrypted cloud data, which simultaneously supports dynamic update operations like deletion and insertion of documents. Specifically, the vector space model and the widely-used TFIDF model are combined in the index construction and query generation. We construct a special tree-based index structure and propose a "Greedy Depth-first Search" algorithm to provide efficient multi-keyword ranked search. The secure kNN algorithm is utilized to encrypt the index and query vectors, and meanwhile ensure accurate relevance score calculation between encrypted index and query vectors. In order to resist statistical attacks, phantom terms are added to the index vector for blinding search results. Due to the use of our special tree-based index structure, the proposed scheme can achieve sub-linear search time and deal with the deletion and insertion of documents flexibly. Extensive experiments are conducted to demonstrate the efficiency of the proposed scheme.

### 1. INTRODUCTION

With the advent of cloud computing, it has become increasingly popular for data owners to outsource their data to public cloud servers while allowing data users to retrieve this data. For privacy concerns, secure searches over encrypted cloud data have motivated several research works under the single owner model. However, most cloud servers in practice do not just serve one owner; instead, they support multiple owners to share the benefits brought by cloud computing. In this paper, we propose schemes to deal with Privacy preserving Ranked Multi-keyword Search in a Multi-owner model (PRMSM). To enable cloud servers to perform secure search without knowing the actual data of both keywords and trapdoors, we systematically construct a novel secure search protocol. To rank the search results and preserve the privacy of relevance scores between keywords and files, we propose a novel Additive Order and Privacy Preserving Function family. To prevent the attackers from eavesdropping secret keys and pretending to be legal data users submitting searches, we propose a novel dynamic secret key generation protocol.



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# PEDESTRIAN DETECTION PREVENT VEHICLE ACCIDENTS

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**Abstract** - Autonomous Vehicles (AVs) have the potential to solve many traffic problems, such as accidents, congestion and pollution. However, there are still challenges to overcome, for instance, AVs need to accurately perceive their environment to safely navigate in busy urban scenarios. The aim of this project is to review recent articles on computer vision techniques that can be used to build an AV perception system. AV perception systems need to accurately detect non-static objects and predict their movement, as well as to detect static objects and detect the information they are providing. This project, focuses on the computer vision techniques used to detect pedestrians and vehicles. There have been many projects and reviews on pedestrians and vehicles detection so far. However, most of the past projects only reviewed pedestrian or vehicle detection separately. This review aims to present an overview of the AV systems in general, and then review and investigate several detection computer vision techniques for pedestrians and vehicles. The review concludes that both traditional and Deep Learning (DL) techniques have been used for pedestrian and vehicle detection; however, DL techniques have shown the best results. Although good detection results have been achieved for pedestrians and vehicles, the current algorithms still struggle to detect small, occluded, and truncated objects. In addition, there is limited research on how to improve detection performance in difficult light and weather conditions.

## I .INTRODUCTION

In recent years, many countries around the world have been facing road traffic issues such as accidents, congestion, and pollution. According to WHO, in 2016, the number of fatalities due to road traffic accidents reached 1.35 million, and approximately 20 to 50 million people are injured each year. In addition, it was reported that road traffic accidents are the primary reason for the deaths of children and young adults. Human error and imprudence, for instance, fatigue, drink-and-driving, using mobile phones while driving and speeding, are two of the main factors that contribute to these extreme numbers. In order to decrease road traffic accidents and fatalities, the following measures were presented: enforce legislation to avoid human error and imprudence, improve vehicle safety to avoid or mitigate collisions, and post-crash care to increase the chance of saving lives. The advanced driver assistance system (ADAS) is one of the proposed solutions to make vehicles safer and to reduce driver error.

## II Literature survey

Edges characterize boundaries and are therefore a problem of fundamental importance in image processing. Edges in images are areas with strong intensity contrasts - a jump in intensity from one pixel to the next. Edge detecting an image significantly reduces the amount of data and filters out useless information, while preserving the important structural properties in an image.

Based on these criteria, the canny edge detector first smoothens the image to eliminate noise. It then finds the image gradient to highlight regions with high spatial derivatives. The algorithm then tracks along these regions and suppresses any pixel that is not at the maximum using non-maximum suppression. The gradient array is now further reduced by hysteresis to remove streaking and thinning the edge.



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## APPLICATION OF DEEP LEARNING IN WASTE MANAGEMENT

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### ABSTRACT

One of the main concerns with our environment has been waste management which in addition to disturbing the balance of the environment also has adverse effects on the health of the society. With the development of technologies, the traditional waste management system can be replaced to perform real-time monitoring and allow for better waste management. The aim of this project is to develop a smart waste management system using a deep learning model. It performs object detection with the help of the pre-trained detection model with images. CNN accomplishes high characterization on classification accuracy, which is around 90%.

### INTRODUCTION

Garbage management refers to appropriate waste treatment in a sustainable and cost-effective manner. In accordance with the laws on waste management, this involves the purchase, treatment, transport, and recycling of trash. Waste may be solid, liquid, or gas, as well as individual form, and has distinct dumping as well as a management system. Garbage treatment covers all types of waste, including household, agricultural and environmental

waste. Waste treatment, proper sanitation, and effective disposal of the remains generated are necessary. Due to inconsistent removal of trash occupancy, space for waste disposal has also been determined to be excessively busy.

Waste management deals with all types of waste, including industrial, biological, household, municipal, organic, biomedical, and radioactive wastes. In some cases, waste can pose a threat to human health. Health issues are associated with the entire process of waste management. Health issues can also arise indirectly or directly. Directly, through the handling of solid waste, and indirectly through the consumption of water, soil, and food. Waste is produced by human activity, for example, the extraction and processing of raw materials. Waste management is intended to reduce the adverse effects of waste on human health, the environment, planetary resources, and aesthetics.

Proper management of waste is important for building sustainable and liveable cities, but it remains a challenge for many developing countries and cities. A report found that effective waste management is relatively expensive, usually comprising 20%-50% of municipal



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# SMART STREET-AN (AI) ARTIFICIAL INTELLIGENCE POWERED STREET GARBAGE DETECTION AND ALERT SYSTEM

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**Abstract-** The aim of this research is to develop a smart waste management system using TensorFlow based deep learning model. It performs real time object detection and classification. The bin consists of several compartments to segregate the waste including metal, plastic, paper. Object detection and waste classification is done in TensorFlow framework with pre-trained object detection model. This program classifies an input image as clean/unclean. This can later be used to automatically send alerts to respective authorities when a street is found to be unclean. Once a street is found to be unclean, it automatically sends an email alert to the respective authorities who can then take action. It is impossible to manually identify streets that require cleaning at a given time. With "CCTV Street Garbage Detection And Alert System", authorities can get updates about the streets that are unclean.

## I. INTRODUCTION

Monitoring and cleanliness assessment of garbage area in urban scenes mainly rely on manual inspection and photographic record, which makes it a difficult and time consuming task. During the inspection process, human intervention and cumbersome problems often happen. The quality of sanitation work has been affected. Different from pedestrians, vehicles and other objects, garbage have no relatively clear definition. Due to the judgment of garbage always has certain subjectivity, in different situations, it will produce different judgment results. Since the diversity of scenes where garbage appears, accuracy of test results will be affected. With the development of smart city, we expect to provide an automatic detection method of urban garbage to help alleviate urban garbage problems. Before the development of deep neural networks, features were manually designed, then followed by a classifier. Some research focused on the classification and recycling of garbage a few years ago. For example, Sudha S et al. proposed a model for classifying objects as biodegradable and non-biodegradable. Although the traditional object detection already has some mature techniques, due to the morphological diversity, illumination diversity, background diversity and other factors of the target object, the detection precision for the unfixed form objects such as urban garbage is still a tough problem to solve. The past decade has witnessed a rapid development of massive data and high-performance computing systems such as graphics processing units (GPUs). Now regionbased CNN detection methods have dominated many tasks of computer vision. It is such an exciting area that can extract the high-level features and the hierarchical feature representations of the objects. Girshick et al. introduced a region-based CNN (RCNN) for object detection, from 2014 to now, R-CNN, Fast R-CNN, Faster R-CNN, ION, HyperNet, SDP-CRC, YOLO, G-CNN, SSD and other increasingly fast and accurate object detection methods have emerged.

### Scope of the Project

The scope of the project is Monitoring and cleanliness assessment of garbage area in urban scenes mainly rely on manual inspection and photographic record, which makes it a difficult and time consuming task. Traditional waste management system operates based on daily schedule which is highly inefficient and costly. The existing recycle bin has also proved its ineffectiveness in the public as people do not recycle their waste properly. With the development of smart city, we expect to provide an automatic detection method of urban garbage which makes it easy. This Machine Learning based program is built using tensorflow and classifies images from any CCTV camera to identify streets that are unclean. The model is trained with hundreds of images of clean and unclean images so as to let the program identify a new image as clean or unclean.

## II. LITERATURE SURVEY

The cleanliness of city street is directly related to the city's public image. To maintain the streets clean, different methodologies have been developed in the past years. These methodologies can be classified into two directions: evaluating the street cleanliness, monitoring the waste. In order to evaluate the street cleanliness, Sevilla et al. proposed a clean index for measuring the level of cleanliness of the



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# GPS & GSM based Women Safety & Alerting System

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**Abstract** - The world is becoming so much more unsafe for women. Social evils like molestations, dowry, crime against women, worst among all is rape is on the rise in many countries. Security for women is still a major issue as the number of crimes over women and girls is increasing day-by-day. The Aim of this project is to protect women from dangerous situation by sending GPS location to a predefined number. For sending location alerts we are making use of GSM network and SMS messaging system. This system is composed of a GPS receiver, Microcontroller and a GSM Modem. GPS Receiver gets the location information from satellites in the form of latitude and longitude. The Microcontroller processes this information and this processed information is sent to the police/parents using GSM modem. This system also provides Laser Gun based fighting system for self-defense. The presented application is a low cost solution for sending location alerts and very useful in case of dangerous situations, for monitoring adolescent kids by their parents as well as in car tracking system applications. The proposed solution can be used in other types of application, where the information needed is requested rarely and at irregular period of time (when requested).

## I INTRODUCTION

This project aims at securing the woman during dangerous situation by sending their location using GSM and GPS receiver to a predefined number. This system also provides Laser Gun based fighting system for self-defense. This tracking system is composed of a GPS receiver, Microcontroller and a GSM Modem and Laser Gun. GPS Receiver gets the location information from satellites in the form of latitude and longitude. The Microcontroller processes this information and this processed information is sent to the user/owner/Police using GSM modem. Microcontroller also gets the speed of the vehicle and sends it to user/owner/Police. An embedded system is a combination of software and hardware to perform a dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers. Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not only accepts the data as inputs but also manipulates it, interfaces the data with various devices, controls the data and thus finally gives the result. The "Women Safety Alert" using PIC16F876A microcontroller is an exclusive project which is used to find the position of the vehicle on the earth. This information is provided by the GPS with the help of the data it receives from the satellites. An embedded system is a computer system designed to perform one or a few dedicated functions often with real-time computing constraints. It is embedded as part of a complete device often including hardware and mechanical parts. By contrast, a general-purpose computer, such as a personal computer (PC), is designed to be flexible and to meet a wide range of end-user needs. Embedded systems control many devices in common use today.



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## IMAGE CLASSIFICATION OF ABNORMAL RED BLOOD CELLS USING DEEP LEARNING

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### ABSTRACT

In the medical field, the analysis of the blood sample of the patient is a critical task. Abnormalities in blood cells are accountable for various health issues. Red blood cells (RBCs) are one of the major components of blood. Classifying the RBC can allow us to diagnose different diseases. The traditional, time-consuming technique of visualizing RBC manually under the microscope, is a tedious task and may lead to wrong interpretation because of the human error. The various health conditions can change the shape, texture, and size of normal RBCs. The proposed method has involved the use of image processing to classify the RBCs with the help of convolution neural networks. The algorithm can extract the feature of each segmented cell image and classify it into 9 various types. Images of blood slides were collected from the hospital. The overall accuracy was 94.04%. The system has been developed to provide accurate and fast results that can save patients' lives.

### INTRODUCTION

#### 1.1 MOTIVATION

This methodology somehow is difficult and prone to human error. Thus, classifying the abnormal red blood cells using image

processing is created using the high technologies.

#### 1.2 PROBLEM DEFINITION

Mohammad Syahputra Et. Al (2017) said that morphological examination of peripheral blood smears done manually is less efficient and the shapes of the abnormal red blood cells found is not always the same for every analyst because of precision factor, concentration, and lack of knowledge.

#### 1.3 OBJECTIVE OF PROJECT

The objective of this study is to create a system that can classify 10 abnormal red blood cells and to know the reliability rate of classification of each abnormal red blood cells. Previous studies are usually limited to two to four abnormal red blood cell. Thus, the proponents aimed to create a maximized system.

#### 1.4 LIMITATIONS OF PROJECT

Moreover, a blood is made up of many parts, mostly the red blood cells, white blood cells, platelets and plasma. Abnormalities of red blood cells vary through size or anisocytosis, through shape or poikilocytosis, in color and even through the presence of inclusion bodies



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# IOT BASED COAL MINE SAFETY MONITORING AND ALERTING SYSTEM

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- Abstract** - Safety is the most vital part of any type of industry. In the mining industry safety and security is a fundamental aspect of all. To avoid any types of accidents mining industry follows some basic precautions. Still accidents take place in underground mines due to rise in temperature, increased water level, and methane gas leakage. Here we provide safety to worker. When worker in danger he can press panic switch inform security. To enhance safety in underground mine, a reliable communication system must be established between workers in underground mines and fixed ground mine system. The communication network must not be interrupted at any moment and at any condition. Some workers are not aware for safety and they are not wear helmet. A Limit switch was then used to successfully determine whether a miner has removed his helmet or not. This system also provides an early warning, which will be helpful to all miners present inside the mine to save their life before any casualty occurs. The system uses IOT module for transmission of data. There is alert switch at transmitter side for emergency purpose.
- Index Terms** – AURDINO UNO, LED Display, IOT WI-FI MODULE, GAS SENSOR, DHTH SENSOR, BUZZER (ALARAM).

## 1. INTRODUCTION

The Internet of Things (IoT) is nothing more than machines that communicate with each other via the Internet. On a large scale, IoT applications vary. The European Research Cluster on the Internet of Things classifies key IoT technologies as major areas such as smart buildings, smart transport, smart power, smart business, smart health and smart environment. IoT is a trend-setting technology which stores all sensor data in the cloud where it is easily accessible from the web. This technology also involves sensors and actuators for data collection and internet distribution. We use cloud not only to store data, but also to analyze, capture and visualize data. Such an emerging technology can be used to make existing systems more efficient in various IoT applications such as agriculture, health, smart home, etc. Coal is a non sustainable origin that cannot be widely replaced by humans, there are several mishaps of coalmines occurring in the mines, and the diggers are putting their lives at risky, by working in the coal mines, even once in a while they end up losing their lives in the coal mines that are an unfortunate part.



## SIGN LANGUAGE TO SPEECH TRANSLATION USING MACHINE LEARNING

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**ABSTRACT:** Sign language is an incredible advancement that has grown over the years. Unfortunately, there are some drawbacks that have come along with this language. Not everyone knows how to interpret a sign language when having a conversation with a deaf and mute person. One finds it hard to communicate without an interpreter. To solve this, there is a need for a product that is versatile and robust. There is a need to convert the sign language so that it is understood by common people. So here the aim is to get the deaf and mute people more involved to communicate and the idea of a camera-based sign language recognition system that would be in use for converting sign language gestures to text and then to speech. There are major techniques available to detect hand motion or gesture and then converting the detected information into voice such as CNN algorithm.

### 1. INTRODUCTION

Sign Language has become a most common method of communicating to those people who cannot speak. It is a language that uses the hand motions to express alphabets and words. People who are using the sign language were recorded just in china alone . It exceeds upto 80 million in total and especially those people will always have a problem of communicating with each others who can't understand the sign language. Vision method has become the popular method used for sign recognition in the past decades.

It is a system which uses a camera to sense the information that has been obtained through finger motions. It is the most commonly used visual-based method. It has been a tremendous effort and has been gone into the development of vision-based sign recognition systems through worldwide. Vision-based gesture recognition systems can be divided into direct and indirect methods. In earlier days for recognizing hand motion, vision based technique is used. But in this method the environmental effect in the recognized image is high and another disadvantage is they have to show their hands to in front of the camera. Here flex sensor is used for detecting the hand motion and convert it into voice.

This topic has got less attention as compared to other sectors. The Main challenges that this special person facing is the communication gap between -special person and normal person. Deaf and Mute people always find difficulties to communicate with normal person. This huge challenge makes them uncomfortable and they feel discriminated in society. Because of miscommunication, Deaf and Mute people feel not to communicate and hence they never able to express their feelings. HGRVC (Hand Gesture Recognition and Voice Conversion) system localizes

# DEEP LEARNING NETWORK FOR LOW-LIGHT IMAGE ENHANCEMENT

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**Abstract-** Low-light image enhancement is a challenging task that has attracted considerable attention. Pictures taken in low-light conditions often have bad visual quality. To address the problem, regard the low-light enhancement as a residual learning problem that is to estimate the residual between low- and normal-light images and propose a novel Deep Lightening Network (DLN) that benefits from the recent development of Convolutional Neural Networks (CNNs). The proposed DLN consists of several Lightening BackProjection (LBP) blocks. The LBPs perform lightening and darkening processes iteratively to learn the residual for normal-light estimations. To effectively utilize the local and global features, propose a Feature Aggregation (FA) block that adaptively fuses the results of different LBPs and evaluate the proposed method on different datasets. Numerical results show that our proposed DLN approach outperforms other methods under both objective and subjective metrics.

## I. INTRODUCTION

Capturing good quality images under poorly lit conditions is a difficult task. These images usually contain low illumination and brightness, poor contrast and noise. Certain operations such as increasing exposure, high ISO and flash could be used to improve the low light conditions of the environment. But these methods have some drawbacks. All these methods potentially destroy the naturalness of the image. Images taken in low-light conditions are usually very dim. This makes us difficult to recognize the scene or object. To obtain high-visibility images in the low-light conditions and can adopt three solutions.

- A. To use flash
- B. To increase the ISO (sensitivity of the sensor)
- C. To take a photo with longer exposure time

## Literature survey

**2.1 Low Light Image Enhancement** Recent literature shows that the CNN technology also benefits the low-light image enhancement. Some approaches (like Retinex-Net [20], LightenNet [21]) are based on the Retinex theory that contains two CNNs: One network decomposes the low-light image into illumination and reflectance, where reflectance is an inherent attribute of the scene which is unchangeable in different light conditions. The other network works as an enhancer to refine the illumination map of the low-light image. However, the definitions of ground-truth illumination and reflectance are not clear, which makes the decomposition difficult. Another problem is that these CNN-based approaches make use of shallow CNN structures that have few trainable parameters, which leads to a considerable limitation on the performance. For example, Retinex-Net [20] has only seven convolutional layers in the decomposition network, and LightenNet [21] has four convolutional layers only. It is obvious that the deep learning for low-light enhancement is still in its infancy stage. Some other approaches use Generative Adversarial Networks (GANs) that regard the lowlight enhancement as a domain transfer learning task by finding the mapping between low- and normal-light domains (e.g. EnlightenGAN [22]). Each GAN has a generator and a discriminator, where the generator estimates normal-light images from the lowlight ones, while the discriminator constrains the visual quality of the estimations and tries to distinguish the estimations from real normal-light images. However, the generator may collapse to a setting where it always outputs the same settings that are difficult for the discriminator to distinguish. In addition, the two models need to be trained simultaneously, but they have completely opposite targets that make it difficult to obtain the desired output [23].

• **Interactive Low-light Enhancement:** We resolve the low-light enhancement through a residual learning model that estimates the residual between the low- and normal-light images. The model has an interactive factor that controls the power of the lowlight enhancement. More details can be found in Proposed System

# SLIDING WINDOW BLOCKCHAIN ARCHITECTURE FOR IOT

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**Abstract** - This project is describing concept to provide security to IOT devices using Blockchain technology as this technology supports decentralized data storage which means data will be stored at multiple nodes compare to centralized storage where data is stored at single centralized server. Decentralized data storage provides facility of receiving data from any available node and it has strong security where a single data store will verify hash value of all nodes. To overcome from this problem it is introduce Sliding window technique where the window size will be fixed and all Blockchain transaction hash values will be stored in window and if window size exceeded then old transaction blocks will be slided or removed and maintain only recent blocks due to this technique memory storage and data transfer overhead will be reduced.

## I. INTRODUCTION

Blockchain is a distributed ledger used to record transactions between two or more parties. Unlike relational database systems, blockchain is a data structure where new entries get appended at the end of the ledger, and there exist no administrator permissions within a blockchain which allow modification of the data. Also, the addition of a new block to the chain needs to be verified by all other parties through a consensus algorithm. Since there exists a distributed control over the blockchain, it is difficult for attackers to modify the data compared to a relational database system. Relational databases are primarily designed for centralized data storage and blockchain are specifically designed for decentralize data storage.

## II Literature survey

Traditional blockchain approach is not suitable for IoT with real-time data streams due to their computationally complex Proof-of-Work (PoW). As the computational time increases, blockchain security becomes infeasible to be used for IoT. The computational complexity depends on difficulty



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## Blood Cell Classification using Deep Learning CNN Model

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### ABSTRACT

Deep Learning has already shown power in many application fields and is accepted by more and more people as a better approach than the traditional machine learning models. In particular, the implementation of deep learning algorithms, especially Convolutional Neural Networks (CNN), brings huge benefits to the medical field, where a huge number of images are to be processed and analyzed. This paper aims to develop a deep learning model to address the blood cell classification problem, which is one of the most challenging problems in blood diagnosis. A CNN-based framework is built to automatically classify the blood cell images into subtypes of the cells. Experiments are conducted on a dataset of 13k images of blood cells with their subtypes, and the results show that our proposed model provides better results in terms of evaluation parameters.

**Keywords:** Human blood cells, hematology, deep learning, CNNs.

### 1. INTRODUCTION

Sickle cell disease (SCD), also known as sickle cell anemia, is a type of inherited RBC disorder associated with abnormal hemoglobin S (HbS) [1]. When HbS molecules polymerize inside RBCs, due to lack of oxygen, they affect greatly the shape, elasticity, and adhesion properties of RBCs. Moreover, the RBCs become stiff and more fragile, with vastly heterogeneous shapes in the cell population [2], which makes this problem an ideal candidate for the examination of morphological heterogeneity. Unlike the normal RBCs, which are flexible and move easily even through exceedingly small blood vessels, sickle RBCs promote vaso-occlusion phenomena. Hence, SCD patients are afflicted with the risk of life-threatening complications, stroke and organ damage over time, resulting in a reduced life expectancy. According to a recent study [3], as of 2013 about 3.2 million people have SCD while an additional 43 million have sickle cell trait, resulting in 176,000 deaths in 2013, up from 113,000 deaths in 1990, mostly of African origin. The prime hallmark of SCD is that is surprisingly variable in its clinical severity. Available methods for treating SCD are mainly supportive and mostly aim at symptom control but lack the active monitoring of the health status as well as the prediction of disease development in different clinical stages [4]. Recent developments in advanced medical imaging technology and computerized image processing methods could provide an effective tool in monitoring the status of SCD patients. Indeed, Darrow et al. [5] recently demonstrated a positive correlation between cell volume and protrusion number using soft X-ray tomography. Van beers et al. [6] have also shown highly specific and sensitive sickle and normal erythrocyte classification based on sickle imaging flow cytometry assay, a methodology that could be useful in assessing drug efficacy in SCD. Therefore, implementing an automated, high-throughput cell classification method could become an enabling technology to improve the future clinical diagnosis, prediction of treatment outcome, and especially therapy planning. However, there are several major technical challenges for automatic cell classification: 1) RBCs may touch or overlap each other or appear as clusters in the image, which makes it difficult to detect the hidden edge of cells. 2) The RBC region and the background may have low contrast in the intensity. 3) The boundaries of RBCs may be blurry due to

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## Deep Learning CNN for Detecting Malicious Social Bots

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### Abstract

The Public are considerably using the various types of online social networks (OSNs) and it is become more common in people's social life. Thus, the users are facing spam relate issues and fake accounts due to Out-of-control OSNs evolution, due to these attacks users personal information is remains unsafe. To solve these problems, various types of machine learning algorithms are proposed by the various Researchers. But these methods are failed to detect the bots, spam detection and fake accounts detection effectively with maximum accuracy. Thus, this paper proposes to use the Deep Learning Convolutional Neural Network (DLCNN) as a modern algorithm to effectively identify suspected Clickstream Sequences and bots, to add choices and to restrict measurements. The classification mastering algorithm is used to determine the actual or false identity of target fake accounts. From the extensive simulation results, it is observed that the proposed DLCNN consumes less training time and provides highest classification accuracy compared to the state of art approaches.

**Keywords:** Classifications, Neural networks, Support vector machine, Social networks, Attackers, Malicious behavior, Reduction techniques.

### 1 Introduction

Online media networks like Twitter, Facebook, Youtube, RenRen or Connected In have been highly well-known in recent years as well as private social networks (OSN). OSNs are used for citizens to stay in contact and post data, plan activities and run an e-business of their own. The accessible theory of OSNs and the vast scope of their backers' observations have made them unhelpful in the attacks of Sybil [1-2]. Throughout 2012 Twitter saw a combination of fake data, discouragement, hair-raising among polarizing and others on the site. However, OSNs has additionally concerned the activity of researchers for removal and examining their large quantity of information, explore and reading customers behaviors as well as detecting their irregular things to do. In researchers find out about to forecast, investigate and provide an explanation [3-4] for client's loyalty in the direction of a social media-based online manufacturer community, by way of figuring out the most effective cognitive facets that predict their customers' attitude.

This paper shows the number of unacceptable materials removed on Twitter during the first quarter of 2018 and includes six categories: extreme abuse, pornographic pornography and sexual activity. For the first fois, Twitter has published a database of its own recommendations in enforcing group standards supporting their actions during the time between October 2017 and



## Object Single Frame Using YOLO Model

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**Abstract:** Our project on this area has been making great progress in many directions. The main goal of the project is to detect multiple object in a single frame. In this we have increased the classification accuracy of detecting objects and an overview of past research on object detection. You Only Look Once (YOLO) algorithm is the fastest, most efficient algorithm and uniquely detects. In this comparative analysis, using the Microsoft COCO(Common Object in Context) dataset, the performance of the algorithm is evaluated and the strengths and limitations are analyzed based on parameters such as accuracy and precision.

**Keywords:** Object Detection, YOLO Algorithm, Prediction

### 1. Introduction

A computer views all kinds of visual media as an array of numerical values. As a consequence of this approach, they require image processing algorithms to inspect contents of images. Object detection is a key ability required by most computer and robot vision systems. Our project on this area has been making great progress in many directions. In our project, we have increased the classification accuracy of detecting objects and we give an overview of past research on object detection, outline the current main research directions, and discuss open problems and possible future directions. You Only Look Once (YOLO) algorithm correlates activities and uniquely detects. The fastest and most efficient of algorithm. In this comparative analysis, using the Microsoft COCO (Common Object in Context) dataset, the performance of the algorithm is evaluated and the strengths and limitations are analyzed based on parameters such as accuracy and precision. The comparison between Single Shot Detection (SSD), Faster Region based Convolutional Neural Networks (Faster R-CNN) and You Only Look Once (YOLO). From the results of the analysis, YOLO processes images at 30 FPS and has a mAP of 57.9% on COCO test-dev. In an identical testing environment, YOLO outperforms SSD and Faster R-CNN, making it the best of these algorithms. Finally, we propose a method to jointly train on object detection and classification. Using this method, we train YOLO simultaneously on the COCO detection dataset and the ImageNet classification dataset.

### 2. Literature Survey

In the recent few years, diverse research work happened to develop a practical approach to accelerate the development of deep learning methods. Numerous developments accomplished excellent results and followed by continuous reformations in deep learning procedures. Object localization is the identification of all the visuals in a photograph, incorporating the precise location of those visuals. By using deep learning techniques for object identification and localization, computer vision has reached a new zenith. Due to significant inconsistencies in viewpoints, postures, dimensions, and lighting positions, it is challenging to succeed in the identification of objects perfectly. Accordingly, considerable concern has been given by researchers to this area in the past few years. There are two types of object detection algorithms. Object detection algorithms using region proposal includes RCNN, Fast RCNN, and Faster RCNN, etc. These techniques create region proposal networks (RPN), and then the region proposals are divided into categories afterward. On the other side, object detection algorithms using regression includes SSD and YOLO, etc. These methods also generate region proposal networks (RPN) but divide these region proposals into categories at the moment of generation. All of the procedures mentioned above have significant accomplishments in object localization and recognition. YOLO consolidates labels in diverse datasets to form a tree-like arrangement, but the merged labels are not reciprocally exclusive. YOLO9000 enhances YOLO to recognize targets above 9000 categories employing hierarchical arrangement. Whereas YOLOv3 uses multilabel classification, it replaces the approach of estimating the cost function and further exhibits meaningful improvement in distinguishing small targets. The arrangement of this paper is as follows. Below in section 2, background information of object detection methods is covered. It includes two stage detectors with their methodologies and drawbacks. Section 3 elaborates one stage detectors and the improved version YOLO v3-Tiny. Section 4 describes implementation results and comparison of object detection methods based on speed and accuracy. Finally, section 5 summarizes the conclusion.

## DIVISION AND REPLICATION OF DATA IN THE CLOUD FOR OPTIMAL PERFORMANCE AND SECURITY(DROPS)

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### ABSTRACT

Outsourcing data to a third-party administrative control, as is done in cloud computing, gives rise to security concerns. The data compromise may occur due to attacks by other users and nodes within the cloud. Therefore, high security measures are required to protect data within the cloud. However, the employed security strategy must also take into account the optimization of the data retrieval time. In this paper, we propose Division and Replication of Data in the Cloud for Optimal Performance and Security (DROPS) that collectively approaches the security and performance issues. In the DROPS methodology, we divide a file into fragments, and replicate the fragmented data over the cloud nodes. Each of the nodes stores only a single fragment of a particular data file that ensures that even in case of a successful attack, no meaningful information is revealed to the attacker. Moreover, the nodes storing the fragments, are separated with certain distance by means of graph T-coloring to prohibit an attacker of guessing the locations of the fragments. Furthermore, the DROPS methodology does not rely on the traditional cryptographic techniques for the data security; thereby relieving the system of computationally expensive methodologies. We show that the probability to locate and compromise all of the nodes storing the fragments of a single file is extremely low. We also compare the performance of the DROPS methodology with ten other schemes. The higher level of security with slight performance overhead was observed.

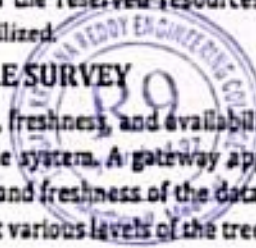
**Keywords:** Centrality, Cloud security, Replication , Performance, Fragmentation.

### I. INTRODUCTION

Cloud computing is a large-scale distributed computing paradigm in which a pool of computing resources is available to cloud consumers via the Internet. Computing resources, such as processing power, storage, software, and network bandwidth, are represented to cloud consumers as the available public utility services. Infrastructure as-a-Service (IaaS) is a computational service model widely used in the cloud computing paradigm. Here in this method, virtualization technologies can be used to supply resources to cloud customers. The clients can specify the required software stack, e.g., operating systems and applications; then enclose them all together into virtual machines (VMS). The hardware requirement of VMS can also be adjusted by the consumers. last, these VMS will be outsourced to host in computing environments. With the reservation plan, the cloud consumers will previously reserve the resources in advance. There may occur under provisioning problem when the reserved resources are unable to fully meet the demand due to its uncertainty. Although this problem can be solved by ordering extra resources by the help of on-demand plan to fit the extra demand, the high cost will be incurred due to more expensive price of resource provisioning with on demand plan. At the same time, the over provisioning problem can occur when the reserved resources are more than the real demand in which part of a resource pool will be under 1 % utilized.

### II. LITERATURE SURVEY

- Juels et al. presented a technique to ensure the integrity, freshness, and availability of data in a cloud. The data migration to the cloud is performed by the Iris file system. A gateway application is designed and employed in the organization that ensures the integrity and freshness of the data using a Merkle tree. The file blocks, MAC codes, and version numbers are stored at various levels of the tree.




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# Increasing pre-monsoon rain days over four stations of Kerala, India

Research Article – Atmospheric &amp; Space Sciences Published: 03 March 2022

Volume 70, pages 963–978, (2022) [Cite this article](#)[Acta Geophysica](#)[Aims and scope](#)[Submit manuscript](#)

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## Abstract

The climate of India varies greatly by region, as seen by wind patterns, temperature and rainfall, seasonal rhythms and the degree of wetness or dryness. During the several seasons, the weather conditions change. Changes in meteorological factors (temperature, pressure, wind direction and velocity, humidity and precipitation, etc.) cause these changes. The pre-monsoon season (PRMS) comprises of March, April and May months. The precipitation patterns observed in PRMS are crucial because it affects a variety of crop-related operations across the country. The lifting index (LI), K index (KI), total totals index (TTI), humidity index (HI), improved k index, improved total totals index, total precipitable water (TPW) and convective available potential energy (CAPE) are studied at



## SURVEY ON WEATHER FORE CAST USING MACHINE LEARNING

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## ABSTRACT

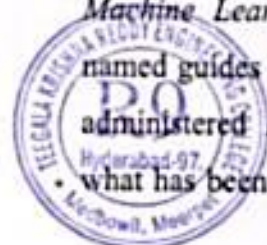
Weather changes have an incredibly negative impact on the environment and triggers natural disasters all of a sudden. To forecast these changes, there are several machine learning techniques and algorithms through which the weather changes can be predicted earlier. It has been noted that, from previous analysis there are many other approaches available for weather prediction. Based on those, various parameters like temperature, humidity, etc are considered. After surveying the emerging techniques and datasets, a proposed system is inculcated to include the approaches such as linear regression, bayes classifier, support vector machine and decision trees. In this the bagging, boosting, decision tree, random forest and stacking algorithms are used to predict the efficient accuracy. Bagging and boosting algorithms use same base learners whereas stacking uses different base learners. The learning capacity of stacking algorithm is different so that each individual learner can learn differently about various parameters and accuracy will increase when compared with other ensemble methods. Through the study it has been concluded to implement a proactive disaster recognition system to avoid the future loss of human lives and related environmental effect.

## 1. INTRODUCTION

Artificial Intelligence [AI] is a man-made brainpower application, which gives frameworks the capacity to gain and improve naturally for a fact without being unequivocally customized. AI operates around the development of PC applications that can get knowledge and use it to develop about themselves. The study began, for example, with ideas or knowledge, models, direct understanding,

or feedback, to look for designs in the knowledge and then decide on better choices based on the known models. The essential goal is to permit these PCs to consequently learn without human mediation or help, and to adjust activities in the similar manner. *Supervised Machine Learning Algorithm* It utilizes

named guides to foresee future occasions, administered AI calculations will apply what has been realized in the past to new



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# Low-Light Image Enhancement by using Feature Aggregation(FA)

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## ABSTRACT

Low-light image enhancement is a challenging task that has attracted considerable attention. Pictures taken in low-light conditions often have bad visual quality. To address the problem, we regard the low-light enhancement as a residual learning problem that is to estimate the residual between low- and normal-light images. In this paper, we propose a novel Deep Lightening Network (DLN) that benefits from the recent development of Convolutional Neural Networks (CNNs). The proposed DLN consists of several Lightening BackProjection (LBP) blocks. The LBPs perform lightening and darkening processes iteratively to learn the residual for normal-light estimations. To effectively utilize the local and global features, we also propose a Feature Aggregation (FA) block that adaptively fuses the results of different LBPs. We evaluate the proposed method on different datasets. Numerical results show that our proposed DLN approach outperforms other methods under both objective and subjective metrics

## 1. INTRODUCTION

Capturing good quality images under poorly lit conditions is a difficult task. These images usually contain low illumination and brightness, poor contrast and noise. Certain operations such as increasing exposure, high ISO and flash could be used to improve the low light conditions of the environment. But these methods have some drawbacks, for instance, higher ISO could introduce graininess. Increasing the exposure could make the image blurry and using flash may introduce irregular illumination. All these methods potentially destroy the naturalness of the image.

Taking photos is one of the most popular and convenient ways to record memorable moments of our life. Images taken in low-light conditions are usually very dim. This makes us difficult to recognize the scene

or object. However, often it is inevitable to take photos in low-light conditions. To obtain high-visibility images in the low-light conditions, we can adopt three solutions.

1) To use flash: It is a direct way to solve the problem. However, it is not allowed in some public areas, such as the museum, cinema, and exhibition hall.

2) To increase the ISO (sensitivity of the sensor): This method could increase the visibility of dark areas, but higher ISO will also bring more noise to the image, and the normal-light area will easily face the overexposure problem.

3) To take a photo with longer exposure time: Capturing an image with longer exposures allows more light that enlightens the dark area. Nevertheless, long-time

## THE CLASSIFICATION PERFORMANCE OF MISSING CHILD IDENTIFICATION USING CNN

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### ABSTRACT

In India a countless number of children are reported missing every year. Among the missing child cases a large percentage of children remain untraced. This paper presents a novel use of deep learning methodology for identifying the reported missing child from the photos of multitude of children available, with the help of face recognition. The public can upload photographs of suspicious child into a common portal with landmarks and remarks. The photo will be automatically compared with the registered photos of the missing child from the repository. Classification of the input child image is performed and photo with best match will be selected from the database of missing children. For this, a deep learning model is trained to correctly identify the missing child from the missing child image database provided, using the facial image uploaded by the public. The Convolutional Neural Network (CNN), a highly effective deep learning technique for image based applications is adopted here for face recognition. Face descriptors are extracted from the images using a pre-trained CNN model VGG-Face deep architecture. Compared with normal deep learning applications, our algorithm uses convolution network only as a high level feature extractor and the child recognition is done by the trained SVM classifier. Choosing the best performing CNN model for face recognition, VGG-Face and proper training of it results in a deep learning model invariant to noise, illumination, contrast, occlusion, image pose and age of the child and it outperforms earlier methods in face recognition based missing child identification. The classification performance achieved for child identification system is 99.41%. It was evaluated on 43 Child case

### 1. INTRODUCTION

Children are the greatest asset of each nation. The future of any country depends upon the right upbringing of its children. India is the second populous country in the world and children represent a significant percentage of total population. But unfortunately a large number of children go missing every year in India due to various reasons including abduction or kidnapping, run-away children, trafficked children and lost children. A deeply disturbing fact about India's missing children is that while on an average 174 children go missing every day, half of them remain

untraced. Children who go missing may be exploited and abused for various purposes. As per the National Crime Records Bureau (NCRB) report which was cited by the Ministry of Home Affairs (MHA) in the Parliament (LS Q no. 3928, 20-03- 2018), more than one lakh children (1,11,569 in actual numbers) were reported to have gone missing till 2016, and 55,625 of them remained untraced till the end of the year. Many NGOs claim that estimates of missing children are much higher than Reported. Mostly missing child cases are reported to the police. The child missing from one region may



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# CONTEXTUAL SCENARIO OF A CLOUD BASED EHR SYSTEM FOR DEVELOPING COUNTRIES

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## ABSTRACT

In most countries of the developed world, one of the integral components of Health Information System (HIS) is Electronic Health Records (EHR). With advances in Information and Communications Technology (ICT) and the rise in the adoption of cloud computing approaches in the health sector of these countries by a substantial number of health institutions, cloud servers are now remote repository of EHRs. However, in Nigeria and many other developing countries, health information of patients is still predominantly paper-based medical records. This manual method is not scalable in terms of storage, prone to error, insecure, susceptible to damage and degradation over time, highly unavailable, time consuming in accessing and with no visible audit trail and version history to mention but a few. In this paper, a framework for a cloud-based electronic health records system that is capable of storage, retrieval and updating of patient's medical records for developing countries such as Nigeria is proposed. The framework provides for various medical stakeholders in a health institution and patients to access the EHR system via a web portal by using a variety of devices in the contextual scenario whereby the health institution is migrating from paper-based patient record documentation to an EHR system.

## 1. INTRODUCTION

One of the essentials of diagnostics in modern healthcare delivery is patient medical or health records. A comprehensive healthcare system relies upon the capacity of the healthcare providers to promptly access

a patient's test outcomes, earlier treatment notes, current medicines, to mention but a few. The absence of access to such data may postpone diagnosis and result in uncalled for treatment and in due turn, expanded expenses. From another viewpoint, health data stored over time can be reflection of the



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**A Study of Talent Management and Its Impact on Performance of Organizations**SANKATI SANDHYA<sup>1</sup>, K. SUJITHA<sup>2</sup><sup>1</sup>PG Scholar, Dept of Management, Teegala Krishna Reddy Engineering College (Autonomous), Medbowli, Meerpet, Hyderabad, Telangana, India.<sup>2</sup>Assistant Professor, Dept of Management, Teegala Krishna Reddy Engineering College (Autonomous), Medbowli, Meerpet, Hyderabad, Telangana, India.

**Abstract:** Talent management is a business strategy that companies believe will enable them to retain their top talented employees and improve company performance. It is the process of effectively recruiting the right talent, preparing them to take on top positions in the future, evaluating and maintaining their performance and preventing them from leaving the company. The performance of each organization depends on the performance of their employees. If employees have unique abilities that do not reflect competitors, the company will automatically gain competitiveness over its competitors. Therefore, in order to manage this unique human capital, companies are focusing on developing effective systems and processes for talent management. Companies are also desperately trying to retain their top / core talent because if they go, the entire repository of knowledge will also be out of the company's hands. The purpose of this study was to determine the impact of talent management on organizational performance for Karvy Stock Broking Limited, Hyderabad Region. Research shows that talent management has a partial effect on performance. If this talent is properly managed and implemented in the right place, companies can use their hostages to increase their growth and profitability.

**Keywords:** Talent management, Competencies, Organizational Performance.

**I. INTRODUCTION**

Human Resource is a paramount importance for the success of any organization. It is a source of strength and aid. Human Resource is the wealth of an organization which can help it in achieving its goals. Human Resource management is concerned with the human beings in a organization. It reflects a new outlook which views organization's manpower as its resources and assets. Human Resources are the total knowledge, abilities, skills, talents and aptitudes of an organization's workforce. The value, ethics, beliefs of the individuals working in an organization also form a part of Human Resource. The resourcefulness of various categories of people and other people available to the organization can be treated as human resource. In the present complex environment on business or organization can exist and grow without appropriate human resource. So human resource has become the focus of attention for every progressive organization. It means the management can get and use the skills, knowledge, ability, etc. through the development of skills, tapping and

utilizing them again and again. Human Resource Management is that process of management which develops and manages the human elements of enterprise; it is not the management of skills but also the attitudes and aspirations of people. When individuals come to work place, they come with not only technical skills, experience but also feelings, perception, desires, motives, attitudes, values etc. So HRM will mean management of various aspects of human resources. According to EDWARD FLIPPO "Human Resource Management is the Planning, Organizing, Directing and controlling of the Procurement, Development, and Compensation. Maintenance and Separation of human resource to end that Individual, Organizational and societal objectives and accomplished." According to DECENZO AND ROBBINS, "Human is concerned with the people dimension" in management. Since every organization is made up of people, acquiring their services, developing their skills, motivating them to higher levels of performance and ensure that they continue to maintain their commitment to the organization is essential to achieve organizational objectives.

**II. MEANING OF TALENT MANAGEMENT**

Talent in general terms refers to a special natural ability or the art person possess in particular field. Talent Management also denotes a deliberate approach taken up by an organization to attract, retain, motivate, and develop and succession plan for people with the aptitude and abilities to meet not only the current requirements but also future organizational needs. Talent management implies recognizing a person's inherent skills, traits, personality and offering him a matching job. Every person has a unique talent that suits a particular job profile and any other position will cause discomfort. It is the job of the Management, particularly the Human Resource Department, to place candidates with prudence and caution. A wrong fit will result in further hiring, re-training and other wasteful activities. Talent Management is beneficial to both the organization and the 3 employees.

**A. Talent Management Model**

Talent management can include; talent acquisition (and recruitment), learning and development, organizational performance management, career pathways and succession planning. While there are many talent



# Secure Deduplicated Cloud Storage with Encrypted Two-Party Interactions in CCPS

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## ABSTRACT

Cloud envisioned Cyber-Physical Systems (CCPS) is a practical technology that relies on the interaction among cyber elements like mobile users to transfer data in cloud computing. In CCPS, cloud storage applies data deduplication techniques aiming to save data storage and bandwidth for real-time services. In this infrastructure, data deduplication eliminates duplicate data to increase the performance of the CCPS application. However, it incurs security threats and privacy risks. So, we propose a message Lock Encryption with neVer-decrypt homomorphic EncRyption (LEVER) protocol between the uploading CCPS user and cloud storage to reconcile the encryption and data deduplication. Interestingly, LEVER is the first brute-force resilient encrypted deduplication with only cryptographic two-party interactions. We perform several numerical analysis of LEVER and confirm that it provides high performance and practicality compared to the literature

## 1. INTRODUCTION

The amount of data to be stored by cloud storage systems increases extremely fast. It is thus of utmost importance for Cloud Storage Providers (CSPs) to dramatically reduce the cost to store all the created data. A promising approach to achieve this objective is through data deduplication. Put simply, data deduplication keeps a single copy of repeated data. When a client wishes to store some piece of data, and if a copy of this data has already been saved in the storage system, then solely a reference to this existing copy is stored at the storage server. No duplicate is created.

Data deduplication also improves users experience by saving network bandwidth and reducing backup time when the clients perform the deduplication before uploading data to the storage server. This form of

deduplication is termed as client-side deduplication, and when it is handled by the storage server it is called server-side deduplication. Due to its straightforward economical advantages, data deduplication is gaining popularity in both commercial and research storage systems.

### 1.1 Problem Definition

Deduplication, security issues leading to information leakage to malicious clients. To maintain confidentiality, data integrity and data deduplication became major issues over data storage. Suffering from a lack of security, high performance, and applicability.

Data access to the third-party like cloud providers. Malware attacks and intruders were increasing to bridge in to the data server and this may lead to data loss and also confidentiality may lost.

## HEART DISEASE PREDICTION OF ACCURACY BY USING DIFFERENT MACHINE LEARNING

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### ABSTRACT

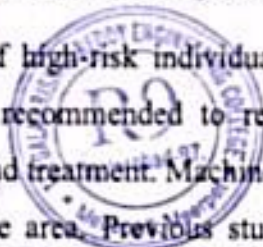
Health care field has a vast amount of data, for processing those data certain techniques are used. Data mining is one of the techniques often used. Heart disease is the Leading cause of death worldwide. This System predicts the arising possibilities of heart disease. The outcomes of this system provide the chances of occurring heart disease in terms of percentage. The datasets used are classified in terms of medical parameters. This system evaluates those parameters using data mining classification technique. The datasets are processed in python programming using two main Machine Learning Algorithm namely Decision Tree Algorithm and Naive Bayes Algorithm which shows the best algorithm among these two in terms of accuracy level of heart disease.

**Keywords:** Heart Disease, Machine Learning, Algorithm, Data Mining

### INTRODUCTION

Heart disease is a cardiovascular disease (CVD) that remains the number one cause of death globally and contributes to approximately 30% of all global deaths. If unmitigated, the total number of deaths globally is projected to increase to around 22 million in 2030. The American Heart Association reported that nearly half of American adults are affected by CVDs, equating to nearly 121.5 million adults. In Korea, heart disease is among the top three leading causes of death and contributed to nearly 45% of total deaths in 2018. Heart disease is a condition when plaque on arterial walls can block the flow of blood and cause a heart attack or stroke. Several risk factors that can lead to heart disease include unhealthy diet, physical inactivity, and excessive use of tobacco and alcohol.

The early heart disease identification of high-risk individuals and the improved diagnosis using a prediction model have generally been recommended to reduce the fatality rate and improve the decision-making for further prevention and treatment. Machine learning-based clinical decision-making have recently been applied in healthcare area. Previous studies have shown that machine learning



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## IMPROVE LIVER DISEASE DIAGNOSIS USING MACHINE LEARNING APPROACHES USING CLASSIFICATION ALGORITHMS

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### ABSTRACT

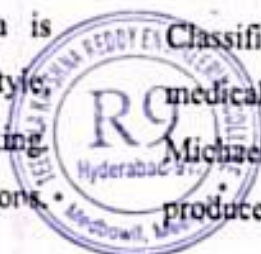
Diagnosis of liver disease at a preliminary stage is important for better treatment. It is a very challenging task for medical researchers to predict the disease in the early stages owing to subtle symptoms. Often the symptoms become apparent when it is too late. To overcome this issue, this project aims to improve liver disease diagnosis using machine learning approaches. The main objective of this research is to use classification algorithms to identify the liver disease patients from healthy individuals. This project also aims to compare the classification algorithms based on their performance factors. To serve the medicinal community for the diagnosis of liver disease among patients, a graphical user interface will be developed using python. The GUI can be readily utilized by doctors and medical practitioners as a screening tool for the liver disease.

### 1. INTRODUCTION

Problems with liver patients are not easily discovered in an early stage as it will be functioning normally even when it is partially damaged. An early diagnosis of liver problems will increase patient's survival rate. Liver failures are at high rate of risk among Indians. It is expected that by 2025 India may become the World Capital for Liver Diseases. The widespread occurrence of liver infection in India is contributed due to deskbound lifestyle, increased alcohol consumption and smoking. There are about 100 types of liver infections.

Therefore, developing a machine that will enhance in the diagnosis of the disease will be of a great advantage in the medical field. These systems will help the physicians in making accurate decisions on patients and also with the help of Automatic classification tools for liver diseases (probably mobile enabled or web enabled), one can reduce the patient queue at the liver experts such as endocrinologists.

Classification techniques are much popular in medical diagnosis and predicting diseases. Michael J Sorich reported that SVM classifier produces best predictive performance for the



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## EARTHQUAKE DAMAGE PREDICTION ANALYSIS OF USING DIFFERENT MACHINE LEARNING ALGORITHMS

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### ABSTRACT

An earthquake is a natural disaster known on account of the devastating effect it has on naturally occurring structures and manmade structures such as buildings, bungalows and residential locations to name a few. Earthquakes are measured using seismometers that detect the vibrations due to seismic waves travelling through the earth's crust. In this work, the damage that is caused by an earthquake was classified into damage grades, ranging in values from one to five. A previously acquired data set was used, wherein a series of parameters were taken into consideration to predict the damage grade of a given building, which is associated with a Unique Identification String. The prediction was done using a survey of existing machine learning classifier algorithms. The machine learning algorithms used in this work were Logistic Regression, Naive Bayes Classifier, Random Forest Classifier and K-Nearest Neighbors. Based on an evaluation of a set of attributes, the most appropriate algorithm was considered. A detailed analysis was done on the predicted attribute by the given algorithm, followed by data analysis that provided details that could help mitigate the impact of an earthquake in future.

### 1. INTRODUCTION

Earthquake is nothing but the shaking movement of Earth's crust. Elastic energy produced due to sudden crack and it get store in rocks that are subjected to great strain. Energy produced during earthquake is getting store over long time and it will release in minutes or in seconds. The Seismic waves are nothing but elastic waves which are produced by an earthquake. Seismic waves are low frequency waves those release energy during earthquake can cause tremendous loss of

human life. It results in serious damage to wide variety of civil engineering structure. Our project is based on Nepal earthquake which washeld on April 25th, 2015 at Gorkha. It's also named as 'Gorkha earthquake'. earthquake was natural disaster to destruction Nepal. The mortality rate due to earthquake in Nepal has never been less. In 2015 the mortality rate due to earthquake was nearly 9000 and 22,000 people was got injured. In this study, we are using artificial intelligence Prediction keeps a set of input which decreases

## PHISHING WEBSITE CLASSIFICATION AND DETECTION USING RANDOM FOREST ALGORITHM

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### ABSTRACT

Phishing website is one of the internet security problems that target the human vulnerabilities rather than software vulnerabilities. It can be described as the process of attracting online users to obtain their sensitive information such as usernames and passwords. In this paper, we offer an intelligent system for detecting phishing websites. The system acts as an additional functionality to an internet browser as an extension that automatically notifies the user when it detects a phishing website. The system is based on a machine learning method, particularly supervised learning. We have selected the Random Forest technique due to its good performance in classification. Our focus is to pursue a higher performance classifier by studying the features of phishing website and choose the better combination of them to train the classifier. As a result, we conclude our paper with accuracy of 98.8% and combination of 26 features.

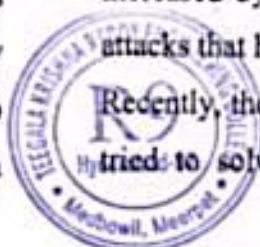
### INTRODUCTION

In today's world, technology has become an integral part of the twenty-first century. The internet is one of these technologies, which is growing rapidly every year and plays an important role in individuals' lives. It has become a valuable and a convenient mechanism for supporting public transactions such as e-banking and e-commerce transactions. That has led the users to trust it is convenient to provide their private information to the Internet. As a result, the security thieves that have started to target this information have become a major security problem. Phishing websites are considered to be one of these problems. They are using a

social engineering trick, which can be described as fraudsters that try to manipulate the user into giving them their personal information based on exploiting human vulnerabilities rather than software vulnerabilities.

Statistics have shown that the number of phishing attacks keeps increasing, which presents a security risk to the user information according to the Anti-Phishing Working Group (APWG) [1] and recorded phishing attacks by Kaspersky Lab [2], which stated that it has increased by 47.48% from all of the phishing attacks that have been detected during 2016.

Recently, there have been several studies that tried to solve the phishing problem. Some



## A NOVEL APPROACH ON DIABETES MELLITUS AND RISK PREDICTION USING MACHINE LEARNING

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### ABSTRACT

Diabetes is a chronic disease with the potential to cause a worldwide health care crisis. According to International Diabetes Federation 382 million people are living with diabetes across the whole world. By 2035, this will be doubled as 592 million. Diabetes is a disease caused due to the increase level of blood glucose. This high blood glucose produces the symptoms of frequent urination, increased thirst, and increased hunger. Diabetes is a one of the leading causes of blindness, kidney failure, amputations, heart failure and stroke. When we eat, our body turns food into sugars, or glucose. At that point, our pancreas is supposed to release insulin. Insulin serves as a key to open our cells, to allow the glucose to enter and allow us to use the glucose for energy. But with diabetes, this system does not work. Type 1 and type 2 diabetes are the most common forms of the disease, but there are also other kinds, such as gestational diabetes, which occurs during pregnancy, as well as other forms. Machine learning is an emerging scientific field in data science dealing with the ways in which machines learn from experience. The aim of this project is to develop a system which can perform early prediction of diabetes for a patient with a higher accuracy by combining the results of different machine learning techniques. The algorithms like K nearest neighbour, Random Forest, Support vector machine, Decision tree, XGBoost, etc. are used. The accuracy of the model using each of the algorithms is calculated. Then the one with a good accuracy is taken as the model for predicting the diabetes.

### 1. INTRODUCTION

Diabetes is a situation which causes deficiency due to less amount of insulin in the blood. Warning sign of high blood sugar results in frequent urination, feeling thirsty, increased hunger. If it is not medicated, it will lead to many difficulties. This difficulty

leads to death. Severe difficulties lead to cardiovascular disease foot sores, and eye blurriness. When there is a rise within the sugar level within the blood, it is referred to as prior diabetes. The prior diabetes isn't therefore great than the traditional worth. Diabetes is appreciations to the exocrine gland not manufacturing plentiful



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## A Study on Investor Awareness in Indian Capital Markets with Reference To Post Liberalization Period

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**Abstract:** the fast and efficient development of the financial systems in India. They are the best possible channels to fund the financial growth of the economy. The thesis is the first of its kind in India where the survey was conducted among 852 educated respondents among four major cities, Hyderabad, Delhi, Bangalore and Chennai who saves a good amount of their income but lacks the awareness in capital markets and hence most of their savings are directed towards the traditional financial instruments. The research has provided wide array information through descriptive analysis of the demographic profiles of these respondents around various parameters across the industry and statistical inferential analysis of the awareness and perception of the investors. This thesis also discusses the different factors and variables that influence the investors and help them in decision making. Various statistical tools have been used to study the data collected from the respondents and make the necessary inferences. The study has provided with conclusions that can help to create awareness among existing and potential investor thus streamlining the Indian capital markets.

**Keywords:** Capital Market, Awareness and Perception of Investors.

### I. INTRODUCTION

#### A. Concept of Investments

The growth of any economy is marked by the degree of investments helping the capital formation in the country one of the major sources of investment is savings by the residents of the country and in country like India, savings from household forms the major backbone of the economy which forms the largest segment of national savings. Every country encourages its citizens to save and invests in the growth story of the country. Household savings are the prima facie followed by the corporate, businesses with the government. For a sustainable growth in the economy, the central bank encourages domestic savings. According to RBI's report the national savings in India as a percentage of gross national disposable income (GNDI) rose from 9.1% in 2019-20 to 11.1% in 2020-21, the highest in at least the last seven years. Every working individual earns money to take care of his needs first and then followed by wants. Money thus earned is spent on various aspects like household expenses, education, medical bills etc. followed by vacations, entertainment etc. Some part of the

earnings is saved for future needs. Those who spend less than they earn are tend to save their earnings for future needs. These savings can be accumulated and invested to achieve future objectives like buying a house, retirement, children's education, etc. This saved money is encouraged to not held as cash but invest into different financial instruments. These instruments not only create a huge amount but also tender certain ROIs in form of appreciation. (Source RBI)

**Table1. Projections of Household savings Rate (in per cent of GDP)**

Year	Household Savings
2015-16	23.2
2016-17	23.6
2017-18	24.4
2018-19	24.8
2019-20	25.2
2020-21	24.4

It is observed that the projected household savings rate increased from 23.2 per cent in 2015-16 to 24.4 per cent in 2020-21, giving an average of 24.4 per cent during the Twelfth Plan.

**Table2. Baseline Projection of the Components of Household Savings over the Twelfth Plan as per cent of GDP at current market prices**

Gross Financial Assets (1 to 7)	16.8	17.1	17.4	18	18	18.2	18
Gross Financial Liabilities	5.1	5.2	5.3	5.4	5.5	5.5	5.4
Net Financial Savings (8 - 9)	11.7	11.9	12.1	12	13	12.7	12
Physical Savings	11.5	11.7	11.9	12	12	12.5	12
Household total Savings (10+11)	23.2	23.6	24	24	25	25.2	24

#### B. Classification of Investments

Investment is made to achieve certain objectives by the investor. The goals range from financial safety, capital

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# A Survey on Health Workers to Monitor Nutrition among Women and Children

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## To Cite this Article

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## Article Info

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## ABSTRACT

India's Auxiliary Nurse Midwives (ANMs) are village-level female health workers who provide essential primary care services to pregnant women, mothers and newborn children. ANMs cater to populations of 3,000-5,000 people, and their work mainly involves providing primary healthcare services for maternal and child health, family planning, nutrition and immunization programmes. Another extremely important part of the job is collecting healthcare data. ANMs capture around 200 key indicators related to health, nutrition and immunization of pregnant women, mothers and newborn children in their paper registers. Like many other ANMs, it handles more than one village, and on an average day carries 12-15 separate registers to record key data indicators while on the go. The proposed new application is helping them log healthcare data.

## 1. INTRODUCTION

India's Auxiliary Nurse Midwives (ANMs) are village-level female health workers who provide essential primary care services to pregnant women, mothers and newborn children. ANMs cater to populations of 3,000-5,000 people, and their work mainly involves providing primary healthcare services for maternal and child health, family planning, nutrition and immunization programmes. Another extremely important part of the job is collecting healthcare data. ANMs capture around 200 key indicators related to health, nutrition and immunization of pregnant women, mothers and newborn children in their paper registers. Like many other ANMs, it handles more than one village, and on an average day carries 12-15 separate registers to record key data indicators while on the go. The

proposed new application is helping them log healthcare data.

## 2. LITERATURE SURVEY

**Title:** Impact of Maternal Education about Complementary Feeding on Their Infants' Nutritional Outcomes in Low- and Middle-income Households:

**Author Names:** Ali Faisal Saleem, Sadia Mahmud, Naila Baig-Ansari, and Anita K.M. Zaidi

**Description:** This cluster-randomized interventional trial at peri-urban settings of Karachi was conducted to evaluate the impact of maternal educational messages regarding appropriate complementary feeding (CF) on the nutritional status of their infants after 30 weeks of educational interventions delivered by trained community health workers. Mothers in the

# AN APPROACH OF CCTV STREET GARBAGE DETECTION AND ALERT SYSTEM

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## ABSTRACT

The aim of this research is to develop a smart waste management system using TensorFlow based deep learning model. It performs real time object detection and classification. It consists of several compartments to segregate the waste including metal, plastic, paper. Object detection and waste classification is done in TensorFlow framework with pre-trained object detection model. This program classifies an input image as clean/unclean. This can later be used to automatically send alerts to respective authorities when a street is found to be unclean. Once a street is found to be unclean, it automatically sends an email alert to the respective authorities who can then take action. It is impossible to manually identify streets that require cleaning at a given time. With "CCTV Street Garbage Detection and Alert System", authorities can get updates about the streets that are unclean.

## 1. INTRODUCTION

Monitoring and cleanliness assessment of garbage area in urban scenes mainly rely on manual inspection and photographic record, which makes it a difficult and time-consuming task. During the inspection process, human intervention and cumbersome problems often happen. The quality of sanitation work has been affected. Different from pedestrians, vehicles and other objects, garbage has no relatively clear definition. Due to the judgment of garbage always has certain subjectivity, in different situations, it will produce different judgment results. Since the diversity of scenes where garbage appears, accuracy of test results will be affected. With the development of smart city, we expect to provide an automatic detection method of urban garbage to help alleviate urban garbage problems.



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## IDENTIFY OF FAKE TWITTER ACCOUNTS USING SVM ALGORITHM

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### ABSTRACT

In the present generation number of clients can communicate with each other through social networkingsites such as Facebook, Twitter, WhatsApp, etc. The social networking sites are used in the world a huge number of clients can communicate with each other. Online Social Networks (OSNs) have become increasingly popular. People's lives have become more associated with these sites. People are used to Online Social networks to keep in touch with each other and communication between social networks for share news, organize events and advertisement of own e-business. The increasing growth of OSN and the more amounts of personal data of its subscribers have attracted attackers and imposters to steal personal details, share fake news and spread malicious activities. On the other side, researchers have started to research efficient techniques to detect abnormal activities and fake accounts relying accounton different features and classification algorithms. However, some of the accounts exploited features have a negative contribution in the final results or it has no impact it has using standalone classification algorithms does not achieve satisfactory results. In this paper, we present a machine learning techniqueto identify fake accounts on twitter. We have a preprocessed dataset of numerical highlights. The Support Vector Machine algorithm is proposed to provide efficient detection of fake accounts of twitter it has used feature selection and dimensionality reduction techniques. The machine-learning algorithm was used to decide accounts to identify accounts that are fake or real. SVM algorithm is used to identifyaccount is fake or real. SVM has used a smaller number of features hence it is being able to correctly classify about 98% of the accounts of our provided training dataset.

### INTRODUCTION

Online Social Networking has grown extremely throughout the last few years.

Online Social networks such as Facebook,

Twitter, RenRen, Linked In, Google + have become increasingly popular over the last



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## Extensible Path Planning Intelligent System by Applying Nature Inspired Computing (NIC) Algorithm

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Dr.J.Praveen Kumar Associate Professor , Dept.of IT Teegala Krishna Reddy Engineering Collge  
Dr.K.Ram Mohan Rao , Professor Dept.of IT , Vasavi College of Engineering

### ABSTRACT

The mobile robot path planning is a central problem in several areas such as modern industry and cyber physical systems. This requires an embedding intelligence into that robotics for ensuring feasible solutions to task execution. Many researchers developed an optimization algorithm for finding shortest path in known environment. In this proposed paper by applying extensible particle swarm optimization (EPSO) algorithm for a mobile robot to avoid obstacles without collision in a path to reach target (destination) in a small amount of time. The performance results of proposed EPSO algorithm shows better results with conventional algorithms to reach destination with minimum energy consumption and also minimize time.

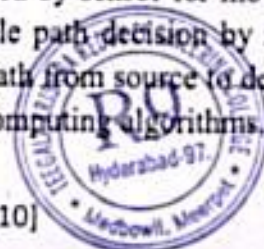
Keywords – swarm intelligence, nature inspired computing algorithms, particle swarm optimization,

### 1- INTRODUCTION

The swarm intelligence is one of the flavor of nature inspired computing algorithms specialized of well-known optimization problems for solving complex problems by providing near about reasonable amount of time [1,2]. The robot is 'humanoid machine' to achieve target by 'path planning' within a short period without collision of obstacles across the robotic when robot reach target position by selection of perfect shortest reachable path.

Path planning is of two types i.e. off-line also known as global path planning, on-line also known as local path planning. Off-line path movement the immovable obstacles are visible clearly. The algorithm already written for a complete path with x, y co-ordinates. Whereas about online path obstacles will be in between source and destination. The role of sensors takes important to guide to move the navigate of robot in certain a path perfectly.

These are important of navigation of robot is sensed by sensor for movement, every iteration robot provide its own location information, the reachable path decision by robot, robot move in certain path. Mobile robot path planning to find shortest path from source to destination. The implementation is possible in classical as well as nature inspired computing algorithms. Roadmap method is the one



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## FORECAST ALZHEIMER'S ILLNESS USING CNN ALGORITHM

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### ABSTRACT

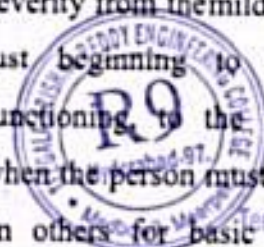
A lifestyle disease is a disease that is linked to the way a person or group of people lives. Alzheimer's disease is an irreversible, degenerative brain ailment that gradually erodes memory and thinking skills, as well as the ability to carry out even the most basic tasks. Medical management accumulates a lot of data on an illness that isn't mined and could be useful in making decisions. We're trying to figure out how to use the CNN algorithm to forecast Alzheimer's illness. Using the flask framework, we are attempting to develop a web page from which we will collect user input and transfer it to the back end for prediction purposes. We'll then put the results on a web page

### 1. INTRODUCTION

#### 1.1 GENERAL DESCRIPTION

Alzheimer's disease is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and eventually the ability to carry out the simplest tasks. In most people with Alzheimer's, symptoms first appear in their mid-60s. Estimates vary, but experts suggest that more than 5.5 million Americans and others may have Alzheimer's.

Alzheimer's disease remains as a serious disease which causes of death for older people just like cancer and heart disease. Alzheimer's is the most common cause of dementia among older adults. Dementia is the loss of cognitive functioning—thinking, remembering, and reasoning—and behavioural abilities to such an extent that it interferes with a person's daily life and activities. Dementia ranges in severity from the mildest stage, when it is just beginning to affect a person's functioning, to the most severe stage, when the person must depend completely on others for basic activities of daily



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**DIGITAL SMART SYSTEM FOR RESTAURANTS USING WIRELESS TECHNOLOGY**<sup>1</sup>G.RAJKUMAR <sup>2</sup>SARDARNI.SARABJEETH KAUR, <sup>3</sup>BURRA PUJITHA, <sup>4</sup>DONTHULA LAXMAN<sup>1</sup>Assistant Professor in department of IT Teegala Krishna Reddy Engineering college<sup>1</sup>[rajkumar.gadda@gmail.com](mailto:rajkumar.gadda@gmail.com)<sup>2,3,4</sup>UG Scholar in in department of IT Teegala Krishna Reddy Engineering college**ABSTRACT**

In almost every area, technology has changed traditional ways. Restaurants/Hotels are also adopting recent automation trends and are installing robots to deliver food and tablets for taking orders. Here we have developed a Digital system that lets you automate menu for ordering food in restaurants. Traditionally, almost all the restaurants use pen and paper to take order from customer. This wastes a lot of time, pen and paper. Also time required in sending the order to the kitchen and manually evaluating bill is also more. To solve these problems, we designed an automatic smart restaurant system which will improve the quality of services. In this project, we use Arduino to develop the Digital System. This system will then send this order to the kitchen and serve the food according to the order. The Digital system will give total information of order given by customer to the Kitchen team & manager. This will help reduce the task of physical labour where the waiter has to go into the kitchen every time and avoid insufficiency. In most of the restaurants meal ordering is relying on the interaction with waiters to place order into the kitchen and during this pandemic where we are trying to avoid direct contact with people this digital menu will reduce the time of interaction with the waiter. When the customer wants to call upon waiter there is also a waiter-call button added in this machine which will transmit the message that waiter has been called. The customer can also know the total amount/bill of their order through the Digital system. Through this device customers can also provide their feedback of the food that was served to them. This feedback is valuable and can be used to further enhancement of food quality. The feedback will help know the quality of food.

**INTRODUCTION**

Automation systems are increasing in day-to-day life. It is the essential part in the field of electronics. It deals with transfer of data from one place to another place. Communication has major role in the successful data transfer and to

get the acknowledgement from receiver. There are two modes of transmission; wired and wireless transmission. In wired transmission, data is transferred through a physical medium or a link whereas no physical link is used in wireless transmission. Both mediums have its



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## Optimized Mode Of Object Detection With Deep CNN For Advanced Driving Assistance

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### ABSTRACT

As a key technology of intelligent transportation system, the intelligent vehicle is the carrier of comprehensive integration of many technologies. Although vision-based autonomous driving has shown excellent prospects, there is still a problem of how to analyze the complicated traffic situation by the collected data. Recently, autonomous driving has been formulated as many tasks separately by using different models, such as object detection task and intention recognition task. In this study, a vision-based system was developed to detect and identify various objects and predict the intention of pedestrians in the traffic scene. The main contributions of this research are (1) an optimized model was presented to detect 10 kinds of objects based on the structure of Faster RCNN (2) a fine-tuned Part Affinity Fields approach was proposed to estimate the pose of pedestrians; (3) Explainable Artificial Intelligence (XAI) technology is added to explain and assist the estimation results in the risk assessment phase; (4) an elaborate self-driving dataset that includes several different subsets for each corresponding task was introduced; and (5) an end-to-end system containing multiple models with high accuracy was developed. Experimental results proved that the total parameters of optimized Faster RCNN reduced by 74%, which satisfies the real-time capability. In addition, the detection precision of the optimized Faster RCNN achieved an improvement of 2.6% compared to the state-of-the-art.

### 1. INTRODUCTION

Rapid urbanization has highlighted a series of problems, especially in the aspect of transportation, which severely limits travel and has certain security risks. Even though

some progress has been made in the existing object detection technologies in self-driving, there still exist potential risk factors of collision as motor cars are surrounded by many objects in static objects (traffic lights and signs). Therefore, it is necessary to promptly detect various static objects and



## REVIEW OF ALGORITHMS AND TECHNIQUES USED FOR IDENTIFY THE CRIMINALS.

<sup>1</sup>J.SUDEER KUMAR , <sup>2</sup> PRATIBHA YADAV, <sup>3</sup>IMEKALA SAI KARAN, <sup>4</sup>BOLAGANI VINAY<sup>1</sup>Assistant Professor in department of IT Teegala Krishna Reddy Engineering college<sup>2</sup>[jsudheer559@gmail.com](mailto:jsudheer559@gmail.com)<sup>3,4</sup>UG Scholar in in department of IT Teegala Krishna Reddy Engineering college

## ABSTRACT

Crime analysis is a methodical approach for identifying and analyzing patterns and trends in crime. With the increasing origin of computerized systems, crime data analysts can help the Law enforcement officers to speed up the process of solving crimes. Using the concept of data mining, we can analyze previously unknown, useful information from an unstructured data. Predictive policing means, using analytical and predictive techniques, to identify criminal and it has been found to be pretty much effective in doing the same. Because of the increased crime rate over the years, we will have to handle a huge amount of crime data stored in warehouses which would be very difficult to be analyzed manually, and also now a day's, criminals are becoming technologically advance, so there is need to use advance technologies in order to keep police ahead of them. In this paper, the main focus is on the review of algorithms and techniques used for identify the criminals.

## 1.INTRODUCTION

A crime rate has become a topic of major concern certainly to limit the development of good governance and increasing day by day. Crimes are neither systematic nor random otherwise crime cannot be analysis. When crimes like robbery, firebombing etc. have been decreased, crimes like murder, sex abuse, gang rape etc. have been increased. We cannot analyze the victims of crime but can analyze the place where crime occurred or happened. It is difficult to analyze the data to detect crime patterns or predict future

crimes by intelligence agencies or local law enforcement agencies. So, there is a need of an effective analyzing tool which can analyze crime data efficiently and quickly to give some useful crime patterns.

## 1.1 Objective

The objective of this project is to ascertain crime hotspots and also to predict the type of crime occurring in the city and country by using data mining, machine learning process and variables such as the location, date, time



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## REVIEW OF ALGORITHMS AND TECHNIQUES USED FOR IDENTIFY THE CRIMINALS.

<sup>1</sup>J.SUDEER KUMAR , <sup>2</sup> PRATIBHA YADAV, <sup>3</sup>IMEKALA SAI KARAN, <sup>4</sup>BOLAGANI VINAY<sup>1</sup>Assistant Professor in department of IT Teegala Krishna Reddy Engineering college<sup>1</sup>[jsudheer559@gmail.com](mailto:jsudheer559@gmail.com)<sup>2,3,4</sup>UG Scholar in in departme: t of IT Teegala Krishna Reddy Engineering college

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# Security from Phishing Attack on Internet using Evolving Fuzzy Neural Network

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**Abstract:** In recent years with the increase of cyber-attacks, data defense plays an essential part. The protecting of data has been the toughest obstacles now a days. Different countries and businesses take a wide range of steps to combat such cyber-attacks. The rise of online technologies has resulted in unceasingly creative challenges to surveillance critical infrastructure. A few of these severe risks would be the use of phishing to deprive clients of web servers by using counterfeit email or URLs. Hence it is essential for employers to focus on application server sensitivity in the mitigation of phishing attacks. The intellectual ransom ware safety of internet study was based on mathematical methods, using fuse algorithms and a variety of resources that collect functions. The knowledgeable method to phishing protection was strengthened. The results demonstrate that phishing websites can be more reliably identified by the parameter estimation from consolidated databases. This would be a very difficult challenge to identify and delete the phishing pages, as the approaches usually involve different strategies and methodologies. This article explores how easily we use the neural network to deal with fake websites and to apply it by means of fuzzy logic techniques.

**Index Terms:** Fuzzy Neural Networks, Phishing Attack, Cyber Security, Internet

## I. INTRODUCTION

In the digital world, millions of people worldwide are constantly linked. Social networking has become a trending issue for information security in today's modern environment. A social manipulation assault may be described as a combination of tactics often used to influence the emotional dimension of corporations, cognitively and quantitatively [5]. Cyber-attacks apply towards any crime where certain machines either performed or might not have served a role within criminal act involving a PC as well as a server. Software crimes require a wide variety of practices that could be unlawful. This may be categorized into several categories of activities: database server or system-direct crime and software service or device-friendly robbery, these activities are performed outside of the software system or in computer. Computer crimes include theft, malware, hacking and spoofing [3]. Phishing is an internet hoax that a fraudster utilizes to unlawfully acquire secrecy through an e-mail, or through official website information. Somebody might use phishing for political manipulation in several aspects. For

instance, anybody could alter web link to make reputable website. The phishing method entails simple stages: preparation, implementation, assault, stealing of identities and crime. Phishing evaluates the organization they threaten mostly during preparation process as well as how to collect e-mail accounts for their clients [2]. Those who have used the same tactics as spammers for bulk mail and contact selection. In the beginning the people involved in phishing by transmitting the message and evaluating the information after learning what enterprise is involved as what its targets were also. In certain instances, e-mail accounts and a website are included. This attack process is better understood by everyone and the fishing industry gives a fake message which is respectable. Phishing gathers information which is inserted into internet sites or pop-up screens by the targets. The new challenge seems to be the stealing of identification and crime when phishing criminalizes homelessness buying or fraud using the data gleaned [1]. In 1965, which became improvement in Euclidean space by Zadeh would be to add Fuzzy logic with the basic functions, Fuzzy sets theory method to the model uncertainty. Fuzzy logic allows for the middle level of interpretation among real and incorrect, cold and warm, light and dark, etc. Parameters via a scale of 0 to 1 for the fuzzy method are suggested. There, 0 is the extremely complex issue and 1 is the ultimate truth. Fuzzy Logic could be used in several online sites for determining the malicious software. It identifies websites based on the stage of flavor throughout the sites. Therefore a few sequences of procedures that allow us to identify phishing in websites by using flawed reasoning. This is based on the use of a series of strict criteria.

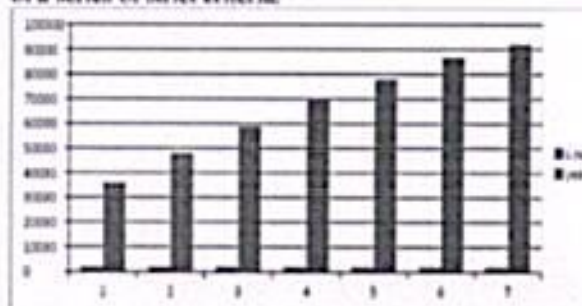


Figure 1. It shows the high rise in phishing attacks in recent years (RSA monthly accounts of fraud).



# A proficient technique for recognizing the online digital signature in Project Registration System (PRS)

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## Abstract

In recent education system, project submission is crucial for college students to complete their respective studies. The understudies needed to propose their undertaking before finishing the pre-last year. One of the critical assessment forms like course Project Registration System (PRS) helps the students and their education board to enhance the knowledge and skill level required for competitive world. During project submission, authentication is important to prevent the unauthorized submission of proposal and contrast the signature utilizing classification techniques such as Kernel Based Artificial Neural Network (K-ANN), Kernel Based K-Nearest Neighbor (K-KNN), Kernel Based Self Organizing Map (K-SOM) and Kernel based Support Vector Machine (K-SVM). The data collection based on online digital signature with various students and the proposed classification techniques gives better performance and accuracy compared with other techniques.

**Keywords** Project Registration System (PRS) · Online digital signature · Authentication · Classification techniques

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## 1 Introduction

Now-a-days, online digital signature recognition was being considered as one of the authenticating criteria to evaluate the e-documents (Shankar et al. 2012). Also, in present education system, there exist a number of student's evaluation criteria (Ibrahim et al. 2010). Computerized marks are frequently used to actualize electronic signatures, a more extensive term that alludes to any electronic information that conveys the goal of a mark, however not every single electronic mark utilize advanced marks (Sae-Bae et al. 2012). One of the majority important valuation processes such as PRS that helps the students to increase their knowledge based skills (Shankar et al. 2012). The benefits of utilizing such a validation procedures are signatures are broadly acknowledged by society as a type of recognizable proof and check (Rabotka and Mannan 2016). Data required isn't delicate. In light of this instructive framework, the vast majority of the last year students need to enroll (Vélez et al. 2009) and complete their examinations with course-ventures. The understudies needed to propose their undertaking before finishing the pre-last year (Batista et al. 2012). These are the current issues in the current instructive framework. Along these lines, PRS was utilized to take care of the issues at the period (Batista et al. 2012)





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## Impact on Working Capital on Profitability: It Industry

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**Abstract:** The current study emphasizes the impact of working capital financial ratios on the operating profitability of selected IT industries. The study considered secondary data from 2015-2016 to 2019-2020. Crucial working capital ratios were considered in the study and measured the relationship with binary correlation. The study result indicates that all key working capital ratios are significantly related to the selected operating profitability of IT companies. The study adopted the general low square method and the result indicated that the ratios of working capital affect operating profitability. This study will be useful for IT industries, academics and financial advisors.

**Keywords:** Working Capital Management, Profitability.

### I. INTRODUCTION

The term 'working capital management' basically refers to management's efforts for the effective management of current assets and current liabilities. Working capital is nothing but the difference between current assets and current liabilities. In other words, effective working capital management means ensuring adequate liquidity in the business to meet short-term costs and debts. In a broader sense, 'Working Capital Management' involves the management of current assets and liabilities as well as Working Capital Financing. This adds to the responsibility to set up working capital at the lowest possible cost and to use capital efficiently at no cost.

### II. OBJECTIVES OF WORKING CAPITAL MANAGEMENT

The primary objectives of working capital management include the following:

**Smooth Operating Cycle:** The main objective of Working Capital Management is to ensure a smooth operating cycle. The cycle should never stop due to lack of liquidity for buying raw material, salaries, tax payments etc.

**Lowest Working Capital:** To achieve a smooth operating cycle, it is also important to keep working capital requirements to a minimum. This can be achieved through favorable credit terms with accounts payable and receivables, faster production cycle, efficient inventory management, etc.

**Minimize Rate of Interest or Cost of Capital:** It is important to understand that the interest cost of capital is one of the major costs in any organization. The management of the company should negotiate well with the financial institutions, select the right financial policy and maintain the right capital structure.

**Optimal Return on Current Asset Investment:** In many businesses, you have liquidity crunch at one time and extra liquidity at another. This happens mostly in seasonal industries. During additional liquidity, management must have good short-term investment avenues to take advantage of passive funds.

**Importance of Effective Working Capital Management**  
Although the importance of working capital in any kind of business is unquestionable. Working capital management is a day-to-day activity, unlike capital budgeting decisions. Most importantly, inefficiencies at any level of management affect working capital and its management. The following are key points that indicate why it is important to take working capital management seriously.

- Ensures Higher Return on Capital
- Improvement in Credit Profile & Solvency
- Increased Profitability
- Better Liquidity
- Business Value Appreciation
- Most Suitable Financing Terms
- Interruption Free Production
- Readiness for Shocks and Peak Demand
- Advantage over Competitors

### Information Technology in India

India is the largest sourcing destination in the world with a pool of highly qualified talent among the world's technical graduates. The country has a low-cost advantage because it is 5-6 times cheaper than the US. India is the second fastest growing digitalizing economy in the 17 leading economies of the world. According to a report by Cloud Next Wave of Growth in India, the Indian cloud market has tripled to Rs. 47,821 crore (US \$ 7.1 billion) by 2022, driven by demand for Big Data, Data Analytics, Artificial Intelligence (AI) and the Internet of Things (IoT).



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## Market Basket Analysis Using Datamining

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### ABSTRACT

Market Basket Analysis is a data processing technique that is used in the discovery of relations among various items. The major goal of market basket analysis in retail is to tell the distributor about a customer's purchasing habits so that the distributor can make the best choices. Market basket analysis may be done using a variety of methodologies. This paper discusses association rule mining, a data mining approach that may be used to investigate consumer purchase patterns and boost sales. Results may be a useful guide for creating promotions, cross-selling products, and setting up inventory in stores.

**Keywords:** Market Basket Analysis, Data Mining, and R.

### I. INTRODUCTION

Nowadays, consumers may choose from a variety of solutions in practically every industry. When a customer needed to make a purchase in the past, he was limited to selecting a product from the store's catalogue. However, the number of possibilities has grown dramatically in the modern technology and globalisation era. Customers may now pick from a wide range of items and variations. Geographical, seasonal, and other restrictions are no longer a problem. Previously seen as luxury items, these objects are now thought of as everyday items. All of this gave the businesses today's seemingly endless opportunities. But because of this boundless opportunity, a vast number of brand-new rivals entered the market. Retail businesses look for marketing tactics to draw in new clients or retain existing ones. Only new marketing approaches, which include effective advertising and sound product planning, could ameliorate the problem[1],[2].

Market basket studies have demonstrated exceptional effectiveness in other nations where they have been used. As a result, international retailers like more mega stores, Metro and walmart have begun employing market basket research to increase profits[4]. But in order to use market basket analysis to get insights, we must have knowledge about our customers' purchases, namely what they buy and when they buy it. As a result, the information on client purchases that is based on their behaviour becomes important [9].

A market basket is a collection of items that a buyer purchases all in one shopping trip. When we go to the supermarket, we frequently purchase a large number of items from various categories and place them all in a single basket. It is regarded as one transaction. The study of all of those baskets is known as market basket analysis.

The term "market basket analysis" refers to a broad range of analytical methods used to identify relationships and connections between particular commodities, as well as consumer behaviours and relationships between products. When applied in retail, it is predicated on the notion that a client is more (or less) likely to buy another group of goods after purchasing one set of goods. For instance, it is commonly known that most of the time when a consumer purchases cool drinks, they also purchase chips. The businesses that sell their items are interested in the purchasing behaviors they induce. In order to develop fresh marketing/sales tactics that can enhance the advantages of the business as well as client experiences, the sellers/supermarkets are interested in assessing which goods are bought in combination. The majority of retail markets place a greater emphasis on what their customers purchase. However, they do not take into account the date of purchase. It is also thought to play a significant role in their purchasing behavior. This thesis is concerned with "when" as well as "what" the client purchases. According to Forbes magazine, marketers are continuously predicting the next big trend and looking into the future, and data driven marketing is the most prominent trend at the moment when timing is very important. The retail firm will have a stronger future as a result of data-driven marketing that takes time into account.

Data mining is increasingly typical for many firms globally. Every day, a significant quantity of data is collected, and this data is used to capture vital information about many areas of every firm. Highly disaggregated data gathering is viewed as the foundation for knowledge extraction. Disaggregated data can expose certain facts immediately, but most of the time we are looking for underlying patterns and principles. Data mining may be used to provide non-trivial insights. Numerous statistical studies that uncover previously hidden characteristics of the data are included in data mining. Mining tools have been shown to be helpful in many firms for locating important information and subsequently giving management answers to challenging challenges. Data mining is commonly seen as a single step of a whole process called Knowledge Discovery in Databases (KDD). KDD is the nontrivial process of detecting genuine, new, possibly helpful, and ultimately intelligible patterns in data. [3] Chaitin G.J., Elgyon et al. Since humans have had the ability to mine massive amounts of data thanks to advancements in computer power, data mining has become increasingly popular[8]. Using a variety of methodologies, knowledge and hidden information may be extracted from data and used in a variety of scenarios. In order to identify and analysis client categories and forecast future behavior, knowledge discovery is frequently employed in marketing.



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### 3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

**20-21**

Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal		
						Link to website of the Journal	Link to article/paper /abstract of the article	Is it listed in UGC Care list
New Model Of Enhanced Plasticity For Reinforced Concrete Structural Elements That Take Into Account The Effects Of Lateral Loading And Gravity	P Venkat Ram Reddy	CIVIL ENGINEERING	Solid State Technology	2021	ISSN 0038-111X	<a href="http://www.solidstatetechnology.us/index.php/ISSST/search/search?csrfToken=a6fc6d572cb38d1e6fe8820342d5cf1c&amp;query=New+Model+Of+Enhanced+Plasticity+For+Reinforced+Concrete+Structural+Elements+That+Take+Into+Account+The+Effects+Of+Lateral+Loading+And+Gravity">http://www.solidstatetechnology.us/index.php/ISSST/search/search?csrfToken=a6fc6d572cb38d1e6fe8820342d5cf1c&amp;query=New+Model+Of+Enhanced+Plasticity+For+Reinforced+Concrete+Structural+Elements+That+Take+Into+Account+The+Effects+Of+Lateral+Loading+And+Gravity</a>	Scopus preview	Scopus - Solid State Technology
New Model Of Enhanced Plasticity For Reinforced Concrete Structural Elements That Take	P Venkat Ram Reddy	CIVIL ENGINEERING	Turkish Journal Of Computer And Mathematic	2021	e ISSN: 1309-4653	<a href="https://turcomat.org/index.php/turcomat/article/view/1372">https://turcomat.org/index.php/turcomat/article/view/1372</a>	Scopus preview	Scopus



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Into Account The Effects Of Lateral Loading And Gravity			s Education					Turkish Journal of Computer and Mathematics Education
A review Paper on the elimination of low order harmonics in multilevel inverters using different modulation techniques	K Chenchi Reddy V Jegathesan	EEE	Springer Scopus - Conference Paper	2020	978-981-15-7345-3	<a href="https://link.springer.com/">https://link.springer.com/</a>	<a href="https://doi.org/10.1007/978-981-15-7345-3_82">https://doi.org/10.1007/978-981-15-7345-3_82</a>	YES
Socio-Economic analysis of solar and electric water	Vallava Anand A Thulasiyammal C	EEE	Plant Archives	2020	E-ISSN:2581-6063/ISSN:0972-5210	<a href="https://portal.issn.org/">https://portal.issn.org/</a>	<a href="https://portal.issn.org/">https://portal.issn.org/</a>	YES
Analysis of Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks	Dr. K. Venkata Murali Mohan	ECE	Journal of Interdisciplinary Cycle Research	2020	0022-1945	<a href="https://drive.google.com/file/d/1EtQng-o2WqjD-DY1jFO-IQd-MFvxaYOU/view">https://drive.google.com/file/d/1EtQng-o2WqjD-DY1jFO-IQd-MFvxaYOU/view</a>	DOI:18.0002 JICR.2020.V12I11.008301.317122305	YES



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Dispersed Cooperative Cluster Based Communication Protocol for Energy Efficiency in Wireless Sensor Networks.	Dr.Shankar.R	ECE	International Journal of Advanced Science and Technology	2020	2005-4328,	<a href="https://sercs.org/journals/index.php/IJAST/article/view/25758">https://sercs.org/journals/index.php/IJAST/article/view/25758</a>	<a href="https://sercs.org/journals/index.php/IJAST/article/view/25758">https://sercs.org/journals/index.php/IJAST/article/view/25758</a>	Yes
Efficient Road Side Framework Placement using VANET for Reducing Network Delays	Dr.Shankar.R	ECE	Biosc.Biotech. Res. Comm.	2020	0974-6455, EISSN:2321-4720	<a href="https://bbrc.in/wp-content/uploads/2020/12/Special-Issue-Volume-13-No-6-">https://bbrc.in/wp-content/uploads/2020/12/Special-Issue-Volume-13-No-6-</a>	<a href="https://bbrc.in/wp-content/uploads/2020/12/Special-Issue-Volume-13-No-6-">https://bbrc.in/wp-content/uploads/2020/12/Special-Issue-Volume-13-No-6-</a>	Yes
<u>Bank Endorsement Classification: A Novel Content Based Approach Using Pupil Tracking Technology</u>	Dr.Shankar.R	ECE	Journal of Computational and Theoretical Nanoscience	2020	1546-1955,	<a href="https://ui.adsabs.harvard.edu/abs/2020JCTN...17.3744D/abstract">https://ui.adsabs.harvard.edu/abs/2020JCTN...17.3744D/abstract</a>	<a href="https://ui.adsabs.harvard.edu/abs/2020JCTN...17.3744D/abstract">https://ui.adsabs.harvard.edu/abs/2020JCTN...17.3744D/abstract</a>	Yes
<u>Preserving mobile commerce IoT data using light weight SIMON block cipher cryptographic paradigm</u>	Dr.C.Anna Palagan	ECE	Journal of Ambient Intelligence and Humanized Computing	2020	1868-5145	<a href="https://link.springer.com/journal/12652">https://link.springer.com/journal/12652</a>	<a href="https://www.researchgate.net/publication/342057504_Preserving_mobile_commerce_IoT_data_using_light_weight_SIMON_block_cipher_cryptographic_paradigm">https://www.researchgate.net/publication/342057504_Preserving_mobile_commerce_IoT_data_using_light_weight_SIMON_block_cipher_cryptographic_paradigm</a>	Yes



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College Code: R9

Predicting the Effect of Covid-19 by using Artificial Intelligence: A Case Study	Dr.D. Vemanachary	ECE	Materials Today: Proceedings Review	2021	3361-4416	<a href="https://www.sciencedirect.com/science/article/pii/S2214785321012840">https://www.sciencedirect.com/science/article/pii/S2214785321012840</a>	DOI: 10.1016/j.matpr.2021.02.202	Yes
<u>River Pollution Control System through Efficient Monitoring of Industrial Effluent Discharge</u>	Dr.Shankar.R	ECE	Journal of Green Engineering (JGE)	2020	ISSN: 1904-4720, 9944-9952.	<a href="http://www.igenng.com/volume10-issue10-3.php">http://www.igenng.com/volume10-issue10-3.php</a>	<a href="http://www.igenng.com/volume10-issue10-3.php">http://www.igenng.com/volume10-issue10-3.php</a>	Yes
Review Of Industrial Safety Applications Using Wireless Access Panels	Mr.S. Nagi Reddy	ECE	Turkish Journal Of Physiotherapy And Rehabilitation;	2020	2651-4451	<a href="https://dergipark.org.tr/en/pub/tjpr">https://dergipark.org.tr/en/pub/tjpr</a>	<a href="http://www.turkiophysiotherrehabil.org">www.turkiophysiotherrehabil.org</a>	Yes
Design and Implementation of AGU based FFT Pipeline Architecture	Mrs. K Shiva Prasanna	ECE	Informatics And Telecommunication	2021	1867-8211	<a href="https://link.springer.com/chapter/10.1007/978-0-387-32189-9_4">https://link.springer.com/chapter/10.1007/978-0-387-32189-9_4</a>	doi:10.1088/1742-6596/2089/1/012070	Yes
Brain Tumor Detection Using Machine Learning and Gaussian Mixture Model	Dr.C.Anna Palagan	ECE	Journal of Computer Technology & Application	2021	2347-7229	<a href="https://computerjournals.stmjournals.in/index.php/joCTA/index">https://computerjournals.stmjournals.in/index.php/joCTA/index</a>	<a href="https://computerjournals.stmjournals.in/index.php/joCTA/article/view/677">https://computerjournals.stmjournals.in/index.php/joCTA/article/view/677</a>	Yes
<u>A Review Of Energy Efficiency In Wireless</u>	Mr.G. Chenna Kesava	ECE	Design Engineering	2021	0011-9342	<a href="https://ores.su/en/journals">https://ores.su/en/journals</a>	<a href="https://ores.su/en/journals/design-engineering-10010">https://ores.su/en/journals/design-engineering-10010</a>	Yes



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College Code: R9

Communication Network	Reddy							
<u>Design of Hamming Encoder (23,16) For Emerging Applications</u>	Mr. K. Kumaraswamy	ECE	International Journal of All Research Education and Scientific Methods (IJARESM)	2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="http://www.ijaresm.com/design-of-hamming-encoder-23-16-for-emerging-applications">http://www.ijaresm.com/design-of-hamming-encoder-23-16-for-emerging-applications</a>	Yes
<u>An Efficient Implementation of FIR Filter Using High Speed Adders for Signal Processing Applications</u>	Mrs. P. Sharmila Rani	ECE	International Journal of All Research Education and Scientific Methods (IJARESM)	2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="http://www.ijaresm.com/an-efficient-implementation-of-fir-filter-using-high-speed-adders-for-signal-processing-applications">http://www.ijaresm.com/an-efficient-implementation-of-fir-filter-using-high-speed-adders-for-signal-processing-applications</a>	Yes
<u>Primary User Emulation Attack and countermeasures in Cognitive Radio Network: A Survey</u>	Mrs. P. Sharmila Rani	ECE	International Journal of Engineering Research in Mechanical and Civil Engineering (IJERMCE)	2021	2456-1290	<a href="https://ijermce.com/">https://ijermce.com/</a>	<a href="https://www.technoarete.org/commo-n-abstract/pdf/IJERMCE/v8/i5/Ext_5_3210.pdf">https://www.technoarete.org/commo-n-abstract/pdf/IJERMCE/v8/i5/Ext_5_3210.pdf</a>	Yes



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College Code: R9

Live Video Streaming For Security Of Women In Cabs Using Raspberry Pi	Mrs. SD.Reshma	ECE	Journal Of Resource Management And Technology	2021	0745-6999	<a href="https://catalogue.nia.gov.au/catalog/1980349">https://catalogue.nia.gov.au/catalog/1980349</a>	<a href="https://ijcrt.org/papers/IJCRT_194226.pdf">https://ijcrt.org/papers/IJCRT_194226.pdf</a>	Yes
Design Of High Speed Transistor Efficient Multioutputs And Multifunctional Super Gate Cells	Mrs. SD.Reshma	ECE	Mukt Shabd Journal	2021	2347-3150	<a href="https://shadbooks.com">https://shadbooks.com</a>	<a href="https://shadbooks.com">https://shadbooks.com</a>	Yes
<u>A High Gain and Wideband Narrow-Beam Antenna For 5G Millimeter Wave Applications</u>	Mrs. V. Amulya	ECE	International Journal of All Research Education and Scientific Methods (IJARESM)	2021	2455-6211	<a href="https://www.ijaresm.com/a-high-gain-and-wideband-narrow-beam-antenna-for-5g-millimeter-wave-applications">https://www.ijaresm.com/a-high-gain-and-wideband-narrow-beam-antenna-for-5g-millimeter-wave-applications</a>	<a href="https://www.ijaresm.com/a-high-gain-and-wideband-narrow-beam-antenna-for-5g-millimeter-wave-applications">https://www.ijaresm.com/a-high-gain-and-wideband-narrow-beam-antenna-for-5g-millimeter-wave-applications</a>	Yes
A Study Of Improved Energy Detection Based Spectrum Sensing For Cognitive Radio Network	Mrs.G.Sirisha	ECE	The Journal Of Oriental Research Madras	2020	0022-3301	<a href="https://ksri.in/academic-and-research-pursuits/ksri-publications/book-catalogue/the-journal-of-oriental-research-madras">https://ksri.in/academic-and-research-pursuits/ksri-publications/book-catalogue/the-journal-of-oriental-research-madras</a>	<a href="https://ksri.in/academic-and-research-pursuits/ksri-publications/book-catalogue/the-journal-of-oriental-research-madras">https://ksri.in/academic-and-research-pursuits/ksri-publications/book-catalogue/the-journal-of-oriental-research-madras</a>	Yes
TOSAM: Truncation-And Rounding-Based Scalable Approximate	Mrs.G.Sirisha	ECE	The International Journal of analytical	2021	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1VoGJP3rT2wLZ4ZxFe18Q5cnBj0IGU337/view">https://drive.google.com/file/d/1VoGJP3rT2wLZ4ZxFe18Q5cnBj0IGU337/view</a>	Yes



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College Code: R9

Multiplier for High-Speed Yet Energy-Efficient digital Signal Processing			and experimental modal analysis					
<u>Securing AES Accelerator from Key Leaking Trojans on FPGA</u>	Mrs.G.Sirisha	ECE	International Journal of New Innovations in Engineering and Technology (UNIET)	2020	2319-6319	<a href="https://www.ijniet.org/">https://www.ijniet.org/</a>	<a href="https://www.ijniet.org/wp-content/uploads/2020/11/3.pdf">https://www.ijniet.org/wp-content/uploads/2020/11/3.pdf</a>	Yes
<u>Securing AES Accelerator from Key Leaking Trojans on FPGA</u>	Dr.P.Padmaja	ECE	International Journal of New Innovations in Engineering and Technology (UNIET).	2020	2319:2682	<a href="https://www.ijniet.org/">https://www.ijniet.org/</a>	<a href="https://www.ijniet.org/wp-content/uploads/2020/11/3.pdf">https://www.ijniet.org/wp-content/uploads/2020/11/3.pdf</a>	Yes
A novel technique for enlightening bit error rate in sensor networks by means of orthogonal space time block code (ostbc) coding	Dr. Sk. Umar Faruk	ECE	International Journal of Mechanical Engineering (IJME)	2021	ISSN: 0974-5823	<a href="https://www.internationaljournalssrg.org/IJME/index.html">https://www.internationaljournalssrg.org/IJME/index.html</a>	<a href="https://www.internationaljournalssrg.org/IJME/index.html">https://www.internationaljournalssrg.org/IJME/index.html</a>	Yes



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College Code: R9

Analysis of Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks	Dr. Sk. Umar Faruk	ECE	Journal of Interdisciplinary Cycle Research	2020	0022-1945	<a href="https://jicrjournal.com/">https://jicrjournal.com/</a>	<a href="https://jicrjournal.com/index.php/volume-12-issue-xi-november-2020/">https://jicrjournal.com/index.php/volume-12-issue-xi-november-2020/</a>	Yes
<u>A Novel Block Merging Algorithm for Image Denoising using Dual Tree Complex Wavelet Transform</u>	Dr. Sk. Umar Faruk	ECE	International Journal for Modern Trends in Science and Technology	2020	2455-3778	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	<a href="https://www.ijmtst.com/">https://www.ijmtst.com/</a>	Yes
<u>Medical Image Compression Using Generative Adversarial Networks</u>	Dr. Sk. Umar Faruk	ECE	International Journal of Control and Automation	2020	2005-4297	<a href="http://sersc.org/journals/index.php/IJCA/index">http://sersc.org/journals/index.php/IJCA/index</a>	<a href="http://sersc.org/journals/index.php/IJCA/article/view/37960">http://sersc.org/journals/index.php/IJCA/article/view/37960</a>	Yes
<u>Iot based agriculture crop monitoring and controlling system</u>	B.Nireesh a	ECE	IJARESM	2021	2455-6211	<a href="https://www.ijaresm.com">https://www.ijaresm.com</a>	<a href="https://www.researchgate.net/publication/371071895_IOT_Based_Smart_Agriculture_Monitoring_System#:~:text=The%20system%20uses%20various%20sensors,yvisualized%20information%20about%20their%20crops">https://www.researchgate.net/publication/371071895_IOT_Based_Smart_Agriculture_Monitoring_System#:~:text=The%20system%20uses%20various%20sensors,yvisualized%20information%20about%20their%20crops</a>	Yes



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<u>Artificial Vision for blind using Sensor Technology</u>	Y.Prathyusha	ECE	IJARES	2021	2455-6211	<a href="http://www.ijaresm.com/artificial-vision-for-blind-using-sensor-technique">http://www.ijaresm.com/artificial-vision-for-blind-using-sensor-technique</a>	<a href="http://www.ijaresm.com/uploaded_files/document_file/Ms_Y.Prathyusha_Ighb.pdf">http://www.ijaresm.com/uploaded_files/document_file/Ms_Y.Prathyusha_Ighb.pdf</a>	Yes
<u>IoT Based Coal Mine Monitoring System</u>	M V V Satyanarayana Chowdary	ECE	IJARES	2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="https://www.ijaresm.com/iot-based-coal-mine-monitoring-system">https://www.ijaresm.com/iot-based-coal-mine-monitoring-system</a>	Yes
<u>Solar Based Floor Cleaner Robot Using Arduino Uno</u>	K. Bhargavi	ECE	IJIRT	2020	2349-6002	<a href="http://www.ijirt.com">www.ijirt.com</a>	<a href="https://ijirt.org/master/publishedpaper/IJIRT159619_PAPER.pdf">https://ijirt.org/master/publishedpaper/IJIRT159619_PAPER.pdf</a>	Yes
<u>Sign Language Detection for Dumb People Using Image Processing</u>	Mrs. K. Bhulakshmi	ECE	IJARES	2021	2455-6211	<a href="https://www.ijaresm.com/">https://www.ijaresm.com/</a>	<a href="https://www.google.com/url?q=https://ijirt.org/master/publishedpaper/IJIRT159619_PAPER.pdf&amp;sa=U&amp;sqi=2&amp;ved=2ahUKEwiYr_Xr7eFAxWp_xjgGHf4VAaggQFnoECBMQAQ&amp;usq=AOvVaw1sXbi6dH7EcEYA0x8S4lsu">https://www.google.com/url?q=https://ijirt.org/master/publishedpaper/IJIRT159619_PAPER.pdf&amp;sa=U&amp;sqi=2&amp;ved=2ahUKEwiYr_Xr7eFAxWp_xjgGHf4VAaggQFnoECBMQAQ&amp;usq=AOvVaw1sXbi6dH7EcEYA0x8S4lsu</a>	Yes
<u>Deep learning Based prediction Framework of user specific mobility patterns</u>	M.Aishwarya	ECE	IJIRT	2020	2320-2882	<a href="https://ijirt.org/?gad_source=1&amp;gclid=Cj0KCQJw2uiwBhCXARsACMvIU2L0JurBOwaNW8U4hKCWr8PKd3HvruroW51jBWIF8753yvIQ">https://ijirt.org/?gad_source=1&amp;gclid=Cj0KCQJw2uiwBhCXARsACMvIU2L0JurBOwaNW8U4hKCWr8PKd3HvruroW51jBWIF8753yvIQ</a>	<a href="https://ijirt.org/papers/IJIRT200915-5.pdf">https://ijirt.org/papers/IJIRT200915-5.pdf</a>	Yes



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College Code: R9

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A New slim-PTS based peak to average power reduction in OFDM system	D Rama Devi	ECE	IJEMA	2021	0886-9367	<a href="http://ijaema.com">http://ijaema.com</a>	<a href="#">135-IJEMA-JUNE-2021.pdf</a>	Yes
Lora Based wireless weather station with web-server	B Rekha	ECE	International Journal of Advances in Engineering & Management (IJAEEM)	2021	2395-5252	<a href="https://www.ijaem.net">https://www.ijaem.net</a>	<a href="https://ijaem.net/current-issue.php?issueid=43&amp;title=Lora%20Based%20wireless%20weather%20station%20with%20web%20server">https://ijaem.net/current-issue.php?issueid=43&amp;title=Lora%20Based%20wireless%20weather%20station%20with%20web%20server</a>	Yes
Effective Use of Cyber Space and Cyber Technology to Prevent Violence and Trafficking Against Women and Children	Dr. Rajaram Jathothu	CSE	The International journal of analytical and experimental modal analysis	2020	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	Yes
Non-Functional Characteristics and Non-Functional Testing of Container Applications	Dr. Rajaram Jathothu Dr. K. Saran gam	CSE	Sambodhi, UGC Care Journal	2020	2249-6661	<a href="https://sambodhi.co.in/">https://sambodhi.co.in/</a>	<a href="https://sambodhi.co.in/">https://sambodhi.co.in/</a>	Yes



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College Code: R9

Prediction of Parkinson's Disease and It's Stages	Dr.Rajaram Jathothu	CSE	The International Journal of analytical and experimental modal analysis	2020	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	Yes
Effective Use of Cyber Space and Cyber Technology to Prevent Violence and Trafficking Against Women and Children	Dr.Rajaram Jathothu	CSE	The International Journal of analytical and experimental modal analysis	2020	0886-9368	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	Yes
Machine Learning Algorithm Based Bandwidth Prediction for Internet Usage	J.Rajaram, M.Nalini, N. Vadivelan	CSE	Journal of Computational and Theoretical Nanoscience	2020	ISSN: 1546-1955 (Print): EISSN: 1546-1963 (Online)	<a href="http://www.aspbs.com/ctn/">http://www.aspbs.com/ctn/</a>	<a href="https://doi.org/10.1166/ictn.2020.9314">https://doi.org/10.1166/ictn.2020.9314</a>	Yes
Heart disease prediction using hybrid fuzzy K-medoids attribute weighting method with DBN-KELM based regression model	D.Shiny Irene, T.Sethukarasi, N.Vedavathi	CSE	Elsevier	2020	0306-9877	<a href="http://www.elsevier.com/locate/mehy">www.elsevier.com/locate/mehy</a>	<a href="https://doi.org/10.1016/j.mehy.2020.110072">https://doi.org/10.1016/j.mehy.2020.110072</a>	Yes



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College Code: R9

Preserving mobile commerce IoT data using light weight SIMON vlock cipher cryptographic paradigm	Shrikant Taware, R.Ravi Chakravathi, C. Anna Palagan, Kumaresan Chadrakaran & N. Vadivelan	CSE	Journal of Ambient Intelligence and Humanized Computing	2020	1868-5137	<a href="https://link.springer.com/journal/12652">https://link.springer.com/journal/12652</a>	Doi: <a href="https://doi.org/10.1007/s12652-020-02173-x">10.1007/s12652-020-02173-x</a>	yes
Efficient Road Side Framework Placement using VANET for Reducing Network Delays	G.Vamsi Krishna, R.Shankar, N. Vadivelan, M. Nalini	CSE	Bioscience Biotechnology Research Communication	2020	2321-4007	<a href="https://bbrc.in/">https://bbrc.in/</a>	<a href="https://bbrc.in/wp-content/uploads/2022/08/Volume-13-Number-2-April-May-June-2020.pdf">https://bbrc.in/wp-content/uploads/2022/08/Volume-13-Number-2-April-May-June-2020.pdf</a>	yes
WEBIFY: A Cost-Effective System for Controlling of Devices	M.Nalini, N. Vadivelan	CSE	Test Engineering and Management	2020	0193-4120	<a href="https://miar.ub.edu/issn/0193-4120">https://miar.ub.edu/issn/0193-4120</a>	<a href="https://miar.ub.edu/issn/0193-4120">https://miar.ub.edu/issn/0193-4120</a>	yes
Data Dimensionally Reduction Techniques: Review	Dr.K.Bhargavi	CSE	International Journal of Engineering Technology and Management Sciences	2020	2581-4621	<a href="https://ijetms.in/">https://ijetms.in/</a>	<a href="https://ijetms.in/">https://ijetms.in/</a>	yes



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College Code: R9

Significance of Cyber Security in Data Mining	Mahesh Kumar Punna, Priyanka Thudimalla	CSE	The International Journal of analytical and experimental modal analysis	2020	0886-9637	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://ijaema.com/">https://ijaema.com/</a>	yes
A Comprehensive Study on Enhanced Clustering Technique of Association Rules over Transactional Datasets	M.Vinaya Babu, Dr.M.Sreedevi	CSE	IEEE Xplore	2021	978-1-6654-2642-8	<a href="https://ieeexplore.ieee.org/xpl/conhome/9640538/proceeding">https://ieeexplore.ieee.org/xpl/conhome/9640538/proceeding</a>	<a href="https://ieeexplore.ieee.org/xpl/conhome/9640538/proceeding">https://ieeexplore.ieee.org/xpl/conhome/9640538/proceeding</a>	yes
Performance Analysis on Advances in Frequent Pattern Growth Algorithm	M.Vinaya Babu, Dr.M.Sreedevi	CSE	IEEE Xplore	2021	978-1-6654-9529-5	<a href="https://ieeexplore.ieee.org/xpl/conhome/9751777/proceeding">https://ieeexplore.ieee.org/xpl/conhome/9751777/proceeding</a>	<a href="https://ieeexplore.ieee.org/xpl/conhome/9751777/proceeding">https://ieeexplore.ieee.org/xpl/conhome/9751777/proceeding</a>	yes
Social Distance Detection For Covid - 19 Using Deep Learning	G.Archana	IT	Journal of Information and Computational Science	2021	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/1kq1nXd0FSP0-Rwyyfosn-PyUkrav05ii/view?usp=sharing">https://drive.google.com/file/d/1kq1nXd0FSP0-Rwyyfosn-PyUkrav05ii/view?usp=sharing</a>	yes
Brain Tumor Identification And Classification Using Conventional Neural Networks	E. Aruna		GIS SCIENCE JOURNAL	2021	1869-9391	<a href="https://gisscience.net/">https://gisscience.net/</a>	<a href="https://drive.google.com/file/d/1KlhF2iBn6VHJQFVhC4I4gAXPIEv7vr/view?usp=sharing">https://drive.google.com/file/d/1KlhF2iBn6VHJQFVhC4I4gAXPIEv7vr/view?usp=sharing</a>	yes



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A Machine Learning Algorithm for vehicle Number Plate Recognition	K.Hymavathi	IT	Journal of Information and Computational Science	2021	1548-7741	<a href="https://joics.org/">https://joics.org/</a>	<a href="https://drive.google.com/file/d/1WVQsFTuXwy1kmMUGOw6Z7Dp3SDv-yYlq/view?usp=sharing">https://drive.google.com/file/d/1WVQsFTuXwy1kmMUGOw6Z7Dp3SDv-yYlq/view?usp=sharing</a>	yes
Cloud Storage Distributed Deduplication Mechanism For Privacy Protection	G.Lavanya	IT	The International journal of analytical and experimental modal analysis	2021	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1XeCwpZwKqPlzXsMYmUVJ7lBqA1xQZVll/view?usp=sharing">https://drive.google.com/file/d/1XeCwpZwKqPlzXsMYmUVJ7lBqA1xQZVll/view?usp=sharing</a>	yes
An Efficient Mechanism With ABT for keyword search in clouds	S.Pavani	IT	GIS SCIENCE JOURNAL	2021	1869-9391	<a href="https://gisscience.net/">https://gisscience.net/</a>	<a href="https://drive.google.com/file/d/1TS3kgtjOqAF-Bo-BkqUO93VGamA35O9/view?usp=sharing">https://drive.google.com/file/d/1TS3kgtjOqAF-Bo-BkqUO93VGamA35O9/view?usp=sharing</a>	yes
Crop Guidance and Farmers Friend.	A.Jyosha	IT	GIS SCIENCE JOURNAL	2021	1869-9391	<a href="https://gisscience.net/">https://gisscience.net/</a>	<a href="https://drive.google.com/file/d/1hiEvRo1fYnRzXx63RXD_eN5QzCA3Hrg/view?usp=sharing">https://drive.google.com/file/d/1hiEvRo1fYnRzXx63RXD_eN5QzCA3Hrg/view?usp=sharing</a>	yes
VIDEO OBJECT FORGERY DETECTION USING SSIM	Dr. J. Praveen Kumar	IT	GIS SCIENCE JOURNAL	2021	1869-9391	<a href="https://gisscience.net/">https://gisscience.net/</a>	<a href="https://drive.google.com/file/d/12ySleaJ2UvEJwvzVfyaPPQCb1pOPVsb4/view?usp=sharing">https://drive.google.com/file/d/12ySleaJ2UvEJwvzVfyaPPQCb1pOPVsb4/view?usp=sharing</a>	yes



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College Code: R9

Weather Prediction Using Deep Learning Techniques	N. Priyanka	IT	Journal of Engineering sciences	2021	0377-9254	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/1KwfkMC5f7e7gHW5l8F_drbey_8BVVoPm/view?usp=sharing">https://drive.google.com/file/d/1KwfkMC5f7e7gHW5l8F_drbey_8BVVoPm/view?usp=sharing</a>	yes
An Efficient Deep Learning Plagiarism Detection	Dr. M.RAMU	IT	The International journal of analytical and experimental modal analysis	2021	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/10d88Abjn6EbK_rTlcNgHMb15fG32mx2U/view?usp=sharing">https://drive.google.com/file/d/10d88Abjn6EbK_rTlcNgHMb15fG32mx2U/view?usp=sharing</a>	yes
Novel Approach on Data Access Control With Fine-Grained Data Protection In Cloud-Assisted IIOT	J.SUDHEER KUMAR	IT	Journal of Engineering sciences	2021	0377-9254	<a href="https://jespublication.com/">https://jespublication.com/</a>	<a href="https://drive.google.com/file/d/1aLBXUT8GxOM1cGMBou9AfmrJSlJPDuSV/view?usp=sharing">https://drive.google.com/file/d/1aLBXUT8GxOM1cGMBou9AfmrJSlJPDuSV/view?usp=sharing</a>	yes
Significance Of Cyber Security in Data Mining	T.PRIYANKA	CSG	International Journal of Analytical & Experimental Modal Analysis	2021	0886-9367	<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwiOhM373vEAXhIK8BHXGmC4AQFnoECAyQAQ&amp;url=https%3A%2F%2Fijaema.com%2F&amp;usq=AOvVaw1xDbRfxBo58koCkG2o9FLg">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwiOhM373vEAXhIK8BHXGmC4AQFnoECAyQAQ&amp;url=https%3A%2F%2Fijaema.com%2F&amp;usq=AOvVaw1xDbRfxBo58koCkG2o9FLg</a>	<a href="https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwiOhM373vEAXhIK8BHXGmC4AQFnoECAyQAQ&amp;url=https%3A%2F%2Fijaema.com%2F&amp;usq=AOvVaw1xDbRfxBo58koCkG2o9FLg">https://www.google.com/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=&amp;ved=2ahUKEwiOhM373vEAXhIK8BHXGmC4AQFnoECAyQAQ&amp;url=https%3A%2F%2Fijaema.com%2F&amp;usq=AOvVaw1xDbRfxBo58koCkG2o9FLg</a>	yes



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An Analysis of the financial Life Insurance Strategies Employed by selected Telangana Commercial Banks	Dr. Ramesh Chandavath	MBA	IJITECH	2021	2278-4632	<a href="http://www.IJITECH.Org">www.IJITECH.Org</a>	<a href="http://www.IJITECH.Org">www.IJITECH.Org</a>	yes
Impact of international crude oil price on select global economic factors	Dr. Ramesh Chandavath	MBA	IJITECH	2021	2321-8665	<a href="http://www.IJITECH.Org">www.IJITECH.Org</a>	<a href="http://www.IJITECH.Org">www.IJITECH.Org</a>	yes



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**3.4.3.1 Link to the uploaded papers, the first page/full paper (with author and affiliation details) on the institutional website**

**A.Y: 20-21**

## New Model Of Enhanced Plasticity For Reinforced Concrete Structural Elements That Take Into Account The Effects Of Lateral Loading And Gravity

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**Abstract:** Reinforced concrete structures are exposed to a progression of activities all through their life expectancy which may be the purpose behind damage. Subsequently, rehabilitation of existing structures is typically performed either to restore structural limit because of decay or damage or to broaden existing structural limit due to expanded loads. To fortify existing structures, numerous new creative materials like progressed fiber-reinforced polymers (FRPs) are discovered to be acceptable substitute for reinforcing materials like steel. They are actualized to fortify the presentation of structural components in flexure, pivotal, shear, and twist. In a RC outline, migrating plastic pivots in the beam off from the column face is normally prescribed to broaden pliability of the edge. This could be accomplished through rib reinforced FRP retrofit of the joint. Furthermore, to it, thus we execute an expanded pliancy for the concrete structural components like column, beam, chunk, dividers then on. The primary motivation behind a wide range of structural frameworks utilized in the structure type of structures is to transfer gravity and horizontal loads effectively.

**Keywords -** Reinforced concrete structures, structural modifications, Fiber-Reinforced Polymers (FRPs)

### Introduction

RC elements play an unmistakable role in all development cycle and endeavoring disappointment sometimes in those individuals prompts weighty losses. So more strategies were executed to beat such snags because of loadings and a portion of the techniques were examined and measure was recorded. One of the strategies to upgrade the strength of concrete part is accomplished by spine fortified FRP retrofit of the joint.

Fiber-reinforced polymers are broadly utilized for seismic redesigning of existing RC structures and fortifying of damaged structures. Beam-column joints are crucial segments of an edge both as far as structural soundness and its seismic exhibition. Along these lines, expanding the beam-column joint limit assists with improving the by and large seismic presentation of the casing. To accomplish this, diverse FRP retrofitting plans might be embraced including web-reinforced and flange-fortified. The immense measure of exploration directed regarding this matter in the most recent decade has been focused on the web-reinforced plan. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. Fibre-reinforced polymers are widely used for seismic upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the beam-column joint capacity helps to enhance the overall seismic performance of the frame. To achieve this, differ-ent FRP retrofitting schemes may be adopted including web-bonded and flange-bonded. The vast amount of research conducted on this subject in the last decade has been concentrated on the web-bonded scheme. Fibre-reinforced polymers are widely used for seismic

upgrading of existing RC structures and strengthening of damaged structures. Beam-column joints are vital components of a frame both in terms of structural stability and its seismic performance. Therefore, increasing the



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# New Model Of Enhanced Plasticity For Reinforced Concrete Structural Elements That Take Into Account The Effects Of Lateral Loading And Gravity

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## Abstract-

This paper continues to the analysis of the parallel loads and gravity loads by improving the plasticity and deciding the consequences for the conduct of reinforced concrete elements when exposed to cyclic loads. What's more, a numerical analysis of the gravity load impacts on the conduct of reinforced concrete bar basic zones when exposed to cyclic loads was additionally completed. This parametric examination is utilized to survey the impact of various degrees of horizontal and gravity loads on RC bar basic zones exposed to cyclic loading and furthermore considers harm boundaries for portraying compressive and pliable harm. For this reason, accepting the degree of gravity load as a variable boundary, a nonlinear numerical model of a pillar section association, recently adjusted with experimental information, was utilized. The plasticity models are defined from a straight second outline exposed to parallel loading separated from the impact of gravity loading, it has been accepted that the predefined state of their bend reaches out from the two finishes of the element. This suspicion can prompt off base results in nonlinear analysis. In this examination, an upgraded plasticity model is built up that thinks about the impacts of both gravity and sidelong loading. To infer the proposed model, the unit load hypothesis dependent on the rule of virtual work is utilized, and an overall definition is set up to accomplish the firmness network of the primary elements with the distinctive flexibility properties along it. The exactness of the proposed model is certified through examination with experimental outcomes and its decisions.

**KEYWORDS:** Plasticity, Lateral loads, Gravity loads, Reinforced Concrete, Cyclic loading, Critical zones, Unit load theory, Flexibility properties, Structural elements, Compression, Tension, RC beams, Beam Column Connections.

## INTRODUCTION

Plasticity, otherwise called plastic twisting, is the change from flexibility conduct to plastic conduct and the cycle is yielding. In late many years, the protected plan of reinforced concrete primary elements against different loading designs, especially gravity and sidelong loads, has been broadly considered. Consequently, various numerical and experimental investigations have been led to depict the concrete reaction under various loading conditions.



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## Analysis of Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks

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### Abstract:

The use of remote innovation is progressively impacting the arrangement of sensor networks for minimal price and maintenance in varying backgrounds. Unfortunate channel conditions, serious power imperatives, blurring, impedance and the low power correspondence prerequisites amplify the need for energy effective and ideally cross layer blunder control plans in Wireless Sensor Networks (WSNs). The primary objective of blunder control components in WSNs is to decrease the energy consumption while dealing with dependable and quick conveyance of the detected information. In this paper, we propose a 'Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks' (DCAECS) that gauges the channel mistakes and controls blunders progressively founded on channel qualities and commotion power saw at the collector. This rouses the mistake control procedure to differ as the channel conditions change as far as commotion level. In this paper, we have concocted the models for both the blunder and channel assessment. Examination and re-enactment results for different message sizes and mistake conditions show that there is an improvement as far as throughput, BER and the likelihood of retransmission when contrasted with 'ARQ Scheme with Adaptive Error Control' (ASAEC).

### Keywords:

Bit Error Rate, Error Control, Energy Efficiency, Wireless Sensor Networks.



(1)

# Dispersed Cooperative Cluster Based Communication Protocol for Energy Efficiency in Wireless Sensor Networks

Shiny Irene D<sup>1</sup>, Brundha P<sup>2</sup>, Shankar R<sup>3</sup>

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<sup>2</sup>Assistant Professor, Department of Computer Science and Engineering, Francis Xavier Engineering College, brundhasenthil@gmail.com

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### Abstract

Hypothetical Energy basic in remote sensor frameworks has gotten an extending research excitement for late years. Radio variation from the norm, channel obscuring and block realizes greater imperativeness usage and latency for package transmission over remote channel. One late advancement that can radically augment as far as possible and reduce transmission imperativeness use in obscuring channels is useful correspondence. The development in as far as possible realizes decreased screw up rate. In this paper, one pleasant correspondence technique is proposed by creating imperativeness compelling sending and getting packs for each hop. It includes two phases to be explicit directing stage, choosing and-transmitting stage. In the controlling stage, the basic route between the source and the sink centers is found. In the subsequent stage, the centers on the fundamental route progress toward turning out to be bunch heads, which select extra adjacent center points with most insignificant imperativeness cost from their local then the group is transmitted from the sending pack to the as of late settled tolerating bundle. The amusement comes about exhibit that the decline in botch rate and the imperativeness supports convert into extended lifetime of accommodating frameworks.

**Record Terms**—Sensor systems, grouping, helpful systems vitality productive conventions, agreeable transmission, blurring channel.

### 1. INTRODUCTION

In Wireless structures community focuses have constrained centrality assets, strategies masterminded ought to be criticalness suitable. Remote incredibly designated structures have made as a practical design to give inevitable untethered correspondence. The essential thought of the satisfying exchanges is that all clients or focus focuses in a remote structure can help each other to send signs to the goal obligingly. Every client's information data is passed on by the client, and what's more by different clients. Thusly, it is ordinarily progressively time tested for the target to perceive the transmitted data since from an evident perspective, the shot that all the channel interfaces with the goal go down is remarkable. Particular duplicates of the transmitted flags considering the help among clients bring about another sort of gathered grouping, i.e., cooperative not too bad assortment that can on a very basic level improve the system execution and quality. In this paper, we use an accommodating correspondence appear with various centers on the two terminations of a bob and with each datum package being transmitted just once per hop. A key good situation of pleasant transmission is the development of the gained power at the getting centers. This reduction the probability of bit botch and of pack adversity. Then again, the sender centers can use tinier transmission control for a comparative probability of bit botch, thusly diminishing the essentialness use.

Starting late, various undertakings have in like manner been revolved around plan of pleasing grouped assortment shows with a particular ultimate objective to fight the effects of genuine obscuring in remote channels. In [1] Cooperation Along Non-supportive way is characterized. In any case the "non-pleasing way" between the source and the sink is found, by then the last m predecessor centers along the non-supportive way is used for investment to transmit to the accompanying center in transit. The work in [2] uses the model with only a solitary accomplice center point at each bob despite the sender and the recipient.



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# Efficient Road Side Framework Placement using VANET for Reducing Network Delays

G.Vamsi Krishna<sup>1</sup>, R.Shankar<sup>2</sup>, N.Vadivelan<sup>3</sup> and M.Nalini<sup>4</sup>  
<sup>1</sup>Assistant Professor, Dr.Lankapalli Bullayya Engineering College for Women,  
<sup>2</sup>Professor, Dept. of Electronics and Communications Engineering, Teegala  
Krishna Reddy Engineering College, Hyderabad India  
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Krishna Reddy Engineering College, Hyderabad, India  
<sup>4</sup>Assistant Professor, Dept. Computer Science and Engineering,  
Sarceha School of Engineering, Chennai, India

## ABSTRACT

The Road Side Unit (RSU) is a transmitter, it is facilitate along with route to us for communication between network surface and vehicles. The RSU is one of the components of VANET (vehicular ad hoc network). In this research paper mainly focused on problems of placement of RSU on road side like highway and also avoids the network delay along with efficient network. For this problem the proposed ERSF (Efficient Road Side Framework) avoid the network delays with help of number linear conceptual model along with optimization network delay and under consideration of network. The ERSF framework has been tested that performance using metrics of Generating Traffic Mobility Patterns (GTMP) by VanetMobiSim. The experimental results comparisons has been shows standard distribution and cost effective reduction is 23% and the network delay is 9% respectively and these results are gives clear definition of efficiency of ERSF solutions.

**KEY WORDS:** GTMP, RSU, ERSF, VANETMOBISIM, NETWORK DELAYS, ROAD SIDE UNIT.

## INTRODUCTION

Now a day the emerging network technology for Ad-Hoc Network is Vehicular Ad Hoc Network (VANET), that is allows the methods of ITS (Intelligent Transportation System) techniques for making an efficient networking systems for between network surface and vehicles in road infrastructure through Vehicular Ad Hoc Network. The

VANET facilitate vehicles interactive with every other network in read unit and get efficient internet on the moving state.

The VANET is a part of Mobile Ad-hoc Networks; these VANET and MANET is self organized, independent and focused for the sharing manner along with self organized authentication Ranjan Senapati B et al., (2020) With help of Dedicated Short Range Communication (DSRC) the VANET has gives wireless link for communication for roaming vehicles Babu Ram and Neelendra Badal (2019) along with the standard of IEEE 802.11a Malhi et al., (2019). In VANET changes sequence is very problem in traffic network, Because of high portability the topology. Besides, long range interaction, the serious issues is inaccessibility of RSU within certain regions which brings about separation and undesirable network late.

## ARTICLE INFORMATION

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# Bank Endorsement Classification: A Novel Content Based Approach Using Pupil Tracking Technology

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These days System security dangers are expanding quickly. Particularly client approval is focused for validation could be used. The eye scanner follows the positions of eye and eye development for perceptible upgrade introduced on PC framework. Different highlights like look point, student proportions and mouse location can be removed and it tends to spoken to utilizing representation strategies, for example, obsession, soccades, check way. The sweep way is perceived as an example and the information is utilized give validation from the server database. The understudy district is followed regard to make a baseline for by and large break down and make a constant extraordinary example that is given to every person. The example framed is confirmed utilizing design that is put away in the database. Here we show a chance on how business eye tracker could be connected with equipment and programming to upgrade bank security.

**Keywords:** Security, Eye Movement, Pattern, Unique, Scan Path.

RESEARCH ARTICLE

## 1. STUDY MOTIVATION

An eye GPS beacon quantifies the location and development of the eye. Optic following is the procedure utilized to estimate look focuses [1] along with development of eyes as for the head. Look approximation is significant to anticipate human consideration and could be utilized to make a center point and understanding mental strength of the person.

The camera traces the impression of light origin which is utilized to assess the eye student center position. This information is utilized to extricate the revolution of eyes as wells the heading of look. Extra highlights, for example, flicker recurrence [2] along with modifications in the understudy dimensions can likewise be identified utilizing eye tracker. The gathered information can be composed into document which could additionally utilized for client verification to his/her financial balances.

Eye Trackers is as an info gadget for connection among human and PC and in item gadget. There are numerous methods for estimating eye developments.

Some famous variations utilize video pictures [3] from which eye positions can be recovered. Eye positions has to be arranged casing at outline in video. Different strategies were utilized, for example, search loops or dependent on electro-oculogram. With assistance of genuine eye following framework is conceivable to watch and assess human consideration equitably and sophisticatedly which expands the effect of optical plans and correspondence.

### 1.1. Implementation

**Integrated security**—The innovation permits breaking down clients continuously and giving the live access to financial balances straightforwardly or carefully.

**Website security**—PCs are essential wellspring of data. The clients can without much of a stretch find the look setting on the screen. Eye following is utilized by web specialists to plan the site as indicated by security composition and Bank executives to recognize the client in site and give proper access.

**Automatic Teller Machines (ATM)**—ATMs interface is streamlined for eye following in a position of the recognizable proof, approval and to see whether the clients are looking intellectually steady.

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*Preserving mobile commerce IoT data  
using light weight SIMON block cipher  
cryptographic paradigm*

**Shrikant Taware, R. Ravi Chakravarthi,  
C. Anna Palagan, Kumaresan  
Chandrasekaran & N. Vadivelan**

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**WITHDRAWN: Predicting the effect of Covid-19 by using artificial intelligence: A case study**

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The veracity of the conference also remains subject to serious doubt and therefore the entire Proceedings has been withdrawn in order to correct the scholarly record.

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## River Pollution Control System through Efficient Monitoring of Industrial Effluent Discharge

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### Abstract

The textile and dyeing industries are providing opportunities for sustained economic development in a country and also they play a major role in Indian economy. Water pollution is one of the major issues pertaining to the destruction. The river and its associated living organisms are directly affected by chemical effluent discharge in it. So as to ensure the nature of the water provided for various purposes like rural, drinking and other household reason, and the water ought to be checked by controlling the gushing releases. This paper presents a key result for the inner-pipe water quality observation by a centralized system using IoT infrastructure. The prototype developed is employed for continuous monitoring and analyzing water specimen that are going to discharge at the factory vent and the data that is obtained will be uploaded over the Internet for future analysis. It controls the industrial effluents by connecting a valve to water outlet of the industry. The valve will open only if the TDS and pH value are matched with the standard value. This system is also designed to send an alert messaging system to the

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## Industrial Safety Applications Using Wireless Access Panels

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**Abstract:** In large numbers of the industrial sectors, wireless networking technologies are acquiring rapid endorsement on account of their cost-adequacy, improved unwavering quality, and adaptability. A wireless network can be characterized as a network of devices, meant as hubs. Their essential usefulness is to corporately detect, accumulate, measure, and distribute data in the general climate. Wireless methods communication without the utilization of wires other than the receiving wire, the Ethernet, and the ground replacing wires. For a few industrial activities, wireless technology bears the cost of savvy and compelling availability arrangements. Utilizing wireless technology there are numerous advantages, for example, distant offices, cycles and field activity which brings about improving productivity, personal time, quicker and more accurate data assortment.

### Introduction

WSNs are steadily embraced in the industrial world because of their preferences over the wired networks. Notwithstanding saving cabling costs, WSNs enlarge the domain of conditions attainable for checking. Consequently, adding inciting and detecting abilities to objects in the actual world and taking into account communication among them.

To additionally represent the structure of IWNs, a plant or industrial facility inside viewpoint is utilized as appeared in Figure 1 beneath. Accordingly, the communications framework can be isolated into four parts: brilliant elements, between IWNs, past IWNs, displays, and workers. Inside IWNs, shrewd elements, for example, laborers, AGVs, machines, and standard sensors with wireless handsets could be viewed as wireless hubs that are associated with structure an IWN by wireless radios. Moreover past IWNs, the passage hubs and the door make a scaffold to different networks, for example, cell, and wired, and so forth. More significant level data applications including data workers, the executives, regulators, and displays might be founded on these particular networks. Having the option to choose a reasonable wireless technology doesn't just need the information on the names of existing wireless technologies and their necessities yet additionally an away from of every wireless technology, its set of experiences, advancement, suggested applications, and so forth is required. As per (Lee, Su, and Shen 2007), The short-range wireless scene is as of now held by five protocols, Bluetooth, Wireless HART, ZigBee, ISA100.11a, and Wi-Fi that relate to the IEEE 802.15.1, 802.15.3, 802.15.4, and 802.11a/b/g norms, individually. The IEEE principles characterize the physical (PHY) and medium access control (MAC) layers for wireless communications over an activity scope of around 10-100 meters. Moreover, the principles Wireless HART and ISA100.11a were created by the HART communication establishment and the global society of robotization (ISA), individually. Each of the previously mentioned have various ascribes/highlights that decides their appropriateness of satisfying the prerequisites of various industrial frameworks as far as, dormancy, data rate, jitter, dependability, communication traffic conditions, situations/applications, network topologies, Range, bandwidth, and so on.



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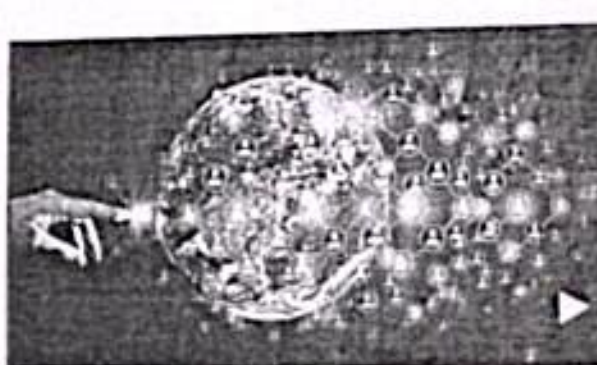
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# Design and Implementation of AGU based FFT Pipeline Architecture

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## Brain Tumor Detection Using Machine Learning and Gaussian Mixture Model

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### Abstract

This paper provides a machine learning approach for the detection of brain tumors. The modified GMM approach is used for the detection of tumors. The ARFF dataset of tumor image is created. The training dataset is created and the efficiency of the approach is tested against the test dataset. The detection rate is 98.5.

**Keywords:** GMM, Machine learning, technology, brain tumor, ARFF dataset

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### INTRODUCTION

A brain tumor is an uncontrolled development of cells in the brain. Tumors increase pressure inside brain and damage cells. Tumors also can cause swelling inside the brain. A tumor can be identified as malignant or benign. Absence of cancer cells is benign and with cancer cells is malignant. Benign do not spread and is less dangerous compared to malignant that spread and multiply. There exist many image analysis methods to identify tumors in brain like positron emission tomography (PET), computer tomography (CT) and magnetic resonance imaging (MRI). Brain image is taken in MRI using radio waves around magnetic field. [4][5][7] There is absence of radiation in MRI method, hence safe for humans. Once imaging of brain is over, the tumor and the infected area is identified using standard algorithms. Researchers worldwide have proposed many algorithms and procedures to detect the tumor. There are methods that automatically detect tumors, machine-learning methods that detect tumors faster than manual methods. [8][9][11]

### LITERATURE REVIEW

Atkins and Mackiewicz [1] use thresholding and morphology techniques, combined with an anisotropic diffusion process to localize and segment the brain. Their method used an integrated approach employing image processing techniques based on anisotropic filters and "snakes" contouring techniques. It is a multistage process, involving first removal of the background noise leaving a head mask, then finding a rough outline of the brain, then refinement of the rough brain outline to a final mask. Hahn and Peitgen [2] proposed a solely intensity-based watershed algorithm, which makes use of a simple merging criterion to avoid the oversegmentation problem. In contrast to most region-based methods, their technique is particularly well adapted to brain segmentation, and is quite robust to intensity inhomogeneities. Shattuck et al. [3] and Gambino et al. [10], use adaptive anisotropic diffusion, edge detection and morphological erosions to identify the brain component. Brain tissue was isolated and classified within T1-weighted magnetic resonance images (MRI). Nonbrain tissue was removed using a combination of anisotropic diffusion filtering,

## A Review Of Energy Efficiency In Wireless Communication Network

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### 1.ABSTRACT

Smart and green climate addresses the following transformative advancement steps in a disaster management, mechanical computerization, home modernization, natural and wellbeing observing. Continuous prerequisites relying upon the application, it could be important for sensor hubs inside the sensor organization to react rapidly to identified occasions. Energy efficient (EE) correspondence has acquired huge premium lately because of truly expanding number of remote devices working in contracting cells, while requesting high information rates with superior grade of Services and Quality of Expectation. These sensor networks present various sorts of mistakes, which are because of the eccentric idea of the remote channel delays. The start to finish delay is perhaps the most basic and major issues for remote sensor organizations. Energy efficiency in cell networks is a developing worry for cell administrators to look after profitability, yet in addition to lessen the general climate impacts. Conventional plan of portable remote organizations essentially centers around universal access and huge limit. Nonetheless, as energy saving and natural assurance become a worldwide interest and unavoidable pattern, remote scientists and architects need to move their concentration to energy-efficiency arranged plan, that is, green radio.

**Keywords:** Energy efficiency, Quality of Services, Quality of Expectation, cellular operators

### 2. INTRODUCTION

Wireless Sensor Networks (WSNs) generally considered as perhaps the main innovations for the 21<sup>st</sup> century. Empowered by ongoing advances in microelectronic mechanical frameworks and wireless correspondence advances, little size, moderate expense and wireless sensors conveyed actual climate to checking the progressions of occasion and wireless networks through wireless connections without actual associations and the web give phenomenal freedoms to an assortment of utilizations. Wireless Sensor Networks essentially contains an enormous number of moderate force and multifunctional sensor hubs that are conveyed in an occasion of revenue utilizing actual climate like earthbound and submerged level. Sensor hubs little in size, microchips and radio handsets and in this way have not just detecting capacity and furthermore information preparing, conveying abilities. It has conveyed over a foreordained distance through the wireless channel. For instance, cellular systems and mobile adhoc network (MANET), Wireless Sensor Networks(WSNs) have extraordinary attributes, high thickness level of sensor hub sending, inconsistency of wireless sensor hubs, energy calculation, and quality of administration, low equipment profiles and erratic ecological conditions. In the previous decade, WSNs have gotten gigantic consideration from both scholarly community and industry everywhere on the world. A great deal of examination exercises did to investigate and furthermore tackled different execution attributes like force utilization, parcel conveyance time and critical advances made in the turn of events and organization of WSNs. It has imagined that in the WSNs broadly utilized in different regular citizen and military fields and changes the method of living, work, and interfaces with the actual world.

#### 2.1 Green Evolution

The next generation wireless networks are relied upon to give high speed web access anyplace and whenever. The prominence of iPhone and different kinds of cell phones certainly quickens the interaction and encourages new traffic interest, like versatile video and gaming. The dramatically developing information traffic and the prerequisite of pervasive access have set off sensational extension of organization frameworks and quick acceleration of energy interest. Consequently, it turns into a dire requirement for portable administrators to keep up maintainable limit development

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# Design of Hamming Encoder (23,16) For Emerging Applications

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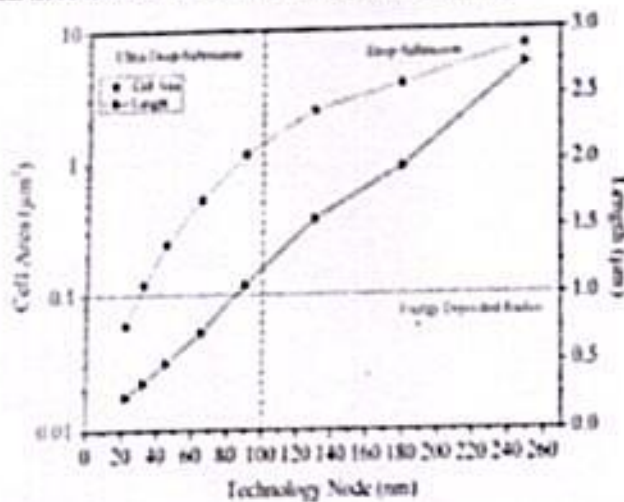
## ABSTRACT

The use of error-correction codes (ECCs) with advanced correction capability is a common system-level strategy to harden the memory against multiple bit upsets (MBUs). Therefore, the construction of ECCs with advanced error correction and low redundancy has become an important problem, especially for adjacent ECCs. Existing codes for mitigating MBUs mainly focus on the correction of up to 3-bit burst errors. As the technology scales and cell interval distance decrease, the number of affected bits can easily extend to more than 3 bit. The previous methods are therefore not enough to satisfy the reliability requirement of the applications in harsh environments. In this paper, a technique to extend 3-bit burst error-correction (BEC) codes with quadruple adjacent error correction (QAEC) is presented. First, the design rules are specified and then a searching algorithm is developed to find the codes that comply with those rules. The H matrices of the 3-bit BEC with QAEC obtained are presented. They do not require additional paritycheck bits compared with a 3-bit BEC code. By applying the new algorithm to previous 3-bit BEC codes, the performance of 3-bit BEC is also remarkably improved. The encoding and decoding procedure of the proposed codes is illustrated with an example. Then, the encoders and decoders are implemented using a 65-nm library and the results show that our codes have moderate total area and delay overhead to achieve the correction ability extension.

## INTRODUCTION

RELIABILITY is an important requirement for space applications [1]. Memories as the data storing components play a significant role in the electronic systems. They are widely used in the system on a chip and application-specific integrated circuits [2], [3]. In these applications, memories

This makes memories suffer more space radiation than other components. Therefore, the sensitivity to radiation of memories has become a critical issue to ensure the reliability of electronic systems



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# An Efficient Implementation of Fir Filter Using High Speed Adders for Signal Processing Applications

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## ABSTRACT

Numerous applications of Finite Impulse Response (FIR) Filter have been found in many signal processing applications, biomedical applications, de-noising, etc.,. It is essential to design the FIR filter with high speed and low power consumption. Vedic mathematics can be used to transform tedious calculations into simpler and orally manageable operation. Vedic multiplication uses Urdhva Triyambakam multiplication algorithm. The Vedic multiplication algorithm generates partial products in parallel.

In this work, we propose using Han-Carlson adder to improve the performance of Vedic multiplier. A 8-bit Vedic multiplier is implemented, which can be used for mantissa multiplication in single-precision floating-point multiplier. The proposed multiplier is coded in Verilog HDL.

In this project, design of FIR filter has been made with parallel prefix adders which are high speed adders and vedic multipliers. Simulation and synthesis is carried out using Xilinx ISE tool.

**Keywords:** FIR; Vedic mathematics; Parallel prefix adder; Vedic multiplier; Han-Carlson adder; Kogge-Stone adder; Xilinx.

## INTRODUCTION

Impulse response in finite period of time is defined as Finite Impulse Response Filter. The majority of its applications are found in the field of signal processing, image processing, speech processing, and bio medical signal processing and so on. The major purpose of FIR filter is to clip off the unwanted noise and distortion to retain the useful signals. The key factors such as pre-processing, anti-aliasing, band selection, interpolation and low pass filtering makes the FIR filter useful for major signal processing applications.

Impulse response in finite period of time is defined as Finite Impulse Response Filter. The majority of its applications are found in the field of signal processing, image processing, speech processing, bio medical signal processing and so on.

The outperform characteristics of FIR filter makes it useful for constructing efficient stable filters and those characteristics are linear phase and unconditional stability, ease of implementation, non-existence of overflow oscillations, greater computational efficiency and the capability to implement filters with co efficient less than one. FIR filters can be either continuous in time or discrete in time. The FIR filter can be implemented in software and its design method is based on the approximation of Ideal filter.

Windowing techniques are the basic methods to design these filters. The major purpose of FIR filter is to clip off the unwanted noise and distortion to retains the useful signals.

The key factors such as pre-processing, anti-aliasing, band selection, interpolation and low pass filtering makes the FIR filter useful for major signal processing applications. In order to make a filter with no noise as there is no need of truncation or rounding of the bits, FIR filter will become the best option for choosing. A good solution for the practical applications of image processing would be FIR filter.



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# Primary User Emulation Attack and countermeasures in Cognitive Radio Network: A Survey

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**Abstract**— In the scenario of dynamic spectrum access in a Cognitive Radio Network (CRN), the authorized frequency is always used by Primary Users (PU) or Licensed Users (LU) and Cognitive Radio (CR) users can use this spectrum when licensed users are not utilizing it. In some cases, a complete similar kind of signal is generated by the attacker, and it looks like an error created by the Licensed User. So, the CR user is confused, and it erroneously detects the attacker as licensed user and immediately vacates the spectrum. This type of attacker is named as Primary user Emulation Attack (PUEA). Detection and defense of PUE attack, recognizing the interferences produced by the multiple PUEA to the PU and also to analyze the various problems arising in the data transmission are an important aspects in successful functioning of a CRN. This paper mainly focuses on PUEA and its defensive strategies in a CRN.

**Keywords**— CRN, Licensed User, CR User, PUEA

## I. INTRODUCTION

The need for frequency bands is increasing rapidly due to the development of the wireless communication systems. However, most portion of the frequency spectrum is occupied by the present systems, and it is a limited resource. Therefore, the dynamic spectrum access in a CRN is essential [1]. Accessing spectrum dynamically is made possible by CRN. Spectrum sensing (SS) is the crucial activity at the CRN. If the SS is not performed accurately, then the Cognitive Radio (CR) and licensed user's performance will be degraded [2].

Usage of the spectrum can be increased by addressing lack of the spectrum. CRN is a feasible spectrum shortage problem solving option [4]. The CRN enables the sensing of CR user, the sensing of adaptive communication factors as well as the monitoring of inactive frequency channels, lacking interfering the Licensed User (LU) [4]. Because of the unpredictable nature of wireless communication, CRN can be exposing to multiple cyber-attacks and this gives a depressing crash on their execution. The attacks are PUEA [5], Spectrum Sensing Data Falsification (SSDF), jamming attacks as well as asynchronous sensing attacks [4].

The physical as well as Medium Access Control (MAC) layers of CR is threatened through PUEA attacks, and it is one of the CRN's biggest attacks. In a PUEA attack, the

malevolent user copies the transmitting features of the LU, and the legitimate CR Users are confused by the actions of this mimic. This form of attack can cause disruptive interference to the LUs, and prevents the other CR Users from using idle frequency channels [5].

The successful realization of a PUEA in a CRN relies on many important factors, such as no interference among the major as well as secondary networks. Otherwise, a LU verification protocol may be configured to detect a PUE attack if CR user is allowed to share information with the LU. Signals of LU and CR user must have different properties i.e., different modes of modulation, and statistical signaling features. The PUE attacker exploits this to mimic the primary signal. Attacker can estimate the primary signal power level and also the channel conditions to generate trickier signals. Attacker prevents main-network interference.

The most proficient approach to identify spectrum gaps is to recognize the essential clients that are receiving information inside the SUs communication range. However, in reality, it is troublesome for a CR user to have specific channel data between a primary recipient and a transmitter because of the intrinsic property of CR. Subsequently, the latest work takes part in initial transmitter recognition based on the nearby perceptions of CR user.



## LIVE VIDEO STREAMING FOR SECURITY OF WOMEN IN CABS USING RASPBERRY PI

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### ABSTRACT :

Embedded Real-time video monitoring system is designed, in which embedded chip and the programming techniques are used. The central monitor which adopts the Raspberry-pi is the core of the whole system. Real time video transmission is widely used in surveillance, conferencing, media broadcasting and applications that include remote assistance. First, USB camera video data are collected by the embedded Linux system. All the data are processed, compressed and transferred by the processing chip. Then, video data are send to the mobile client by wireless network. This embedded monitoring system overcome the weak points of the traditional video surveillance systems, such as complex structure, poor stability, expensive cost. It can be widely used in many fields, and also used for long distance transmission. There has been an increase in

video surveillance systems in public and private environments due to a heightened sense of security. The next generation of surveillance systems will be able to annotate video and locally coordinate the tracking of objects while multiplexing hundreds of video streams in real time . Video surveillance has been evolving significantly over the years and is becoming a vital tool for many organizations for safety and security applications. We are using GPS as well for locating the people very easily through wireless communication.

**Keywords :** Raspberry Pi, Camera.

### I INTRODUCTION

Having an effective video surveillance system is not only beneficial but also adds a sense of surety and comfort to the userl .



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## DESIGN OF HIGH SPEED TRANSISTOR EFFICIENT MULTI-OUTPUTS AND MULTIFUNCTIONAL SUPER GATE CELLS

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**ABSTRACT:** The number of transistors required for the implementation of a logic function is a fundamental consideration in digital VLSI design. In this paper, design of high speed transistor efficient multi-outputs and multifunctional Super Gate (SG) cell is developed. It minimizes the number of transistors that starts from a sum-of-products expression and utilizes non-series-parallel structures. In addition to the transistor count, the symmetry structure of the circuit, the number of transistors on the critical path, and multi-outputs and multifunctional cells are considered in this paper, as the three crucial parameters for the efficient SG cell design. The proposed SG cells with spiral structure are multioutput and multi-functional cells, which can significantly improve the circuit characteristics by improving the number of output functions over the cell area. A novel method is used to automatically generate networks with minimal transistor count, starting from an irredundant sum-of-products expression as the input. The method is able to deliver series-parallel (SP) and non-SP switch arrangements, improving speed, power dissipation and area. Experimental results demonstrate the efficiency of the approach.

**KEY WORDS:** Super Gate (SG) cell, series-parallel (SP) switch arrangement, non-SP switch arrangements.

### 1. INTRODUCTION

Optimizing the performance of a circuit with respect to implementation cost, operational speed, and power requirements is the fundamental problem in digital electronic design. In the custom design approach, a transistor-level implementation for the required functions is selected and an appropriate physical layout is made. For most commercial applications, the required effort for transistor-level implementations

may be prohibitive, in which case standard cell libraries are used. Transistor arrangement optimization plays an important role in VLSI design by providing better characteristics such as reduced power, delay, energy, and small physical area from the circuit [1]. The transistor-level circuit design and optimization are essential for both full-custom and semicustom design flow. The most popular method is semi-custom design with standard cell libraries, which is fast and cost-efficient with good circuit characteristics [2]. Therefore, when designing digital integrated circuits, it is useful to develop efficient algorithms for automatic generation of optimized transistor networks. Several methods have been presented in the literature to reduce the number of transistors needed to implement a Boolean function, in which the conventional approach is based on factoring Boolean expressions [3].

In this way, only series-parallel (SP) associations of transistors can be obtained by manipulating the Boolean expression to reduce the number of literals that compose the expression. In the standard-cell-library approach, the main effort is the technology mapping between alternative implementations of the design and pre-existing elements of the library [4]. Such an approach may be beneficial for reducing the design effort, but may not be able to achieve a desired level of performance. If high performance is required, the custom design approach has to be followed at least for the critical parts of the circuit. In such



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# A High Gain and Wideband Narrow-Beam Antenna For 5G Millimeter Wave Applications

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## ABSTRACT

A wideband antenna with a high gain and narrow beam-width for future 5G communication systems is presented in this research. The antenna operates in 28 GHz 5G band with a large 35.53% bandwidth ranging from 23.41-33.92 GHz. The array has 4-elements arranged in a linear fashion to attain a high gain of 10.7 dBi. It radiates along its end-fire direction and provides a very narrow beam-width of 14.6o in its H-plane. A corporate feed network specifically designed for thin substrates was used in order to excite the array elements. It is built upon thin 0.254 mm Rogers substrate to minimize transmission losses and attain high radiation efficiencies of more than 90% throughout its operating frequency range. It has a compact structure bearing low cost and is easy to fabricate. This antenna fulfills necessary requirements of 5G communication and is therefore a good candidate to be used in the millimeter-wave range.

**Keywords:** 5G, millimeter-wave, 28 GHz, wideband, future mobiles, antenna arrays.

## INTRODUCTION

The future of mobile communication is now entering into its fifth generation (5G) with a clear aim of communication at an extremely high bit-rate in excess of Gbps. In order to be practical in achieving such an outstanding data communication rates, large bandwidth is needed. This bandwidth is nowhere found in the currently used spectrum below 6 GHz by International Mobile Telecommunications (IMT). Therefore, upgraded spectrum utilization will be required, which is only available at high frequencies in the millimeter-wave range. The world radio-communication conference (WRC) has proposed the use of 24 GHz and beyond spectrum and requested ITU-R to come up with recommendations of proposed frequency bands. Until now, the widely reported numbers of frequency bands are in the range of 24 to 86 GHz out of which 28 and 38 GHz bands are the most favorable bands for future 5G network technologies.

The aperture coupled microstrip patch antenna feed technique was introduced in 1985 that includes electrically isolated microstrip transmission lines and patch conductors. These structures are electromagnetically coupled through a small aperture in the isolating ground plane (Fig. 1). Two common feed techniques for patch antennas are directly connected microstrip transmission lines and coaxial probes

A microstrip transmission line feed directly connects a microstrip line to the radiating patch. Source electromagnetic fields are concentrated between the microstrip line and ground plane to excite primarily guided waves as opposed to radiated or surface waves. Guided waves are dominant if the dielectric is electrically thin ( $\epsilon < 5$ ). At the radiating patch, it is desirable to decrease guided waves under the patch and increase radiated waves at the patch edges. This requires an electrically thick dielectric ( $> \lambda/10$ ) substrate with a relatively low permittivity ( $\epsilon_r < 3$ ). Compromising between the two conflicting criteria results in surface waves, reduced radiation efficiency due to guided waves below the patch, and increased sidelobes levels and cross-polarization levels from spurious feed line radiation.

A probe fed microstrip patch antenna is excited by a coaxial line center conductor; the outer coaxial conductor is electrically connected to the ground plane. For this geometry, substrate thickness and permittivity are optimized for radiation efficiency. However, the probe center conductor underneath the patch causes field distortion due to the introduction of an undesired reactance at the antenna input and a relatively large probe self reactance.





# A STUDY OF IMPROVED ENERGY DETECTION BASED SPECTRUM SENSING FOR COGNITIVE RADIO NETWORK\*

BY

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## ABSTRACT

Future wireless communications systems are expected to be extremely dynamic, smart and capable to interact with the surrounding radio environment. To implement such advanced devices, cognitive radio (CR) is a promising paradigm, focusing on strategies for acquiring information and learning. The first task of cognitive systems is spectrum sensing, that consists the analysis of the radio frequency spectrum. In particular, CR has been mainly studied in the context of opportunistic spectrum access, in which secondary devices are allowed to transmit avoiding harmful interference to higher priority systems, called primary users. Thus cognitive nodes must implement signal detection techniques to identify unused bands for transmission. In the present work, we study different spectrum sensing algorithms, focusing on their statistical description and evaluation of the detection performance. Moving from traditional sensing approaches we consider the presence of practical impairments, such as parameter uncertainties, and analyse algorithm design. Cognitive radio is a capable technology, which has provided a different way to increase the efficiency of the electromagnetic spectrum utilization. CR allows unlicensed users or secondary users (SUs) to use the licensed spectrum through dynamic channel assignment strategies or spectrum access when the primary users (PUs) are in a dormant state to improve the spectrum utilization and hence avoid spectrum scarcity. For this we need intelligent spectrum sensing

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# TOSAM: Truncation- And Rounding-Based Scalable Approximate Multiplier for High-Speed Yet Energy-Efficient digital Signal Processing

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## Abstract

A TOSAM, which reduces the quantity of product products by cutting each input process, is added based on the lead unit position. It implies the elastic approximate multiplier (TOSAM). That is clear. Through shifting, adding and limiting multiplier operations of a given length, the proposed model would result in substantial shifts in energy and regional jobs compared to the effective multiplier. The input process of the multiplication function is rounded to the nearest number of deficiencies to increase overall precision. Depending on the input operators' truncated positions, Since the input operand width precision is low and the multiplier can be scaled. Further enhancements will be made if the design parameters (e.g. field and power consumption) decrease in input-operand space. The design parameters of the proposed approximate multiplier are compared with the accurate multiplier and some other estimated multipliers recently suggested for evaluating the results. The findings indicate that the proposed average multiplier with a minor absolute error of 11% to 0.3% raises time delays, area and energy usage respectively to 90% and 98% to 41%. The same element in relation to this. In rpm, area and energy usage. Several approximate multipliers are often performed. The estimated conditional multiplier includes a Gaussian error distribution of approximately a mean value of 0. This is used to write, sharpen and arrange JPEG encoders. The tests indicate a small improvement in output quality. We also give a configurable TOSAM accuracy in which energy usage can be adjusted to the required precision for the propagation process.

**Index Terms**—Accuracy configurable, approximate multiplier, area efficient, low energy, scalable, truncating.

## 1. INTRODUCTION

Power utilization is one of the major digital network design architectural requirements. Calculation approximation (AR) is one means of increasing and/or increasing the usage of electricity. For error-resilient programs, AC can always be included, since the outcome of the application can not function. Types of these innovations include audio and picture processing[1], machine-learning[2] and data mining[3]. Arithmetic operations in a variety of applications for signal processing are responsible for a significant part of the energy usage (e.g. up to 75% of overall energy consumption of the Fourier rapid transformation system[4]). Using that is often used[5]. This renders approximate multipliers suitable for use in error tolerant signal processing systems. In a multiplication cycle, there are normally three stages. The first step is to produce partial goods dependent on input operations. Just two rows of partial products are deposited in the second floor. A (fast) adder adds the remainder of two sides. Increasing of the steps may be calculated. The approach[1],[6],[7] or an improvement in their generation complexity[8] may be given the first step to the the sum of partial items. Added estimate to rising delays or power consumption Decreased multiplication process speeds in the second level. One of such approaches is rugged compressors[9]-[12]. Throughout the final step of the propagation period the design of the adder has a major effect on latency and energy consumption of the propagation mechanism. An indirect adder may also also be used to increase the power consumption[13] of the multiplier in the final step. In this paper, we introduce an method strategy that decreases the amount of missing products. In the proposed approximate Algorithm the inputs are cut to h and t bits according to their lead bits placed. In addition, by



# Securing AES Accelerator from Key Leaking Trojans on FPGA

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**Abstract-** Securing AES Accelerator from Key-Leaking Trojans on FPGA. Reconfigurable hardware presents a useful platform for building systems with high performance and secured nature. A new method for protecting 128-bit Advanced Encryption Standard (AES 128-bit) accelerator on Field Programmable Gate Array (FPGA) for embedded systems and cloud server is proposed. One of the major issues faced by the AES accelerator is the security of the key stored inside the FPGA memory. Security for the key inside the accelerator is provided through a masking scheme. To work with the masked key, a modified key expansion that maintains the throughput through a properly designed multistage pipelining is proposed. The proposed method takes the advantage of reconfigurable computing for flexible and efficient hardware implementation and provides security against key-leaking Trojans. The efficiency of the masked AES implementation is found to be 28.5 Mbps, which is 17.87% higher than the existing best work. The security of the proposed masked scheme is validated through correlation and hamming distance calculation techniques.

**Keywords** – AES, Trojans, FPGA, Pipelining, Accelerator, Masking, Security, Encryption Key

## I. INTRODUCTION

Advanced Encryption Standard (AES) is the widely using secure algorithm for encryption to provide privacy of data. Acceptance of cloud computing in every field causes increase in encryption load in cloud servers. To accelerate applications running on server and to reduce processor load, Field Programmable gate Arrays (FPGAs) are integrated with the server hardware. Computation-intensive applications can be shifted to FPGAs for increasing speed and reducing power consumption. FPGAs are reconfigurable hardware units that can be customized for required applications. Hence, high parallelism can be achieved with lower frequency. Cloud benefits from FPGA in several aspects. First, it could customize the FPGAs for computation-intensive application. Second, FPGAs could run with lower frequency and hence the heat production in server can be reduced to a large amount (Hauck & Andre, 2010; Kilts, 2007; Phan 2004; Teubner & Woods 2013).

Encryption is used in cloud for the privacy of data at rest and data in motion. That means disk encryption of user's VM, transfer of user data in encrypted form, encrypted communication between different users, encryption as a service, and so on (Amazon Web Services, 2016; Bokefode, Bhise, Satarkar, & Modani 2016; Krutz & Vines, 2010; CLOUDLINK, 2014; Cloudsigma; Encryption at Rest in Google Cloud, 2016; HP Atalla Cloud Encryption, 2013; Protecting Data in Microsoft Azure, 2014; Rahmani, Sundararajan, Ali, & Zin, 2013). FPGA accelerator can be used to speed up the encryption process for large amount of data. Use of FPGA will increase encryption speed and reduce power consumption. To get finest performance, the design should have high speed and low area consumption. Figure 1 shows the scenario in which FPGAs are used in cloud server as accelerators. The intellectual properties (IPs) can be collected from a hardware maker or from trusted third parties. When the processor assigns a job to an FPGA, the bitstream for hardware design can be loaded from bitstream storage if available or from outside cloud through external network.

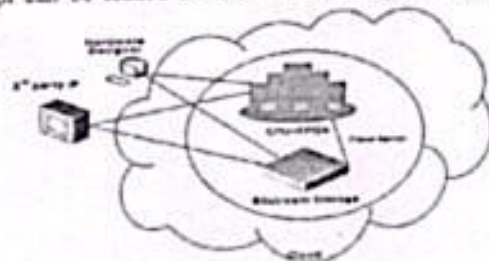


Figure 1. Usage of FPGA on cloud server



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# Securing AES Accelerator from Key Leaking Trojans on FPGA

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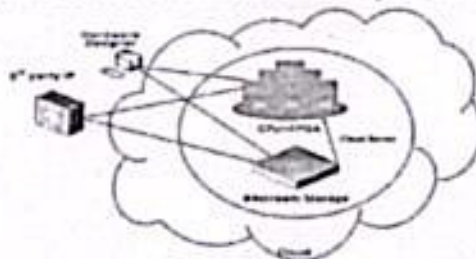


Figure 1. Usage of FPGA on cloud server



# A NOVEL TECHNIQUE FOR ENLIGHTENING BIT ERROR RATE IN SENSOR NETWORKS BY MEANS OF ORTHOGONAL SPACE TIME BLOCK CODE (OSTBC) CODING

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## Abstract:

For the planning of any organization, lifetime and size of the organization are the main boundaries notwithstanding that high information rate and low piece mistake rate likewise assume a significant part in the planning of any sensor organization. In this paper, new transmission methods for the transmission of sensors information have been proposed for sensor networks by consolidating different balance and coding methods into the network transmission. The proposed strategy is utilized to further develop the Bit Error Rate execution of the remote sensor organization, in the vast majority of the remote sensor organizations, pieces are changed over into parcels and these bundles are sent from source to objective during that transmission the nature of physical not set in stone by the Bit Error Rate (BER) and the Packet Delivery Rate (PDR). The actual layer manages transmission of pieces over remote connection the planning limitations of this layer is balance, variety and coding. In this paper different regulation, it is consolidated to code and variety methods into sensor network for decreasing Bit Error Rate (BER). The proposed framework separates the organization into two kinds of hubs, initial one is the sensor hubs, outfitted with brief distance transmission capacity and another is exceptional hubs that are outfitted with modulators and coders for sending information over significant distance. This proposed framework likewise reached out for giving the got information transmission by the utilization of different mistake recognition and adjustment codes.

## Keywords:

Bit Error Rate (BER), Orthogonal Space Time Block Code (OSTBC), Internet Of Things (IOT), Symmetrical Transform Division Multiplexing (OTDM), Space Time Coding (STC), Singular Vector Disintegration (SVD).

## Introduction:

Remote Sensor Networks (WSNs) are the blend of numerous little detecting components for moving information from source to objective utilizing multi-jump transmission. There are various applications in which constant observing is required so a gigantic measure of information is gathered after the assortment of this information different numerical changes are expected to change over this crude information into helpful data. A few applications require security of the information while for certain applications like [1-3] remote interactive media sensor network central issue is exactness of the information and high information move rate. In agribusiness, these organizations can give the report about the development pace of plants. This can diminish

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## Analysis of Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks

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### Abstract:

The use of remote innovation is progressively impacting the arrangement of sensor networks for minimal price and maintenance in varying backgrounds. Unfortunate channel conditions, serious power imperatives, blurring, impedance and the low power correspondence prerequisites amplify the need for energy effective and ideally cross layer blunder control plans in Wireless Sensor Networks (WSNs). The primary objective of blunder control components in WSNs is to decrease the energy consumption while dealing with dependable and quick conveyance of the detected information. In this paper, we propose a 'Dynamic and Channel Adaptive Error Control Scheme in Wireless Sensor Networks' (DCAECS) that gauges the channel mistakes and controls blunders progressively founded on channel qualities and commotion power saw at the collector. This rouses the mistake control procedure to differ as the channel conditions change as far as commotion level. In this paper, we have concocted the models for both the blunder and channel assessment. Examination and re-enactment results for different message sizes and mistake conditions show that there is an improvement as far as throughput, BER and the likelihood of retransmission when contrasted with 'ARQ Scheme with Adaptive Error Control' (ASAEC).

### Keywords:

Bit Error Rate, Error Control, Energy Efficiency, Wireless Sensor Networks.





# A Novel Block Merging Algorithm for Image Denoising using Dual Tree Complex Wavelet Transform

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## To Cite this Article

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## ABSTRACT

There has been a lot of research work dedicated towards image denoising. However, with the wide spread of image usage in many fields of our lives, it becomes very important to develop new techniques for image denoising. In the proposed method, the DTCWT is applied on the noisy image to produce the wavelet coefficients in different sub bands. A block including the denoising point in the particular sub band is used to split in order to get distinct sub blocks. The signal-variance in a sub-block is estimated by using median estimator. The coefficients of original decomposed image in wavelet domain are estimated using the minimum mean squared error (MMSE) estimator by means of the estimated signal variance.

## 1. INTRODUCTION

Image processing has got broad applications in multimedia communication, computer vision, television broadcasting, etc. that requires very good quality of images. The quality of an image degrades due to introduction of additive white Gaussian noise (AWGN) during acquisition, transmission/reception and storage/retrieval processes. It is very much necessary to suppress the noise in an image and to preserve the edges and fine details as far as possible. This procedure is traditionally performed in the spatial-domain or transform-domain by filtering. When image is contaminated with Gaussian noise, one method that has received considerable attention in recent years is wavelet thresholding or shrinkage: an idea of killing coefficients of low magnitude relative to some threshold. The different thresholding or

shrinkage methods proposed in the literature are Visu Shrink [1][2], Sure Shrink [3][4], Bayes Shrink [5] etc. The windowing method such as locally adaptive window maximum likelihood (LAWML) estimation [6] is also available in the literature where the statistical relationship of coefficients in a neighbourhood is considered. The wavelet domain methods are suitable in retaining the detailed structures. However The Conventional Discrete Wavelet Transform (DWT) has several limitations, such as aliasing, shift sensitivity and poor directional selectivity [8]. Due to large changes in wavelet coefficients and down sampling, aliasing may happen in DWT. The inverse DWT eliminates this aliasing only if the wavelet and scaling coefficients are unchanged. Due to shift sensitivity, the small shifts in input signals can cause an irregular change in the distribution of energy between DWT coefficients at different scales. Because of poor directionality, DWT cannot



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# Medical Image Compression Using Generative Adversarial Networks

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## ABSTRACT

Medical images need to be efficiently compressed before transmission and storage due to the storage capacity and constrained bandwidth issues. An ideal image compression system must yield a high compression ratio with good quality compressed images. Machine learning models are proposed to perform tasks, whereas humans have difficulties in completing. In this paper, machine learning algorithms such as Generative Adversarial Networks (GANs), Conditional Generative Adversarial Networks (CGANs) and Deep Convolutional Generative Adversarial Networks (DCGANs) are trained to relate the medical image contents to their compression ratio. The comparison of different methods is evaluated using various evaluation metrics such as PSNR, MSE, MAE, Compression Ratio, Compression Time and Decompression Time.

**KEYWORDS :** PSNR, MSE, MAE GANs

## 1. Introduction

Due to the rapid advancement of medical technology, as well as the massive amount of data generated by the many medical imaging modalities, data compression is required for the storage, transmission and processing of digital data in today's world of evolution. Transferring medical images from one location to another is a frequent occurrence in telemedicine practices. In order to transmit and store these high-quality images it has become necessary to reduce the image size while still retaining diagnostic information. In this respect, medical image compression is a method that reduces the cost of transmission and storage by recommending lossy and lossless compression algorithms that are both efficient and effective. A machine learning framework is required for medical image compression. Different image compression methods based on various dimensionality reduction techniques such as Multistage Principal Component Analysis, Discrete Anamorphic Stretch Transform and PCA based on Johnson- Lindenstrauss Lemma algorithm, various frequency domain techniques such as Tetrolet Transform, Lifting wavelet transform and Fast Discrete Curvelet Transform and various Machine Learning models such as Generative Adversarial Networks, Conditional Generative Adversarial Networks and Deep Convolutional Generative Adversarial Networks are invested for medical image compression. MATLAB software is used to implement the proposed technique on the test images based on the performance evaluation metrics such as PSNR, MSE, MAE, Compression Ratio, Compression Time and Decompression Time. As a result, based on the values it is concluded that the proposed



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# Iot Based Agriculture Crop Monitoring and Controlling System

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## ABSTRACT

The Internet of things (IOT) is remodeling the agriculture enabling the farmers with the wide range of techniques such as precision and sustainable agriculture to face challenges in the field. IOT technology helps in collecting information about conditions like weather, moisture, temperature and humidity; Crop online monitoring enables detection of level of water, animal intrusion in to the field, crop growth, agriculture. IOT leverages farmers to get connected to his farm from anywhere and anytime. Wireless sensor networks are used for monitoring the farm conditions and micro controllers are used to control and automate the farm processes. A smart phone empowers farmer to keep updated with the ongoing conditions of his agricultural and using IOT at any time and any part of the world. IOT technology can reduce the cost and enhance the productivity of traditional farming.

**Keywords:** precision ,sensitivity ,temperature ,moisture ,Temperature.

## INTRODUCTION

In 1995, "thing to thing" was coined by BILL GATES. In 1999, IoT (Internet of Things) was come up by EPC global. IoT interconnects human to thing, thing to thing and human to human. The goal of IoT is bring out a huge network by combining different types connected devices. IoT targets three aspects Communication, automation, cost saving in a system. IoT empowers people to carry out routine activities using internet and thus saves time and cost making them more productive. IoT enables the objects to be sensed and/or controlled remotely across existing network model. IoT in environmental monitoring helps to know about the air and water quality, temperature and conditions of the soil, and also monitor the intrusion of animals in to the field. IoT can also play a significant role in precision farming to enhance the productivity of the farm.

An Embedded System is a combination of computer hardware and software, and perhaps additional mechanical or other parts, designed to perform a specific function. A good example is the microwave oven. Almost every household has one, and tens of millions of them are used every day, but very few people realize that a processor and software are involved in the preparation of their lunch or dinner.

This is in direct contrast to the personal computer in the family room. It too is comprised of computer hardware and software and mechanical components (disk drives, for example). However, a personal computer is not designed to perform a specific function rather; it is able to do many different things.

Many people use the term general-purpose computer to make this distinction clear. As shipped, a general-purpose computer is a blank slate; the manufacturer does not know what the customer will do with it. One customer may use it for a network file server another may use it exclusively for playing games, and a third may use it to write the next great American novel. Frequently, an embedded system is a component within some larger system. For example, modern cars and trucks contain many embedded systems. One embedded system controls the anti-lock brakes, other monitors and controls the vehicle's emissions, and a third displays information on the dashboard. In some cases, these embedded systems are connected by some sort of a communication network, but that is certainly not a requirement.

### Real Time Systems:

One subclass of embedded is worthy of an introduction at this point. As commonly defined, a real-time system is a



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## Artificial Vision for Blind Using Sensor Technique

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### ABSTRACT

"Artificial Vision for Blind for blind using sensor technique" presents a smart artificial vision system by using sensor technique which can provide guidelines to the blind/deaf and dumb peoples and also provides security from different situations like obstacle, manhole and water.

This technique has the capability to detect any kind of obstacles using ultrasonic sensors, and also can detect manholes using IR sensor, Water in front of the blind. This technique can also monitor and alert the blind through vibration and buzzer alarm from multiple situations.

### INTRODUCTION

The World Health Organization (WHO) states that more than 40 million folks are completely blind and 314 million have some quite visual disorder. These people have to be dependent on others for navigation. To solve this problem, there must be a system that helps blind person to accomplish the movement. It is necessary to have innovative ways to leverage the capability of a system to seek individuals and objects.

To make them comfortable in environment, they should have information of objects and obstacles ahead of them and that conjointly makes the navigation simple.

There are some systems available like RFID based intelligent waist belt [1], IR stick [8], ultrasonic sensor-based systems [4] and ultrasonic spectacles [5]. These systems based on device which produces ultrasonic sound and receives reflected pulses, according to which it produces vibration in response to that. These solutions are less effective as they do not provide better navigation to blind individuals.

The main aim of this project is to design a smart artificial vision system by using sensor technique which can provide guidelines to the blind/deaf and dumb peoples and also provides security from different situations like obstacle, manhole and water. This device automatically senses the presence of obstacles in its path and helps blind people in deviate their direction of movement through vibrator and buzzer alarm.

The obstacle detection mechanism is done by an Obstacle sensor to find the presence of an obstacle in its path. Voice circuit is a system which is capable of storing voices and playing back the stored voices when requested. This system eliminates the usage of old alarm systems and makes to configure the alerts through voice. This consists of a microcontroller-based control system, Voice Module, Buzzer, water sensor, manhole detection sensor and Obstacle detection Sensor.

This device senses the obstacles in its path by continuously transmitting the IR rays from IR transmitter. If any obstacle comes in its vicinity, then the rays are destructed and give this input to the microcontroller. The IR receiver fitted on the device senses these Obstacles and this information is passed onto the Microcontroller. If any manhole or water detect in



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# Iot Based Coal Mine Monitoring System

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## ABSTRACT

Coal is the biggest contributor in generation of electricity for the world. Coal-fired plants produce 72% of India's electricity. Apart from usage in thermal power plants, coal has great demand in other industrial sectors like Cement, Steel etc., It provides a very cheap alternative for steam generation. Therefore this fuel will continue to play a major role in Indian economy in its foreseeable future, regardless of the government's ambitious plans to produce electricity through renewable resources. Fire, flood, mine collapse, mine explosion, hazardous atmosphere and particulate matter are some of the dangers associated with underground mining. Their consequences are further exacerbated by the cramped workplace atmosphere. The mine environment present underground is hazardous due to the emissions methane, nitrous oxide carbon monoxide etc which naturally occur in the rock strata. The high concentrations pose a risk to the miner's health and life. Thus an alerting system is the need of the hour. This paper proposes a system to monitor the safety of the miner, alert them, based on Arduino and ZigBee technology and to collect CO, humidity and N2O concentration using sensor nodes.

## INTRODUCTION

In summary, an intelligent production monitor system in coal mine is the significant measure that safeguards the Coal enterprise is the high-risk profession and technique now is relative backwardness. Security is the most important in the coal mine production. Establishing mine safety production safeguard system is the only way to guarantee the safety in coal mine production. Currently in mine production, there are mainly following two aspects to impact the safety in

### Mine production:

(1)Environment Parameter: Gas, Carbon Monoxide, Temperature (Humidity) Degree, Coal Position of the Bunker, etc.

(2)Electromechanical Device Running Parameters: transport fix, belt conveyer, Voltage, Electric current and so on.

safe production in coal mine. It acts vital role in disaster prevention and reduction in mine, as well as improve the productivity. It also is the significant milestone of implementing the modern management for mine production.

India produces 89 minerals by operating 569 coal mines, 67 oil and gas mines, 1770 non-coal mines, and several more small mines, running into over a lakh, all of them translates into the direct employment of about millions of people on a daily average basis and overall sector contribution is about 5 percent of the India's gross domestic product [13]. Even after such a huge profit from this sector, there are very less preventive steps taken against mining accidents. The open cast mines can be considered safe as compared to the underground coal mine. As the workers in open cast mines do not face any problem of humidity, heat, suffocation etc. Whereas, in the underground coal mine, there is a major risk to the health of the worker due to factors like suffocation, high temperature, harmful gases, humidity & chances of fire which creates a great threat to their life compared to the open cast mine workers. The inappropriate conditions in underground coal mines include improper lighting, insufficient ventilation & underground slippery areas.

The uncontrolled temperature in presence of highly inflammable gases like methane can cause fire anytime. With the increase in depth of coal mine a number of harmful gases like sulphurdioxide, methane increases. Excess exposure to them is harmful & fatal for human health. So to reduce these risks, we developed an embedded system that helps to monitor the physical conditions in underground coal mine. This System uses wireless communication technology to transmit the data



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# Solar Based Floor Cleaner Robot Using Arduino Uno

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**Abstract:** Households of today are becoming smarter and more automated. Home automation delivers convenience and creates more time for people. Domestic robots are entering the homes and people's daily lives, but it is yet a relatively new and immature market. However, a growth is predicted and the adoption of domestic robots is evolving. The purpose of this project is to design and implement a Cleaning Robot Autonomous. Floor Cleaner Robot is designed to make cleaning process easier rather than by using manual vacuum. The main objective of this project is to design and implement a Dry and Wet robot prototype. Robot will have several criteria that are user friendly.

With the advancement of technology, automated floor cleaning machines are getting more attention of researchers to make life of mankind comfortable. The concept is developing in economic countries but the reasons for non-popularity is the design complexity, cost of machines, and operational charges in terms of power tariff. In this paper, a semi-automated floor cleaning machine is proposed. This is capable of cleaning floor effectively in dry as well as wet cleaning tasks. This floor cleaning machine is designed by keeping the basic considerations for reduction in cost and efforts while being environmentally friendly and easy to handle.

**Keywords:** Arduino Uno, Ultrasonic Sensor, L293D Motor Driver IC, LCD Display, Lead Acid Battery.

## I. INTRODUCTION

Cleaning is important work approximate every place. Sometimes this is easy and sometimes difficult. Sometimes we assigned people for purpose of cleaning and pay money and sometimes cleaning is required in areas where presence of living being dangerous so we cannot assign living being in every place. Some places are so that have a large floor area in that place for

cleaning purpose we need more than one person so we required some technique to compensate these problems. Automation is a great solution of this problem. So, we make an autonomous floor cleaning robot. Ultrasonic sensor is the most important component for autonomous floor cleaning robot because ultrasonic sensor works as eyes of robot. Ultrasonic sensor useful for turning of robot by sensing the obstacle or wall. Sensing distance range set by programming. In this range robot sense the obstacle and turn back, cleaning reason we need more than one individual so we required some method to repay these issues. In headway of science a robot come in light however it works by a faculty. To keep away from this limit of faculty we require more innovations. Computerization is an extraordinary arrangement of this issue. So, we make a self-governing floor cleaning robot that worked by web of things and Arduino programming. Families of today are getting more astute and furthermore more mechanized. Home robotization conveys accommodation and makes more opportunity for individuals. Homegrown robots are entering the homes and individuals' everyday lives, yet it is yet a moderately new and juvenile market. Be that as it may, a development is anticipated and reception of homegrown robots is advancing. Reason for this undertaking is plan and actualize a floor cleaner Robot Autonomous. Cleaner Robot is intended to cause cleaning cycle to become simpler as opposed to by utilizing manual vacuum. The primary target of this undertaking is to plan and execute a robot model by utilizing Arduino Uno, engine driver and to accomplish the objective of this venture. Robot will have a few measures that are easy to use. Fully automatic and Semi-Automatic machines available in the market are of high ranges and high weights. So, keeping the focus on weight as well as cost, they are not affordable to all such as organization committee of hotels, hospitals, hostels. Hence, there is need to design and develop a



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# Sign Language Detection for Dumb People Using Image Processing

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## ABSTRACT

One of the major Drawbacks of our society is the barrier that is created between disabled or handicapped persons and the normal person. Communication is the only medium by which we can share our thoughts or convey the message but for a person with disability (deaf and dumb) faces difficulty in communication with normal person. For many deaf and dumb people, sign language is the basic means of communication. Sign language recognition (SLR) aims to interpret sign languages automatically by a computer in order to help the deaf communicate with hearing society conveniently. Our aim is to design a system to help the person who trained the hearing impaired to communicate with the rest of the world using sign language or hand gesture recognition techniques. In this system, feature detection and feature extraction of hand gesture is done with the help of SURF algorithm using image processing. All this work is done using MATLAB software. With the help of this algorithm, a person can easily train a deaf and dumb.

**Keywords:** Efficient and Fast Algorithm, Boundarytracing, Finger-tip detection.

## INTRODUCTION

Gestures are expressive, meaningful body motions involving physical movements of the fingers, hands, arms, head, face, or body. They can broadly be of the following types: Hand and Arm gestures: Recognition of hand poses, sign languages, and entertainment applications (allowing children to play and interact in virtual environments). Head and Face gestures: Some examples are nodding or shaking of head, direction of eye gaze, raising the eyebrows, opening the mouth to speak, winking, flaring the nostrils and looks of surprise, happiness, disgust, fear, anger, sadness, contempt, etc.; Body gestures: Involvement of full body motion, as in tracking movements of two people interacting outdoors, analyzing movements of a dancer for generating matching music and graphics and recognizing human gaits for medical rehabilitation and athletic training.

Sign Language is the means of communication among the deaf and mute community. Sign Language emerges and evolves naturally within hearing impaired community. Sign Language communication involves manual and non-manual signals where manual signs involve fingers, hands, arms and non-manual signs involve face, head, eyes and body. Sign Language is a well-structured language with a phonology, morphology, syntax and grammar. Sign language is a complete natural language that uses different ways of expression for communication in everyday life. Sign Language recognition system transfers the communication from human-human to human-computer interaction. The aim of the sign language recognition system is to present an efficient and accurate mechanism to transcribe text or speech, thus the "dialog communication" between the deaf and hearing person will be smooth.

There is no standardized sign language for all deaf people across the world. However, sign languages are not universal, as with spoken languages, these differ from region to region. A person who can talk and hear properly (normal person) cannot communicate with deaf & dumb person unless he/she is familiar with sign language. Same case is applicable when a deaf & dumb person wants to communicate with a normal person or blind person. So, there are two main approaches used in the sign language recognition that is Sensor based and Vision based Approach. Vision Based Approach: In this approach camera takes the image of gesture, extract the main feature and recognizes it. Initially colour bands were used. The main disadvantage of this method was the standard colour should be used on the finger tips. Then use of bare hands preferred rather than the colour bands.



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## Deep Learning Based Prediction Framework of User specific Mobility Patterns

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**Abstract:** Expanding unavoidable use of advanced cells and area based administrations around the globe has added to tremendous and quick development in versatility information. For the most part, the forecast objective fluctuates from various application situations. For the applications including asset designation and portability the executives, it is fundamental to anticipate the places of versatile clients sooner rather than later from many seconds to a couple of moments in order to make readiness ahead of time, which is really a direction forecast issue. In this paper, with the specific spotlight on multi-client multi-step direction forecast, we first plan a fundamental profound learning-based expectation system where the Long Short-Term Memory (LSTM) arrange is legitimately applied as the most basic part to take in client explicit versatility design from the client's recorded directions and foresee his/her development patterns later on. Spurred by the related discoveries in the wake of affirming and breaking down this essential structure on a model-based dataset, we extend it to a locale situated forecast conspire.

**Index Terms-**Trajectory Prediction, Multi-Step Prediction, Long Short-Term Memory, Sequence-to-Sequence, Machine Learning.

### 1. INTRODUCTION

Expanding unavoidable utilization of PDAs and territory based organizations around the world has added to tremendous and quick advancement in compactness data. The colossal size of convey ability data gives new opportunities to finding the properties of human flexibility models and making adaptability estimates. In every practical sense, human convenience desire is basic in a wide extent of present day applications, going from modified proposition systems to transportation, urban orchestrating, and adaptability the board in the flexible correspondence structure. All around, the desire objective vacillates from different application circumstances. For the case of trades, it is fundamental to predict the spots of versatile customers soon from numerous seconds to a few minutes so as to prepare for convey ability the board and resource task. It is actually a course gauge issue where the bearing implies a period plan of positions with a fixed analyzing time stretch between each other. The specialists has proposed various versatility figure methodology, for example, visit plans mining, Markov-based models and other AI techniques, the vast majority of these methodologies are given to a discrete area desire which is really a multi-gathering issue, and not reasonable for foreseeing headings with fixed investigating time ranges. The reasons are as indicated by the going with. On one hand, for direction made out of discrete zone records, zones may save same for a couple back to back time-steps when the evaluating time stretch is essentially nothing, while zones may have a change between two near to time-steps when the seeing time go is gigantic. In this manner, they can barely reflect client improvement slants successfully. Obviously, for headings made out of a constant area brains, it is difficult to show the discretization granularity focal points to reflect client progression plans. Regardless, the gauge exactness may decrease with growing number of contender regions under high discretization granularity. In order to avoid the above issues, this paper embraces broad assessment for the procedures to envision headings made out of consistent bearings. Since it is actually a period course of action backslide desire issue, customary backslide counts, for instance, direct backslide and support vector backslide (SVR) are up-and-comer plans. What's more, autoregressive fused moving typical (ARIMA) is another backslide figuring. It is dedicated to taking care of gauge issues for long time game plan made out of numerical data with sum relationship, for instance, stock desire and traffic figure. In any case, the adaptability direction are consistently short groupings made out of two dimensional headings reflecting geographic zones, making ARIMA conceivably not adroit to the course want issue. Luckily, inside the structure of noteworthy learning, the Recurrent Neural Network (RNN) has demonstrated its inescapability in different time course of action issuer not just in typical language arranging field (for example machine understanding, talk attestation) yet similarly some different fields (for example traffic want precipitation figure). As such, as the improved changes of regular RNN, Long Term Short Term Memory (LSTM) and Gatz Recurrent Unit (GRU) are promising means the heading figure issue. Profiting by the most recent progression in noteworthy learning, this paper makes a wicked good assessment of the course want issue from both the single-client point of view and multiuser viewpoint. The significant obligations of this paper can be summed up as follows: We propose a LSTM-based single-client want structure and assess its introduction on a model-based dataset. Exploratory outcomes show the limit of LSTM to anticipate client's mobility dependent on pre-learning of the client's versatility structures. We additionally face up to three difficulties (e.g., helpless hypothesis limit, disturbing screw up arrangement influence) of this client express want structure. To overcome to these difficulties, we further relax up the customer unequivocal want plan to a locale arranged check plan and set forth a multi-client multi-step bearing want structure subject to the



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## A New SLM-PTS Based Peak to Average Power Reduction in OFDM Systems

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### ABSTRACT

Orthogonal Frequency Division Multiplexing (OFDM) is considered to be a promising technique for high data rate wireless communications. However, OFDM faces the Peak-to-Average Power Ratio (PAPR) problem that is a major drawback of multicarrier transmission system which leads to power inefficiency of high power amplifier (HPA) and it also demands the large dynamic range digital to analog converter (DAC) at the transmitter. This paper present different PAPR reduction techniques with conventional hybrid SLMPTS technique and concludes with an overall comparison of these techniques. Simulation shows that the PAPR problem reduced as the route number increases. The PAPR reduction capability of those techniques is demonstrated by presenting simulation results of PAPR.

Keywords: PAPR Reduction technique, SLM, PTS OFDM System.

### 1 INTRODUCTION

High data-rate is desirable in many recent wireless multimedia applications. Traditional single carrier modulation techniques can achieve only limited data rates due to the restrictions imposed by the multipath effect of wireless channel and the receiver complexity. In single carriers systems, as the data-rate in communication system increases, the symbol duration gets reduced. Therefore, the communication systems using single carrier modulation suffer from severe inter-symbol interference (ISI) caused by dispersive-channel impulse response, and thereby need a complex equalization scheme. Orthogonal Frequency Division Multiplexing (OFDM) is a potential candidate to fulfil the requirements of current and next generation wireless communication systems.

OFDM is a multi carrier modulation technique which has been recently widely used in different communication systems especially the ones with high data rates. OFDM has become so popular nowadays due to its flexible and efficient management of inter- symbol interference (ISI). In addition, OFDM offers high spectral efficiency as a result of multicarrier orthogonality aspect. Such system aspects would improve overall system performance and communication link quality. However, OFDM has a major drawback which is the high PAPR. Having a system with high PAPR will force the power amplifier to work in the non-linear region where the power conversion is inefficient which affects, consequently, the battery life in the mobile communications devices. This inefficient power conversion causes power growth as well resulting in even higher amplitude peaks. Since the impact of high PAPR is severe on the system performance, many literatures have been published to focus on developing modified algorithms





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## Lora Based wireless weather station with web-server

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**ABSTRACT:** This study develops a prototype of a weather station with LoRa wireless infrastructure. LoRa is a wireless connectivity technology supporting the internet of things (IoT) system. This technology is an alternative to other wireless connectivity modules that have already been popular such as GSM modules, Wifi Modules and Bluetooth (BLE). The use of the LoRa network serves to increase the range of wireless cells that can reach distances of up to 5 kilometers while still having low power consumption. Weather parameters measured include temperature, humidity, air pressure, rain detection and soil moisture. The prototype consists of Arduino nano & ESP32 Wifi module. We use the sensors like BME280 Barometric pressure BH1750 light sensor, Rainsensor, Soil moisture sensor with motor pump. By using the LoRa Module SX1278/RFM95 can monitor the data from a few kilometer distance. The gateway placed indoors, inside the house or can be placed at a certain height to achieve a long distance. The gateway is made using LoRa SX1278/RFM95 and ESP32 wifi module. The receiver collects the data from the sensor or sensor Node and uploads it to the server.

**KEYWORDS:** haar Cascade Classifier, LBPH algorithm

### I. INTRODUCTION

Weather is related to the conditions of temperature, humidity and wind in a place for a certain period. The weather is generally always changing. Sometimes there is a dry season, rain, until snowfalls. The weather is generally influenced by three elements namely the sun, water, and wind. Sunlight produces energy that can control the water cycle. The

wind carries clouds that contain water vapor moving towards places with lower air pressure. The air and clouds shrink to become heavier and fall to the ground so that it rains. Weather conditions are very influential in human activity so it is very necessary to measure weather conditions in real-time. The weather data will be used for weather prediction and agricultural planning, health, tourism, and so on. In the process of weather observation, a set of instruments is needed to be placed in a certain location to represent the environmental conditions of the surrounding area. A weather station is a set of tools used to observe conditions or changes in weather, climate, and atmosphere in an area and record it in the form of data. After being recorded, the data is stored in a data logger and subsequently to be studied by users or researchers. An automatic weather station is an instrument that measures and records meteorological parameters using sensors. This sensor serves as a measuring tool to measure any changes in the weather. After the measurement data from the weather station is collected, the process can be carried out locally at the location of the weather station or the data can also be collected at the acquisition data center unit, which later the data collected is automatically forwarded to the data processing center and then processed as needed.

### II. Working Principle:

Weather Monitoring Systems are used to monitor the continuously changing climatic conditions. The data gathered by such devices is used to forecast weather as well as keep a log of the environmental changes at a place. Such data is extremely useful in the study of



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# Non-Functional Characteristics and Non-Functional Testing of Container Applications

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**Abstract** - Container applications are complex in nature as they are a collection of micro-services running in sync to achieve the application's desired functionality. This application build structure makes the Non-Functional characteristics of the container applications more relevant and a focus area of testing for the application. In this paper, the authors have tried to investigate all the possible non-functional areas of container-based application. The paper further delves into the nuances of non-functional testing in general which would become an integral part of the Non-Functional Testing (NFT) of container-based applications.

**Key Words:** Containers, Non-Functional Characteristics, Testing, Non-Functional Testing (NFT)

## I. INTRODUCTION

Application development has now been transitioning to container-based architecture from Virtual Machines. This is because of several advantages that a container brings in comparison to a virtual machine [1]. This transition is taking at a fast pace and the architectural change is phenomenal, which brings to the fore the overall applications behavior apart from just the functional part. The functional part of any applications remains constant on any architecture be it traditional hardware, cloud, virtualization or containers. What changes with change in architecture is the surrounding environment, infrastructure etc. and the characteristic these changes makes an impact on, is termed and categorized as Non-functional aspect of application. This change makes it imperative on part of the software or application developers to have extra focus on Non-Functional testing of the container-based applications.

Functional testing of any application refers to the feature set of the application that it intends to provide to the end user of the application. Irrespective of the platform, environment or other external variables, these feature sets or the functional part of the application remains constant. To illustrate it with an example, a railway reservation application's primary functionality of booking tickets remains constant irrespective of whether the application is mobile, cloud or traditional. This stands true for all applications and thus the intended functionality is always rigorously tested and it is a continuous process where even after the application is in production we see number of new releases which could include patches to fix existing bugs application supporting new functionality.

Non-Functional testing of any application encapsulates several external and behavioural parameters and traits of an application. Contrary to Functional behaviour, non-functional behaviour of an application fluctuates and changes depending upon the platform, environment and other external variables around which the application is built upon. Taking similar example of the railway reservation application, the non-functional behaviour is bound to change based on the surrounding eco-system it is built upon.

## II. RELATED WORK

### I.1 Containers

Containers are referred to as packaging units of applications that are built using the concepts of micro-services. Container can also be related to virtualization which extends the concept of virtualization to OS level whereas normal virtualization aims at virtualizing hardware resources. Several characteristic and definition of container along with difference between containers and VM are elaborately define in [1].

### I.2 Application Testing

Application testing is an integral part of any software or application. Without proper and complete application testing it cannot be made live or deployed for production. Broadly application testing can be categorized in two different branches of Functional testing, where the functionality of the application is tested thoroughly and the other being non-functional testing, where the application is put under test because of the surrounding environment and its behavior with respect to changes in these characteristics.

### I.3 Non-Functional Testing

Non-Functional Testing (NFT) is a collective term given to test various non-function traits and parameters of any application. In [3], the author of the article has very effectively and in detail, defined various non-functional testing methodology to test these attributes compared to functional testing and the importance of Non-functional testing.



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## Prediction of Parkinson's Disease and It's Stages

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**Abstract:** Parkinson's disease is a progressive disorder of the central nervous system affecting movement and inducing tremors and stiffness. It has 5 stages to it and affects more than 1 million individuals every year in India. It is a neurodegenerative disorder affecting dopamine-producing neurons in the brain. Parkinson's disease (PD) belongs to the group of neurological disorder, which directly affect the brain cells and the effect is shown in terms of movement, voice and other cognitive disabilities. With advancements in technology and the prevalence of audio collecting devices in daily lives, reliable models that can translate this audio data into a diagnostic tool for healthcare professionals would potentially provide diagnoses that are cheaper and more accurate. We provide evidence to validate this concept here using a voice dataset collected from people with and without PD. We can build a model to more accurately detect the presence of Parkinson's disease in an individual using a Machine Learning algorithm known as XGBoost. This analysis will help the clinicians to differentiate the PD group from healthy group based on the voice data and other clinical data more accurately and easily.

**Keywords:** Parkinson disease, machine learning, PD Dataset, Extreme Gradient Boosting, Prediction of stage of the disease, k-fold cross validation.

### I. INTRODUCTION

Parkinson's Disease (PD) is a progressive neurodegenerative movement disease which is mainly caused due to the Loss of dopamine-producing neurons results in a range of both motor and non-motor symptoms. This is chronic and has no cure yet. However there is currently no definitive test for PD by non-specialist clinicians, especially in the early disease stages where the symptoms may be subtle and poorly characterised. This results in a high misdiagnosis rate (up to 25% by non-specialists) and people can have the disease for many years before diagnosis. A methodology is used to classify the subject's disease status, by utilising a combination of many voice features which were analysed by an ensemble of machine learning classification models. The algorithm that is useful for this purpose is XGBoost which stands for Extreme Gradient Boosting, it is based on decision trees. The main objective of this project is to help Doctors in predicting the presence of Parkinson's disease in a patient, in a easier and accurate way. With the help of this system, we can reduce the number of misdiagnoses of Parkinson's disease. Through early prediction of this diseases, we can help the patients get a better treatment right from the earlier stages. Prediction of the stage in which the Parkinson's patient is in, will help the Doctor treat the patients with accurate dosage of medicines. This disease needs to be predicted in a earlier stage itself, the earlier it is found out, the longer the patient will live with the help of proper medications.

### II. EXISTING SYSTEM

The existing system uses Machine learning and deep learning algorithms like Random Forest, SVM(Support Vector Machine) and Artificial Neural Network to perform classification on the model which tend to be slow when compared to the proposed system. The Classification Algorithms from Machine Learning and Deep Learning are used to Predict and Investigate The Parkinson's Disease. The Ideal Features from the Dataset are passed as input to the Models and the Prediction Results are Obtained. The Prediction Performance can be Validated from the Accuracy Obtained through the Classification Algorithm. The Determination of Parkinson's Disease Has Progressively Enhanced the Accuracy Parameter through the Various Algorithms. The Existing system is said to provide lesser accuracy than the Proposed system. The existing system only predicts if the subject is said to be affected by Parkinson's disease or not.



## Effective Use of Cyber Space and Cyber Technology to Prevent Violence and Trafficking Against Women and Children

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**Abstract:** As a side effect of increasingly popular social media, cyber bullying has emerged as a serious problem afflicting children, adolescents and young adults. Machine learning techniques make automatic detection of bullying messages in social media possible, and this could help to construct a healthy and safe social media environment. In this project, we propose a new representation learning method to tackle this problem. Our method named Semantic-Enhanced Marginalized Stacked Denoising Auto-Encoder (SMSDA) is developed via semantic extension of the popular deep learning model stacked denoising auto encoder. The semantic extension consists of semantic dropout noise and sparsity constraints, where the semantic dropout noise is designed based on domain knowledge and the word embedding technique. Our proposed method is able to exploit the hidden feature structure of bullying information and learn a robust and discriminative representation of text.

### INTRODUCTION

Social media, as defined as "a group of Internet based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." Via social media, people can enjoy enormous information, convenient communication experience and so on. However, social media may have some side effects such as cyber bullying, which may have negative impacts on the life of people, especially children and teenagers. Cyber bullying can be defined as aggressive, intentional actions performed by an individual or a group of people via digital communication methods such as sending messages and posting comments against a victim. Different from traditional bullying that usually occurs at school during face-face communication, cyber bullying on social media can take place anywhere at any time. For bullies, they are free to hurt their peers' feelings because they do not need to face someone and can hide behind the Internet. For victims, they are easily exposed to harassment since all of us, especially youth, are constantly connected to Internet or social media. As reported, cyber bullying victimization rate ranges from 10% to 40%. In the United States, approximately 43% of teenagers were ever bullied on social media. The same as traditional bullying, cyber bullying has negative, vicious and sweeping impacts on children. The outcomes for victims under cyber bullying may even be tragic such as the occurrence of self-injurious or suicides.

Cyber bullying detection can be formulated as a supervised learning problem. A classifier is first trained on a cyber bullying corpus labeled by humans, and the learned classifier is then used to recognize a bullying message. Three kinds of information including text, user demography, and social network features are often used in cyber bullying detection. Since the text content is the most reliable, our work here focuses on text-based cyber bullying detection. In the text-based cyber bullying detection, the first and also critical step is the numerical representation learning for text messages. In fact, representation learning of text is extensively studied in text mining, information retrieval and natural language processing (NLP). Bag-of-words (BOW) model is one commonly used model that each dimension corresponds to a term. Latent Semantic Analysis (LSA) and topic models are another popular text representation models, which are both based on BOW models. By mapping text units into fixed-length vectors, the learned representation can be further processed for numerical. 2 behind text units. In cyber bullying detection, the numerical representation for Internet messages should be robust and discriminative.







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# Heart disease prediction using hybrid fuzzy K-medoids attribute weighting method with DBN-KELM based regression model

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## ARTICLE INFO

### Keywords

Heart disease  
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Deep belief network  
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## ABSTRACT

Automated prediction can be offered for further treatment to make effective and relieve the difficulties in the diagnosis of heart condition of patient. In this paper, a hybrid method is proposed combining FKMFW and DBNKELM based ensemble method to enhance medical diagnosis process. Firstly, the input attributes are weighed using a fuzzy k-medoids clustering based attribute weighting (FKMAFW) method. Subsequently, the medical data classification performance is improved by applying the weighing method and the linearly separable dataset is obtained with the transformation of non-linearly separable dataset. With the weighted attributes, a regression model based heart disease prediction scheme is proposed combining Deep belief Network and Extreme learning machine (DBNKELM), in which Extreme learning machine is the top layer of the deep belief network to work as a regression model. The results demonstrate that FKMFW + DBNKELM achieved good performance in rectifying the problems in medical data classification for all the six datasets.

## Introduction

In medical applications, the research on computerized intelligent system has played a significant and exciting role. Usually, the confirmed diagnostic report and symptoms of patients are considered by a physician. Based on a physician's experience, the diagnostic accuracy of a patient can be determined [1]. However, maintaining up-to-date information about the progression of clinical practices by a physician is a hard and challenging task due to the advanced research growth in treatment therapy and medical knowledge (i.e. current accessibility of new drugs in market and evolution of new diseases). Furthermore, large number of information can be stored and acquired easily with the arrival of advanced computing technologies [2,3,21].

Prior to the development and deployment of medical decision support system, it is more significant to overcome various difficult hurdles. Thereby, this system can acquire the ability to withstand imprecision and uncertainty during decision making process [4]. By the fact, the experience and knowledge of medical experts is highly required for the diagnosis and assessment of patient's conditions. Medical practitioners in their working environment has exploited the computerized intelligent systems using advanced machine learning methods [5-8] for the improvement of decision making process in different fields

(example, X-ray photography and surgical imagery [9]). A physician has used his earlier experience or knowledge to identify the root cause of a disease before starting the treatment for a patient. Followed by this, various tests were performed by the physician to confirm the diagnosis. Furthermore, the informed decision can be arrived quickly through assisting the physician using computerized intelligent systems. Example for this is, the currently admitted patient is diagnosed by ensuring correct justifications and using electronic patients records included large database to learn all the same past cases. The main benefit found with the application of this intelligent systems are, the patient can be treated with reduced time and cost at the same time achieving increased diagnosis accuracy [10].

According to CDC's report, the present world has shown consistent statistical death rate with heart disease. The patients suffering from various kinds of heart disease can be saved by providing correct diagnosis decision, hence, this decision can be followed to offer an immediate and accurate treatment for the patients. As a whole, the accurate heart disease diagnosis turns to be a tedious and cumbersome task due to certain delay in treatment process caused with many factors [11]. For example, various syndromes will be exhibited very often by the heart diseases; but, the other human organs different from heart has also shown some pathological heart diseases manifestations, the

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*Preserving mobile commerce IoT data  
using light weight SIMON block cipher  
cryptographic paradigm*

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C. Anna Palagan, Kumaresan  
Chandrasekaran & N. Vadivelan

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# Efficient Road Side Framework Placement using VANET for Reducing Network Delays

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## ABSTRACT

The Road Side Unit (RSU) is a transmitter, it is facilitate along with route to us for communication between network surface and vehicles. The RSU is one of the components of VANET (vehicular ad hoc network). In this research paper mainly focused on problem of placement of RSU on road side like highway and also avoids the network delay along with efficient network. For this problem the proposed ERSF (Efficient Road Side Framework) avoid the network delays with help of number linear conceptual model along with optimization network delay and under consideration of network. The ERSF framework has been tested that performance using metrics of Generating Traffic Mobility Patterns (GTMP) by VanetMobiSim. The experimental results comparisons has been shows standard distribution and cost effective reduction is 23% and the network delay is 9% respectively and these results are gives clear definition of efficiency of ERSF solutions.

**KEY WORDS:** GTMP, RSU, ERSF, VANETMOBISIM, NETWORK DELAYS, ROAD SIDE UNIT.

## INTRODUCTION

Now a day the emerging network (technology for Ad-Hoc Network is Vehicular Ad Hoc Network (VANET), that is allows the methods of ITS (Intelligent Transportation System) techniques for making an efficient networking systems for between network surface and vehicles in road infrastructure through Vehicular Ad Hoc Network. The

VANET facilitate vehicles interactive with every other network in real unit and get efficient internet on the moving state.

**The VANET is a part of Mobile Ad-hoc Networks;** these VANET and MANET is self organized, independent and focused for the sharing manner along with self organized authentication Ranjan Srinapati B et al., (2020) With help of Dedicated Short Range Communication (DSRC) the VANET has gives wireless link for communication for roaming vehicles Babu Ram and Neelendra Badal (2019) along with the standard of IEEE 802.11a Malhi et al., (2019). In VANET changes sequence is very problem in traffic network. Because of high portability the topology. Besides, long range Interaction, the serious issues is inaccessibility of RSU within certain regions which brings about separation and undesirable network late.

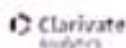
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# WEBIFY: A Cost-Effective System for Controlling of Devices

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## Abstract

Now a day, the Internet becomes a public, independent facility accessible to hundreds of millions of people all over the world. Internet not only helps us communicate with the peoples but also help us to communicate with the devices around us by means of controlling them, which is the core idea behind IoT (Internet of Things). The idea used is port forwarding and local tunneling which provides the capability to the IoT device to connect online without any Internet drivers connected directly with the device. This simple alternative will save several thousands of amounts for large enterprises that are investing in IoT because the core of IoT (connection through internet) becomes simplified.

**Keywords:** Port forwarding, Local tunneling, Internet of Things, Tunneling Protocol

## 1. Introduction

Internet of Things represents a thought wherein any device that might be related to the web can be in association with appreciating the contraptions inside the environmental factors circular us. At that point, the data is recovered from the cloud and it is shared inside the Internet, in which it can be utilized for different abilities. At present, the useful information can be traded a couple of the individuals at some phase in wherever in the worldwide. To a degree of this idea, presently a-days as innovation is developing each day it's for conceivable to make greater the idea of supplanting the data with the assistance of gadgets the utilization of sensors in the area of human inclusion. To be more clear say for an occurrence Assume you have were given long protracted long past to abroad for a top-notch journey and you have to hold melody of your property. The technique of this issue can be done through the thought of IoT. The arrangement is if you reestablish sensor on any gadget in your private home, which might be reached from anywhere now you have were given the suppleness to keep up locking your own home notwithstanding control the one's contraptions as masses as the greatest sum. Accordingly, you can make your private home extra

comfortable now than embracing each other present way to deal with comfortable your home. The state of IoT is spoken to in figure 1.

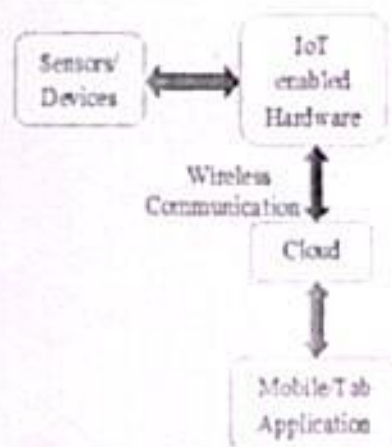


Figure 1: Basic IoT Architecture



items that can be detected or gotten  
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# Data Dimensionality Reduction Techniques : Review

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**Abstract**— Data science is the study of data. It involves developing methods of recording, storing, and analyzing data to effectively extract useful information. The goal of data science is to gain insights and knowledge from any type of data — both structured and unstructured.

Data science is related to computer science, but is a separate field. Computer science involves creating programs and algorithms to record and process data, while data science covers any type of data analysis, which may or may not use computers. Data science is more closely related to the mathematics field of Statistics, which includes the collection, organization, analysis, and presentation of data.

Because of the large amounts of data modern companies and organizations maintain, data science has become an integral part of IT. For example, a company that has petabytes of user data may use data science to develop effective ways to store, manage, and analyze the data. The company may use the scientific method to run tests and extract results that can provide meaningful insights about their users.

**Keywords**—data science, data, machine learning algorithms, reduction techniques, storage.

## I. INTRODUCTION

Data Science is a more forward-looking approach, an exploratory way with the focus on analyzing the past or current data and predicting the future outcomes with the aim of making informed decisions. It answers the open-ended questions as to "what" and "how" events occur.

Category	Details
DATA TYPES	Both Structured and Unstructured
Data SOURCES	Cloud, cloud data, SQL, NoSQL, IoT
Approach	Statistics, Machine Learning, Graph Analysis, Neural Networks, Deep Learning (NLP)

Focus	Present and Future
Tools	RapidMiner, BigML, Weka, R

Table 1: Features of Data Science

A common mistake made in Data Science projects is rushing into data collection and analysis, without understanding the requirements or even framing the business problem properly. Therefore, it is very important for you to follow all the phases throughout the lifecycle of Data Science to ensure the smooth functioning of the project.

Here is a brief overview of the main phases of the Data Science Lifecycle:



Fig 1: Life Cycle of Data Science

Figure 2 shows a comprehensive reference architecture consisting of an importer, an exporter, a data storage and access layer, a text mining engine, and a user interface. Based on the reference architecture we developed a collaborative web application with a Java back-end. As web application framework PlayJ was used and



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# Significance of Cyber Security in Data Mining

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**Abstract**— Now a days Data mining is turning into a extensive technology in activities as various as mistreatment of historical information to predict the success of a promoting campaign searching for patterns in money transactions to find illegal activities or analyzing ordination sequences From this point of view it is simply a matter of your time for the discipline to succeed in the necessary space of Computer security This book presents a set of analysis efforts on the employment of information mining in laptop security.

## I. INTRODUCTION

Data mining could be a well-liked technological innovation that converts bundles of knowledge of information into helpful knowledge which will facilitate the information owners/users build wise decisions and take sensible actions for his or her own profit. In specific terms, data processing appearance for hidden patterns among st huge sets of information which will facilitate to grasp, predict, and guide future behavior. A a lot of technical explanation: data processing is that the set of methodologies utilized in analyzing information from numerous dimensions and views, finding antecedent unknown hidden patterns, classifying and grouping the information and summarizing the known relationships. data processing is, at its core, pattern finding, information miners or consultants at victimization specialized code to seek out regularities (and irregularities) in giant information sets. Here are a number of specific things that data processing would possibly contribute to associate intrusion detection project:

Remove traditional activity from alarm knowledge to permit analysts to specialize in real attacks Locate alarm that are false and sensor signatures that are bad Search For anomalous activity that uncovers the real attack Check For long, ongoing patterns of different IP address and same activity Data Miners will use one or more techniques to accomplish the task the following tasks are:

**task1:** The act of Showing data in a graphical summary

**task2:** Clustering the data into natural categories [Man-ganaris et al., 2000]

**task3:** process traditional activity and sanctionative the in-vention of anomalies [Clifton and Gengo, 2000; Barbara et al., 2001]

**task4:** predicting the class to that a selected record be-ongs [Lee and Stolfo, 1998] Data mining has several applications in security as well as in

national secu-ry (e.g., surveillance) furthermore as in cyber security (e.g., virus detection). The threats to national security embrace assaultive buildings and destroying essential infrastructures like power grids and telecommunication systems. data processing techniques are getting used to spot suspicious people and teams, and to find that people and teams ar capable of effecting terrorist activities. Cyber security is concerned with protective laptop and network systems from corruption thanks to malicious computer code as well as Trojan horses and viruses. data processing is additionally being applied to produce solutions like intrusion detection and auditing. during this paper we are going to focus chiefly on data processing for cyber security applications. data processing for cyber security applications as an example, anomaly observation techniques can be accustomed detect uncommon patterns and behaviors. Link analysis could also be accustomed trace the viruses to the perpetrators. Classification could also be accustomed cluster numerous cyber-attacks then use the profiles to observe associate degree attack once it happens. Prediction could also be accustomed confirm potential future attacks relying in a very manner on info learnt regarding terrorists through email and phone conversations. data processing is additionally being ap-plied for intrusion detection and auditing the traditional approach to securing laptop systems against cyber threats is to style mechanisms like firewalls, authentication tools, and virtual personal networks that make a protecting defend. However, these mechanisms nearly always have vulnerabilities. they can not ward attacks that area unit frequently being tailored to use system weaknesses, that area unit usually caused by careless style and implementation flaws. This has created the requirement for intra-sion detection, security technology that enhances typical security approaches by observance systems and character-istic laptop attacks. ancient intrusion detection strategies area unit supported human consultants intensive information of attack signatures that area unit character strings in a very messages payload that indicate malicious content. Signatures have many limitations. they can not observe novel attacks, as a result of somebody should manually revise the signature info beforehand for every new kind of intrusion discovered. Once somebody discovers a brand new attack and develops its signature, deploying that signature is commonly delayed. The have crystal rectifier to associate interest in intrusion detection data processing



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## Social Distance Detection For Covid - 19 Using Deep Learning

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### Abstract:

The rampant coronavirus disease 2019 (COVID-19) has brought global crisis with its deadly spread to more than 180 countries, and about 3,519,901 confirmed cases along with 247,630 deaths globally as on May 4, 2020. The absence of any active therapeutic agents and the lack of immunity against COVID19 increases the vulnerability of the population. Since there are no vaccines available, social distancing is the only feasible approach to fight against this pandemic. Motivated by this notion, this article proposes a deep learning based framework for automating the task of monitoring social distancing using surveillance video. The proposed framework utilizes the YOLO v3 object detection model to segregate humans from the background and Deepsort approach to track the identified people with the help of bounding boxes and assigned IDs. The results of the YOLO v3 model are further compared with other popular state-of-the-art models, e.g. faster region-based CNN (convolution neural network) and single shot detector (SSD) in terms of mean average precision (mAP), frames per second (FPS) and loss values defined by object classification and localization. Later, the pairwise vectorized L2 norm is computed based on the three-dimensional feature space obtained by using the centroid coordinates and dimensions of the bounding box. The violation index term is proposed to quantize the non adoption of social distancing protocol. From the experimental analysis, it is observed that the YOLO v3 with Deepsort tracking scheme displayed best results with balanced mAP and FPS score to monitor the social distancing in real-time.



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## Brain Tumor Identification And Classification Using Conventional Neural Networks

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### Abstract:

Among brain tumors, gliomas are the most common and aggressive, leading to a very short life expectancy in their highest grade. Thus, treatment planning is a key stage to improve the quality of life of oncological patients. Magnetic resonance imaging (MRI) is a widely used imaging technique to assess these tumors, but the large amount of data produced by MRI prevents manual segmentation in a reasonable time, limiting the use of precise quantitative measurements in the clinical practice. So, automatic and reliable segmentation methods are required; however, the large spatial and structural variability among brain tumors make automatic segmentation a challenging problem. In this paper, we propose an automatic segmentation method based on Convolutional Neural Networks (CNN), exploring small 3\*3 kernels. The use of small kernels allows designing a deeper architecture, besides having a positive effect against over fitting, given the fewer number of weights in the network. We also investigated the use of intensity normalization as a pre-processing step, which though not common in CNN-based segmentation methods, proved together with data augmentation to be very effective for brain tumor segmentation in MRI images.

### I. Introduction

GLIOMAS are the brain tumors with the highest mortality rate and prevalence. These neoplasms can be graded into Low Grade Gliomas (LGG) and High Grade Gliomas (HGG), with the former being less aggressive and infiltrative than the latter.

Even under treatment, patients do not survive on average more than 14 months after diagnosis. Current treatments include surgery, chemotherapy, radiotherapy, or a combination of them. MRI is especially useful to assess gliomas in clinical practice, since it is possible to acquire MRI sequences providing complementary information. The



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## A Machine Learning Algorithm for vehicle Number Plate Recognition

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### ABSTRACT:

Identification of cars is a demanding function for surveillance and control systems. People can recognize automobiles through license plates which consist of alphabets and numbers. We can use the uniqueness of a combination of characters in license plates for many purposes. For example, an arrest of a suspect's vehicle, imposing parking violation fines, and entrance authentication are possible. However, it is a labor intensive job to identify all passing or parked vehicles' license plates. This paper presents a training based approach for the recognition of vehicle number plate. The whole process has been divided into three stages i.e. capturing the image, plate localization and recognition of digits over the plate. HOG features have been used for the training purpose and Support Vector Machine is employed for the classification purpose yielding in more than 99% accuracy while recognition. The algorithm has been tested over more than 100 images.

### I. INTRODUCTION

In recent years, license plate recognition (LPR) has become a core technology of security and traffic applications that range from traffic surveillance to parking lot access control to information management for monitoring purposes<sup>1</sup>. Simply stated, LPR helps identify vehicles and provides a reference for further vehicle tracking and activity analysis<sup>1</sup>.

Automatic license plate recognition (LPR) plays an important role in numerous applications such as unattended parking lots, security control of restricted area, traffic law enforcement, congestion pricing, and automatic toll collection<sup>2</sup>. Due to different working environments, LPR techniques vary from application to application. Most previous works have in some way restricted their working conditions, such as limiting them to indoor scenes, stationary backgrounds, fixed illumination, prescribed



## Crop Guidance and Farmers Friend.

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### Abstract:

Farm management system is to help farmers by providing all kinds of agricultural information. Farm management system helps farmers to give best practices of farming processes. It enables the farmers to sell their products through online. Hence, providing a wider market and helping them to not restrict themselves to local market. This enables wholesalers and retailers to expand their business. To develop a website for farming management system in which farmer can sell their products online. Hence, providing a wider market and helping them to not restrict themselves to local market. This enables wholesalers and retailers to expand their business. It provides all kinds of agricultural information.

### I. INTRODUCTION

Modifications to the Agriculture Produce Market Committee Acts have removed barriers to private participation and allowed trade outside regulated markets in the hope that it will help farmers and improve market infrastructure. But a key feature of regulated markets – the use of auctions to sell produce – has attracted relatively little attention. This paper argues that the auction mechanism is central to protecting farmers' interests in a given market, even in the presence of collusion

among some large buyers. More generally, it is a transparent mechanism of price discovery and sets a benchmark with which any new market set up by a private player has to compete, thus mitigating any adverse impact on prices received by farmers.

### II. PROBLEM STATEMENT

Before introducing this system farmers used to face lot of problems due to improper knowledge of price in the market. And also not able to sell there products with good price and



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## Cloud Storage Distributed Deduplication Mechanism For Privacy Protection

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### Abstract :

Data deduplication is a technique for eliminating duplicate copies of data, and has been widely used in cloud storage to reduce storage space and upload bandwidth. However, there is only one copy for each file stored in cloud even if such a file is owned by a huge number of users. As a result, deduplication system improves storage utilization while reducing reliability. Furthermore, the challenge of privacy for sensitive data also arises when they are outsourced by users to cloud. Aiming to address the above security challenges, this paper makes the first attempt to formalize the notion of distributed reliable deduplication system. We propose new distributed deduplication systems with higher reliability in which the data chunks are distributed across multiple cloud servers. The security requirements of data confidentiality and tag consistency are also achieved by introducing a deterministic secret sharing scheme in distributed storage systems, instead of using convergent encryption as in previous deduplication systems. Security analysis demonstrates that our deduplication systems are secure in terms of the definitions specified in the proposed security model. As a proof of concept, we implement the proposed systems and demonstrate that the incurred overhead is very limited in realistic environments

### 1. Introduction

With the explosive growth of digital data, deduplication techniques are widely employed to backup data and minimize network and storage overhead by detecting and eliminating redundancy among data. Instead of keeping multiple data copies with the same content, deduplication eliminates redundant data by keeping only one physical copy and referring other redundant data

that copy. Deduplication has received much attention from both academia and industry because it can greatly improve storage utilization and save storage space, especially for the applications with high deduplication ratio such as archival storage systems. A number of deduplication systems have been proposed based on various deduplication strategies such as client-side or server-side deduplication, file-level or block-level



# An Efficient Mechanism With ABT for keyword search in clouds

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## ABSTRACT

Attribute-based keyword search (ABKS), as an important type of searchable encryption, has been widely utilized for secure cloud storage. In a key-policy attribute-based temporary keyword search (KP-ABTKS) scheme, a private key is associated with an access policy that controls the search ability of the user, while a search token is associated with a time interval that controls the search time of the cloud server. However, after a careful study, we uncover that the only existing KP-ABTKS construction is not secure. Through two carefully designed attacks, we first show that the cloud server can search the ciphertext in any time. As a result, their scheme cannot support temporary keyword search. To address this problem, we present an enhanced KP-ABTKS scheme and prove that it is selectively secure against chosen-keyword attack in the random oracle model. The proposed scheme achieves both fine-grained search control and temporary keyword search simultaneously. In addition, the performance evaluation indicates that our scheme is practical.

## I. Introduction

cloud computing is an emerging Internet technique that provides massive computing and storage service for individuals and companies. As a significant application of cloud computing, cloud storage can efficiently reduce local storage costs and realize data sharing. Due to its cheapness and convenience, more and more data owners store

their sensitive data in the cloud. However, this cause huge concerns for the reveal of the sensitive data, because the data owners lose control over the local data when they outsource these data to the cloud. For example, personal health records (PHR), email data and financial documents stored in iCloud may be compromised by the attacks from the hacker and the legal pressure faced by the data owners. One method for protecting sensitive



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## VIDEO OBJECT FORGERY DETECTION USING SSIM

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### Abstract:

In recent years, with the development of computer multimedia technology, video forgery has become more and more common. For the video object forgery can cover up some key evidence and it is hard to identify by the experts, the forgery detection technology for this class had always been a research hotspot. However, researchers mostly pay attention to traditional methods such as image processing and classifiers and rarely combine deep learning theory to the research. This paper proposes a video intra-frame forgery forensics algorithm based on the SSIM (Structural Similarity Index), which can automatically detect video forgery frames. The algorithm first decompresses the video into a series of frames, calculates the motion residual map of each frame, and extracts the steganographic features. Then four different steganographic feature sample sets are used to construct as the training set and the test set to train and test model. The best-performing feature was selected by the comparison experiment. Finally, the forged frame was marked from the forgery video successfully. A series of experiments show that the proposed algorithm can automatically identify original or forgery frames in forgery video.

### I. Introduction:

With the development of computer multimedia technology, digital video has become the main form of network with its intuitive, convenient and informative information content. It has also become critical evidence of news, politics, insurance claims, defense, legal trial, and many other

important matters. However, due to the widespread use of powerful multimedia editing tools, some non-professionals can easily modify video content, while experts are difficult to distinguish some fake videos between true and fake. These have led to doubts about the credibility of digital video content. Therefore, there is an urgent need



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# Weather Prediction Using Deep Learning Techniques

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## Abstract:

Extracting information related to weather and visual conditions at a given time and space is indispensable for scene awareness, which strongly impacts our behaviours, from simply walking in a city to riding a bike, driving a car, or autonomous driveassistance. Despite the significance of this subject, it is still not been fully addressed by the machine intelligence relying on deep learning and computer vision to detect the multi-labels of weather and visual conditions with a unified method that can be easily used for practice. What has been achieved to-date is rather sectorial models that address limited number of labels that do not cover the wide spectrum of weather and visual conditions. Nonetheless, weather and visual conditions are often addressed individually. In this paper, we introduce a novel framework to automatically extract this information from street-level images relying on deep learning and computer vision using a unified method without any pre-defined constraints in the processed images. A pipeline of four deep Convolutional Neural Network (CNN) models, so-called the WeatherNet, is trained, relying on residual learning using ResNet50 architecture, to extract various weather and visual conditions such as Dawn/dusk, day and night for time detection, and glare for lighting conditions, and clear, rainy, snowy, and foggy for weather conditions. The WeatherNet shows strong performance in extracting this information from user-defined images or video streams that can be used not limited to: autonomous vehicles and drive-assistance systems, tracking behaviours, safety-related research, or even for better understanding cities through images for policy-makers.

## I. Introduction

Cities are complex entities by nature due to the multiple, interconnected components of their systems. Features of the physical

environment extracted from images, or so-called urban scenes, have great potential for analysing and modelling cities because they can contain information on a range of



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# An Efficient Deep Learning Plagiarism Detection

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## Abstract:

Natural Language Sentence Matching (NLSM) is one of the important and challenging tasks in Natural Language Processing where the task is to identify if a sentence is a paraphrase of another sentence in a given pair of sentences. Paraphrase of a sentence conveys the same meaning but its structure and the sequence of words varies. It is a challenging task as it is difficult to infer the proper context about a sentence given its short length. Also, coming up with similarity metrics for the inferred context of a pair of sentences is not straightforward as well. Whereas, its applications are numerous. This work explores various machine learning algorithms to model the task and also applies different input encoding scheme. Specifically, we created the models using Logistic Regression, Support Vector Machines, and different architectures of Neural Networks. Among the compared models, as expected, Recurrent Neural Network (RNN) is best suited for our paraphrase identification task. Also, we propose that Plagiarism detection is one of the areas where Paraphrase Identification can be effectively implemented.

## I. Introduction:

Paraphrase identification is the task of identifying if a sentence is a paraphrase of another one. It is

one of the challenging tasks in Natural Language Processing. It requires representing a text in some form taking its context into consideration and formulating a





**AN ANALYSIS OF THE FINANCIAL LIFE INSURANCE STRATEGIES EMPLOYED BY  
SELECT TELANGANA COMMERCIAL BANKS**

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**Abstract:**

Insurance marketing is the practise of promoting insurance products and services with the overarching goal of increasing both customer satisfaction and financial gain. Marketers in the insurance industry strive to find the sweet spot between cost-effectiveness and growth for their clients. Creating a balanced distribution of core and auxiliary services helps improve service quality. The insurance industry's take on marketing focuses on growing the sector for the greater good rather than just the benefit of individual companies. However, the notion of marketing in the current corporate world relies on establishing responsibility for marketing's total success. Although the idea of marketing as value co-creation has been widely hailed, it may take some time for this perspective to become commonplace in the life insurance industry. Therefore, it is sense to think about some of the more traditional methods of promoting services. However, there are still certain things to think about when marketing services; much as the four "Ps" have supported traditional marketing, the eight "Ps" support financial services marketing (Lovelock 2001). This study aims to provide light on how SBI Life Insurance will respond to different promotional approaches in a certain geographic region. The All India Rural Credit Survey Committee proposed forming a state-partnered and state-sponsored bank via the acquisition of the Imperial Bank of India and the merger of the formerly state-owned or state-associate banks in order to better serve the economy and the rural sector. The Reserve Bank of India (RBI) gave the State Bank of India and its Associate Banks special status by designating them as RBI agents for handling Central and State Government business and for establishing currency chests to facilitate the efficient management of cash in India.

**Keywords:** Insurance, Financial, Profitable, and Liquidity.

**Introduction:**

Since India's independence, the banking sector has witnessed dramatic transformation. Banking reforms based on the Narasimhan Committee's recommendations came to fruition in the wake of liberalisation. 1 Today, financial institutions are primarily motivated by financial gain, and the government has sent strong signals that they must perform or face severe consequences. 2 Banks have begun to understand that their success is directly tied to the quality of service they provide to their clients, and this has prompted many of them to invest more resources on customer relations. The changing functional orientation of banks has led to a rethinking of banking's original purpose. The shifting demands of the market are the primary factor in this transformation. Customers in modern Indian cities no longer have patience for lengthy bank transactions that take up to several hours of their time. The convenience of ATMs, telephone banking, and the Internet, as well as on-demand service delivery, has contributed to a shift in consumer expectations. With the advent of universal banking, financial institutions strive to be client oriented by delivering a full range of banking products and services at one convenient location. Private banks have emerged in a major manner, with a focus on technological and customer-focused challenges, as a result of economic changes throughout the globe and in India specifically. 3 It is the researcher's responsibility to shed light on SBI's promotional efforts in this chapter. Banking and Financial

## Impact of International Crude Oil Price on Select Global Economic Factors

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**Abstract:** In the world economy, the international price of crude oil plays the decisive role compared to other economic factors. In the world 70% of the countries are highly dependent on imported crude oil, which plays a decisive role in world exports and imports for the study from the period 2013-2020 taken into account. In the recent past, the international price of crude oil has fallen dramatically, which in turn has reduced the burden of import costs for the large countries despite the decline in the price of crude oil, and global imports have increased enormously. The beta coefficient of the linear regression indicates that global exports were negatively affected by the international crude oil price. The results of the multi-regression model show that the fluctuation of the dollar index had no influence on the volatility of the international crude oil price. The regression weight estimate trend line indicated that the dollar index and the Baltic Dry index are expected to decline in the near future.

**Keywords:** Oil Price Shocks, Stock Markets, Economic Growth.

### I. INTRODUCTION

Crude oil is a naturally occurring, unrefined petroleum product made up of hydrocarbon deposits and other organic materials. Crude oil can be refined into recyclable products such as gasoline, diesel, and various types of petrochemicals. The modern history of petroleum began in the 19th century with the refining of paraffin from petroleum. In 1846 in Baku (Bib-Hey but settlement) the first borehole was drilled with hammer tools to a depth of 21 meters for oil exploration. In 1848 Young started a small company to refine the crude oil.

### II. TYPES CRUDE OIL.

#### A. West Texas Intermediate

This type of oil contains small amounts of sulfur and density. Its sulfur content is only 0.24% and its weight is 39.6 degrees. The West Texas Intermediate is considered to be both sweet and light crude. Refining of this oil is usually done in the Gulf region as well as the United States as it is convenient to oil reserves.

#### B. Brent Blend

The term Brent Blend is derived from the geographic location from which this type of oil is extracted. Brent Blend is called a sweet oil with 0.37% sulfur and 38.06 degrees of gravity. Brent blend oil is typically used to make petroleum and gasoline for vehicles.

#### C. Dubai Crude

As the name suggests, Dubai Crude Oil comes from Dubai - a huge oil producing country in the world. The crude oil from Dubai has a low density with 31 degrees of gravity and a sulfur content of only 2%.

#### D. Russian Export Blend

This type of oil is the standard for Russian crude oil. This is also a perfect example of acidic oil due to its high sulfur content. Russian export oil is heavily exported to Italy and the Netherlands.

#### E. Byproducts of crude oil

Petroleum products are usually divided into four categories: light distillates (LPG, gasoline, naphtha), middle distillates (kerosene, kerosene, diesel), heavy distillates and residue (heavy oil, lubricating oils, wax, asphalt). This classification is based on the way crude oil is distilled and separated into fractions (called distillates and residue).

- Liquefied petroleum gas (LPG)
- Gasoline (also known as petrol)
- Naphtha
- Kerosene and related jet aircraft fuels
- Diesel fuel
- Fuel oils
- Lubricating oils
- Paraffin wax
- Asphalt and tar
- Petroleum coke

#### D. Further products (see also below) include

- Sulfur
- Olefins
- Heat and electricity energy.

#### E. CRUDE OIL IN U.S

For nearly a century, the US was both an exporter and an importer of crude oil. The export of domestically produced crude oil made the US a major player in the global crude oil market that set crude oil prices. That ended in the 1970s when, in response to the 1973 oil embargo, Congress imposed a ban on domestic oil exports, which was lifted in late 2015. The fact is that the US is both an importer and an exporter of a number of raw materials. Economically, the US would be in a stronger position if domestically produced crude oil could reach the world market as other goods do on a daily basis - to the benefit

**Novel Approach on Data Access Control With Fine-Grained Data Protection In Cloud-Assisted IIoT**

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**Abstract—**

Industrial Internet of Things (IIoT) has provided a promising opportunity to build digitalized industrial systems. A fundamental technology of IIoT is Radio-Frequency Identification (RFID) technique, which allows industrial participants to identify items and anchor time series IoT data for them. They can further share the IoT data through the cloud service to enable information exchange and support critical decisions in production operations. Storing IoT data in the cloud, however, requires a data access control mechanism to protect sensitive business issues. Unfortunately, using traditional cryptographic access control schemes for time series IoT data face severe efficiency and key leakage problems. In this paper, we design a secure industrial data access control scheme for cloud-assisted IIoT. Our scheme enables participants to enforce fine-grained access control policies for their IoT data via ciphertext policy-attribute based encryption (CP-ABE) scheme. Our scheme adopts a hybrid cloud infrastructure for participants to outsource expensive CPABE tasks to the cloud service with strong privacy guarantees. Importantly, our scheme guarantees a new privacy notion named item-level data protection for IoT data to prevent key leakage problem. We achieve these goals via several encryption and optimization techniques. Our performance assessments combine system implementation with large-scale emulations and confirm the security and efficiency of our design.

**I. INTRODUCTION**

Industrial Internet of Things (IIoT) allow industrial system to collect a vast amount of IoT data about all aspects of the production process. A foundational technology for IIoT is the RFID technology, which allows

industrial participants to attach RFID tags to items, automatically identify items and anchor time series IoT data for them derived from a spectrum of IoT devices throughout their life cycle. The IoT data can be then shared among the industrial participants to



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## PRE-WARNING SYSTEM FOR WEAK HOUSES AND BRIDGES USING IOT

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### ABSTRACT:

In this project, the alert is made about weak bridges and houses that may destroy and having a risk of collapsing. The main aim of the project is to avoid hazards. Early warning systems are the systems by which people receive relevant and timely information in systematic way. Early action can often prevent a hazard turning into a human disaster by preventing loss of life and reducing the economic and material impacts. In this bridge or House monitoring system is significant to be health monitoring of both old/new bridges and flyovers an infrastructure daily used by citizens of their respective countries. In this system, we use MEMS-Micro Electro Mechanical sensor for dislocation or uneven movement of the bridge or house, flex sensor is used to crack detection, and a Atmega328 micro controller is used for processing the data and to react according to the instructions and alert the system whenever there is an uneven conduction occurred.

**Key Words:** Arduino Uno, MEMS sensor, Flex sensor, Buzzer, red LED, Green LED.

### INTRODUCTION:

Human beings need shelter to live, so they have started building houses and buildings. A Bridge is a structure which connects two places. A bridge is a structure built to span a physical obstacle, such as a body of water, valley, or road, without closing the way underneath. It is constructed for the purpose of providing passage over the obstacle, usually something that is

otherwise difficult or impossible to cross. Two things should be considered when you are building the foundations - the solidarity of the soil and the heaviness of the building and its contents. The causes of weak building or houses may be weak foundations, poor soil condition, poor materials - Materials that just aren't strong enough to withhold the load used in



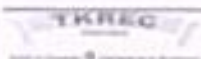


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### 3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

19-20								
Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal		
						Link to website of the Journal	Link to article/paper /abstract of the article	Is it listed in UGC Care list
DIESEL ENGINE PERFORMANCE TEST USING ALTERNATIVE FUELS LIKE B5 AND B10	G. Veeresh Kumar & M. Naga Sailaja	Others(CE/Mech)	CIKITUSI JOURNAL FOR MULTIDISCIPLINARY RESEARCH	March-2020	0975-6876	<a href="http://www.cikitusi.com">www.cikitusi.com</a>	<a href="https://www.cikitusi.com">DIESEL ENGINE PERFORMANCE TEST USING ALTERNATIVE FUELS LIKE B5 AND B10 Documents - DOKUMEN.TIPS</a>	YES
Different Topologies of Inverter: A Literature Survey	K Chenchi Reddy, V Jegathesan	EEE	Lecture Notes in Electrical Engineering, Springer, Singapur	March 2020	ISSN:1876-1119	<a href="https://www.springer.com/">https://www.springer.com/</a>	<a href="https://doi.org/10.1007/978-981-15-2256-7_4">https://doi.org/10.1007/978-981-15-2256-7_4</a>	YES
Design and Simulation of a Single Phase Four Level Neutral Point	Mr Kalagotla Chenchi Reddy, Jegathesan V	EEE	International Journal of Recent Technology and Engineering	July-2019	ISSN:2277-3878	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	DOI: <a href="https://doi.org/10.35940/ijrte.B1062.078219">10.35940/ijrte.B1062.078219</a>	YES



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Electricity Theft and Transmission losses in India	Lavanya.S,R. Arunmozhi,R amesh.B,C.T hulasi Yammal	EEE	Journal of Advanced Research in Dynamical and Control Systems(SCOPUS)	May-2020	ISSN:1943-023X	<a href="http://www.jardcs.org">Journal of Advanced Research in Dynamical and Control Systems (JARDCS)</a>	<a href="http://www.jardcs.org">Electricity Theft and Transmission losses in India (jardcs.org)</a>	YES
Enhanced ANN with Ant Lion Optimization for diagnose the incipient faults of Synchronous Generator	Mr B Vidyasagar	EEE	Journal of Advanced Research in Dynamical and Control Systems(SCOPUS)	SEP 2019	ISSN:1943-023X	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	<a href="https://www.jardcs.org">DOI: 10.5373/JARDCS/V11SP10/20192997</a>	YES
A Novel Method to Enhance of Power Quality in Distribution System using IDVR.	Mr. Shabbier Ahmed SD,Eswaraiiah G	EEE	International Journal of Recent Technology and Engineering(SCOPUS)	SEP 2019	ISSN: 2277-3878.	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	<a href="https://www.scopus.com/">https://www.scopus.com/</a>	YES
Grid connection of Sub Sea Power Cable Emulator	S Shekar	EEE	Journal of Engineering, computing and architecture	May-2020	ISSN:1934-7197	<a href="https://journaleca.com/">https://journaleca.com/</a>	<a href="https://drive.google.com/file/d/1A0gk8zyFrqabUAGSSL6ZvdLwPip-ZRo/view">https://drive.google.com/file/d/1A0gk8zyFrqabUAGSSL6ZvdLwPip-ZRo/view</a>	YES
Implementation of PSO Based MPPT for solar PV system		EEE	Journal of Engineering Sciences	May-2020	ISSN:0377-9254	<a href="https://iespublication.com/upload/2020-110565.pdf">https://iespublication.com/upload/2020-110565.pdf</a>	<a href="https://iespublication.com/upload/2020-110565.pdf">https://iespublication.com/upload/2020-110565.pdf</a>	YES



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College Code: R9

Multilevel Inverter Topologies with Sliding Mode Control: A Review	K Chenchi Reddy V Jegathesan	EEE	International Journal of Advanced Science and Technology	May-2020	ISSN-2005-4238	<a href="http://serisc.org/journals/index.php/IJAST/article/view/25289">http://serisc.org/journals/index.php/IJAST/article/view/25289</a>	<a href="http://serisc.org/journals/index.php/IJAST/article/view/25289">http://serisc.org/journals/index.php/IJAST/article/view/25289</a>	YES
Design and Implementation of Fuel Cell Stack Using Matlab/Simulink	B Rama Rao	EEE	TEST Engineering and Management	April-2020	ISSN:0193-4120	<a href="http://www.testmagazine.biz/index.php/testmagazine/article/view/5882/5465">http://www.testmagazine.biz/index.php/testmagazine/article/view/5882/5465</a>	<a href="http://www.testmagazine.biz/index.php/testmagazine/article/view/5882/5465">http://www.testmagazine.biz/index.php/testmagazine/article/view/5882/5465</a>	YES
Sliding Mode controllers for SEPIC converter using matlab/simulink	V KUMAR K CHENCHI REDDY	EEE	TEST Engineering and Management	February-2020	ISSN:0193-4120	<a href="http://www.testmagazine.biz/index.php/testmagazine/article/view/3121/2748">http://www.testmagazine.biz/index.php/testmagazine/article/view/3121/2748</a>	<a href="http://www.testmagazine.biz/index.php/testmagazine/article/view/3121/2748">http://www.testmagazine.biz/index.php/testmagazine/article/view/3121/2748</a>	YES
Power Quality improvement in distribution systems	K R Sree Jyothi	EEE	International Journal for Recent Developments in Science and Technology	February-2020	ISSN:2581-4575	<a href="https://www.researchgate.net/profile/Shabbier-Ahmed-Sydu/publication/374556508_POWER_QUALITY_IMPROVEMENT_OF_MULTI-FUNCTIONAL_GRID_CONNECTED_INVERTER_WITH_RENEWABLE_SYSTEM/links/6524fe50d717e312913de9b17/POWER-">https://www.researchgate.net/profile/Shabbier-Ahmed-Sydu/publication/374556508_POWER_QUALITY_IMPROVEMENT_OF_MULTI-FUNCTIONAL_GRID_CONNECTED_INVERTER_WITH_RENEWABLE_SYSTEM/links/6524fe50d717e312913de9b17/POWER-</a>	<a href="https://www.researchgate.net/profile/Shabbier-Ahmed-Sydu/publication/374556508_POWER_QUALITY_IMPROVEMENT_OF_MULTI-FUNCTIONAL_GRID_CONNECTED_INVERTER_WITH_RENEWABLE_SYSTEM/links/6524fe50d717e312913de9b17/POWER-">https://www.researchgate.net/profile/Shabbier-Ahmed-Sydu/publication/374556508_POWER_QUALITY_IMPROVEMENT_OF_MULTI-FUNCTIONAL_GRID_CONNECTED_INVERTER_WITH_RENEWABLE_SYSTEM/links/6524fe50d717e312913de9b17/POWER-</a>	YES



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College Code: R9

						<u>QUALITY- IMPROVEMENT-OF- MULTI- FUNCTIONAL-GRID- CONNECTED- INVERTER-WITH- RENEWABLE- SYSTEM.pdf</u>	<u>R WITH RENE WABLE SYSTE M/links/6524f e50d717ef129 3de9b17/POW ER-QUALITY- IMPROVEMEN T-OF-MULTI- FUNCTIONAL- GRID- CONNECTED- INVERTER- WITH- RENEWABLE- SYSTEM.pdf</u>	
Designed Development of Solar Bicycle using Lead Acid Battery	Mr.T Madhubabu	EEE	Journal of Engineering, Computing and Architecture	2019	ISSN:1934-7197	<a href="https://journaleca.com/">https://journaleca.com/</a>	<a href="https://journaleca.com/">https://journaleca.com/</a>	YES
Integrated active filter capabilities wind energy conversion systems using DFIG	Lingappa J	EEE	International Journal of Research	March-2020	ISSN:2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Smart CCTV Surveillance System with Improving Reliability And Privacy	Dr. K. Venkata Murari Mohan		The International journal of analytical and experimental modal analysis	May-2020	0886-9367	<a href="https://drive.google.com/file/d/1BGN7u06fqIAhhk_jCdLQgy8hCxres3qC/view">https://drive.google.com/file/d/1BGN7u06fqIAhhk_jCdLQgy8hCxres3qC/view</a>	<u>DOI:18.0002.U AEMA.2020.V1 215/20001.01</u>	YES



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College Code: R9

Residual Energy Aware Routing Mechanism for WANET to Enhance the Performance of the Network	Dr. K. Venkata Murali Mohan	ECE	Parishodh Journal	February-2020	2347-6648	<a href="https://drive.google.com/file/d/1QAj_U1QG9olMLJ9gKmljs7Gdmi0Y8mY8/view">https://drive.google.com/file/d/1QAj_U1QG9olMLJ9gKmljs7Gdmi0Y8mY8/view</a>	DOI:09.0014.PARISHODH.2020.V9I2.008678.1.57247	YES
Global Stability Analysis of Three Species Ecological Model in Which First Species is Ammensal on Two Mutualistic Species	Dr. K. Venkata Murali Mohan	ECE	Bulletin of Calcutta Mathematical Society	2020	0008-0659	<a href="https://www.researchgate.net/publication/343274467_Global_stability_analysis_of_a_two_mutualistic_species_ammensal_on_third_species_with_cover_for_third_species">https://www.researchgate.net/publication/343274467_Global_stability_analysis_of_a_two_mutualistic_species_ammensal_on_third_species_with_cover_for_third_species</a>	<a href="https://www.researchgate.net/publication/343274467_Global_stability_analysis_of_a_two_mutualistic_species_ammensal_on_third_species_with_cover_for_third_species">https://www.researchgate.net/publication/343274467_Global_stability_analysis_of_a_two_mutualistic_species_ammensal_on_third_species_with_cover_for_third_species</a>	YES
Medical Image Compression Using Generative Adversarial Networks	Dr. K. Venkata Murali Mohan	ECE	International Journal of Control and Automation	2020	2005-4297	<a href="https://serc.org/journals/index.php/IJAST/article/view/25758">https://serc.org/journals/index.php/IJAST/article/view/25758</a>	<a href="https://serc.org/journals/index.php/IJAST/article/view/25758">https://serc.org/journals/index.php/IJAST/article/view/25758</a>	YES
Machine learning methods to approximate rainfall and wind from acoustic	Dr. K. Venkata Murali Mohan	ECE	Journal of Engineering Sciences	2019	0377-9254	DOI:10.15433/JES.2019.V10I12.43P.158	DOI:10.15433/JES.2019.V10I12.43P.158	YES



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College Code: R9

underwater measurements								
PERFORMANCE EVALUATION OF PACKET DROPS IN WIRELESS INFRASTRUCTURE LESS NETWORKS	Dr. K. Venkata Murali Mohan	ECE	Parishodh Journal	December -2019	2347-6648	<a href="https://drive.google.com/file/d/1BtpOpYXSSOLSeiOnnPYjlqxqFQhP7RpZb/view">https://drive.google.com/file/d/1BtpOpYXSSOLSeiOnnPYjlqxqFQhP7RpZb/view</a>	<a href="https://drive.google.com/file/d/1BtpOpYXSSOLSeiOnnPYjlqxqFQhP7RpZb/view">https://drive.google.com/file/d/1BtpOpYXSSOLSeiOnnPYjlqxqFQhP7RpZb/view</a>	YES
Generation of Synthesis Handwritten Signatures Using Image Processing Techniques for Biometrics	Dr. K. Venkata Murali Mohan	ECE	Journal of Engineering Sciences	2019	0377-9254	<a href="https://jespublication.com/issue.php?cid=21&amp;scid=50">https://jespublication.com/issue.php?cid=21&amp;scid=50</a>	DOI:10.15433.JES.2019.V10I9.43P.167	YES
STABILITY ANALYSIS OF A THREE SPECIES AMMENSALISM MODEL WITH TIME DELAY	Dr. K. Venkata Murali Mohan	ECE	International Journal of Recent Technology and Engineering	September-2019	2277-3878	<a href="https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B1462098251119.pdf">https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B1462098251119.pdf</a>	<a href="https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B1462098251119.pdf">https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B1462098251119.pdf</a>	YES
Kidney disease detection and segmentation using artificial neural network and	Dr. C. Anja Palagan	ECE	Measurement	2019	0263-2241	<a href="https://www.sciencedirect.com/journal/measurement">https://www.sciencedirect.com/journal/measurement</a>	<a href="https://www.semanticscholar.org/paper/Kidney-disease-detection-and-segmentation-using-artificial-neural-network-and">https://www.semanticscholar.org/paper/Kidney-disease-detection-and-segmentation-using-artificial-neural-network-and</a>	YES



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College Code: R9

<u>multi-kernel k-means clustering for ultrasound images</u>							<u>segmentation-using-and-Nithya-Appathural/878336e5632b2fedbc285f5957fee45b4b66cda5</u>	
<u>An Efficient Optimal Neural Network-Based Moving Vehicle Detection in Traffic Video Surveillance System</u>	Dr.C.Anna Palagan	ECE	Circuits, Systems, and Signal Processing	2019	1531-5878	<a href="https://link.springer.com/journal/34">https://link.springer.com/journal/34</a>	<a href="https://www.scribd.com/document/479467033/ckts2">https://www.scribd.com/document/479467033/ckts2</a>	YES
<u>Soft computing based color image demosaicing for medical Image processing</u>	Dr.C.Anna Palagan	ECE	Multimedia Tools and Applications	2019		<a href="https://link.springer.com/journal/11042">https://link.springer.com/journal/11042</a>	<a href="https://doi.org/10.1007/s11042-019-08091-1">https://doi.org/10.1007/s11042-019-08091-1</a>	YES
<u>Dispersed Cooperative Cluster Based Communication Protocol for Energy</u>	Dr.Shankar R	ECE	• International Journal of Advanced Science and Technology	2020	2005-4238	<a href="https://sersc.org/journals/index.php/IJAST/article/view/25758">https://sersc.org/journals/index.php/IJAST/article/view/25758</a>	<a href="https://sersc.org/journals/index.php/IJAST/article/view/25758">https://sersc.org/journals/index.php/IJAST/article/view/25758</a>	Yes



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College Code: R9

Efficiency in Wireless Sensor Networks								
Regenerative Braking Of An Electric/Hybrid Vehicle Using Hybrid Energy Storage System	K.Srinivasa Reddy	ECE	International Journal of Grid and Distributed Computing	2020	2005-4262	<a href="http://sersc.org/journals/index.php/IJGDC/article/view/11770">http://sersc.org/journals/index.php/IJGDC/article/view/11770</a>	<a href="http://sersc.org/journals/index.php/IJGDC/article/view/11770">http://sersc.org/journals/index.php/IJGDC/article/view/11770</a>	YES
Energy Aware Relay GAF algorithm for WSN using Improved Conservative schemes	T Venu Madhav	ECE	International Journal of Engineering and Advanced Technology (IJEAT)	2019	2249 - 8958	<a href="https://www.ijeat.org/wp-content/uploads/papers/v8i6/F8359088619.pdf">https://www.ijeat.org/wp-content/uploads/papers/v8i6/F8359088619.pdf</a>	<a href="https://www.ijeat.org/wp-content/uploads/papers/v8i6/F8359088619.pdf">https://www.ijeat.org/wp-content/uploads/papers/v8i6/F8359088619.pdf</a>	YES
An Energy Efficient Routing method for improving Network lifetime with proper uniform routing strategies in Wireless Sensor Networks with Centered Base station	Dr. T Venu Madhav	ECE	The Mattingley Publishing Co., Inc.	2020	0193 - 4120	<a href="https://www.dnb.com/business-directory/company-profiles/the-mattingley-publishing-company-inc.3502424984e4b0eb48b60f83e8396605.html">https://www.dnb.com/business-directory/company-profiles/the-mattingley-publishing-company-inc.3502424984e4b0eb48b60f83e8396605.html</a>	<a href="http://www.testmagazine.biz/index.php/testmagazine/article/view/1429">http://www.testmagazine.biz/index.php/testmagazine/article/view/1429</a>	YES



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College Code: R9

Design of Multistage CORDIC Configuration for DSP Applications	Ch Shekar	ECE	Journal of Xidian University	2020	1001-2400	<a href="https://xadzkidx.cn/">https://xadzkidx.cn/</a>	<a href="https://doi.org/10.37896/jxu.14.5/30.1">https://doi.org/10.37896/jxu.14.5/30.1</a>	YES
Design And Implementation Of New Routing Algorithm For Fault Tolerance In Networks	Dr.P.Padmaja	ECE	International Journal Of Innovative Technology And Exploring Engineering	2019	2278-3075	<a href="https://www.ijitee.org/indexing/">https://www.ijitee.org/indexing/</a>	<a href="https://www.ijitee.org/download/volume-8-issue-7s2">https://www.ijitee.org/download/volume-8-issue-7s2</a>	YES
An Enhanced Design Of Hybrid Filter Using Pseudo Inverse Filtering Technique	P. Satish Chandra	ECE	Universal Review	2019	2277-2723	<a href="http://sitbs.in/u1.html">http://sitbs.in/u1.html</a>	<a href="http://sitbs.in/u1/download/volume-VIII-issue-4">http://sitbs.in/u1/download/volume-VIII-issue-4</a>	YES
An Enhanced Design Of Hybrid Filter Using Pseudo Inverse Filtering Technique	K.Ramesh	ECE	Universal Review	2019	2277-2723	<a href="http://sitbs.in/u1.html">http://sitbs.in/u1.html</a>	<a href="http://sitbs.in/u1/download/volume-VIII-issue-4">http://sitbs.in/u1/download/volume-VIII-issue-4</a>	YES
Solar based floor cleaner using ARDUINO UNO	K.Bhargava		IJIRT	2019	2349-6002	<a href="http://www.ijirt.com">www.ijirt.com</a>	<a href="https://ijirt.org/master/publications/paper/IJIRT-150215-PAPER-11.pdf">https://ijirt.org/master/publications/paper/IJIRT-150215-PAPER-11.pdf</a>	YES



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College Code: R9

Recital Augmentation of Cache Execution in Cluster Based Mobile Adhoc Network	Dr.Ch.V.Phan i Krishna, Somi Reddy Pavani, Kema Prathyusha, E.Aruna	CSE	International Journal of Modern Engineering and Research Technology	2019	2348-8565	<a href="http://www.ijmert.org">www.ijmert.org</a>	<a href="http://www.ijmert.org">www.ijmert.org</a>	YES
Comparitive Analysis of Classification Techniques for Heart Disease with Data Mining WEKA Tool	Sarangam Kodati	CSE	Journal of Advanced Research in Dynamical & Control Systems	2018	1943-023X	<a href="https://www.jardcs.org/">https://www.jardcs.org/</a>	<a href="https://www.jardcs.org/">https://www.jardcs.org/</a>	YES
Kidney disease detection and segmentation using artificial neural network and multi-kernel K-means clustering for ultrasound images	N.Venkatadri	CSE	Measurement	2020	0263-2241	<a href="http://www.elsevier.com/locate/measurement">www.elsevier.com/locate/measurement</a>	<a href="http://www.elsevier.com/locate/measurement">www.elsevier.com/locate/measurement</a>	YES
Smart Agricultural using Internet of Things, Cloud and Big Data	Sarangam Kodati	CSE	International Journal of Innovative Technology and Exploring Engineering	2019	2278-3075	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	DOI: 10.35940/ijitee.I9671.088101	YES



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College Code: R9

A Smart Health Care Applications and Benefits using IoT	Sarangam Kodati	CSE	International Journal of Recent Technology and Engineering	2019	2277-3878	<a href="https://www.ijrte.org/">https://www.ijrte.org/</a>	DOI: 10.35940/ijrte.C5916.098319	YES
Minimizing Energy consumption baesdon Neural Network in Clustered Wireless Sensor Networks	N.Vadivelan, A.Ramamurthy, P.Padmaja	CSE	Journal of Computational and Theoretical Nano Science	2019	1546-1955	<a href="http://www.aspbs.com">http://www.aspbs.com</a>	1546-1955/2019/16/496/007	YES
Automated detection of cancer by Analysis of White Blood Cells	Dr.N.Vadivelan	CSE	International Journal of Science and Technology	2019	2005-4238 IJAST	<a href="http://sersc.org/journals/index.php/IJAST/index">http://sersc.org/journals/index.php/IJAST/index</a>	<a href="http://sersc.org/journals/index.php/IJAST/index">http://sersc.org/journals/index.php/IJAST/index</a>	YES
Accessing Network Parameters by Web Real-Time Communications	Dr.N.Vadivelan, P.Ashwini, P.Jyothi	CSE	International Journal of Engineering and Advanced Technology	2019	2249-8958	<a href="https://www.ijeat.org/">https://www.ijeat.org/</a>	Doi: 10.35940/ijeat.A2114.109119	YES
Retrieving Songs By Lyrics Query Using Information Retrieval	N.Vadivela	CSE	International Journal of Engineering and Advanced Technology	2019	2249-8958	<a href="https://www.ijeat.org/">https://www.ijeat.org/</a>	<a href="https://www.ijeat.org/">https://www.ijeat.org/</a>	YES



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College Code: R9

Classification and Enrichment of Unlabeled Feedback data using Machine Learning	P.Padmaja	CSE	International Journal of Engineering and Advanced Technology	2019	2249-8958	<a href="https://www.ijeat.org/">https://www.ijeat.org/</a>	<a href="https://www.ijeat.org/">https://www.ijeat.org/</a>	YES
Image Map: Alternative for Password Based Authentication	P.Padmaja	CSE	International Journal of Recent Technology and Engineering	2019	2277-3878	<a href="https://www.ijrte.org/">https://www.ijrte.org/</a>	<a href="https://www.ijrte.org/">https://www.ijrte.org/</a>	YES
Keynode Selection Network Analysis and Centrality Measurements on a Dataset of Cancer Documents	P.Padmaja	CSE	International Journal of Engineering and Advanced Technology	2019	1819-6608	<a href="http://www.arpnjournals.com">www.arpnjournals.com</a>	<a href="http://www.arpnjournals.com">www.arpnjournals.com</a>	YES
An Image classification framework exploring the capabilities of extreme learning machines and artificial bee colony	Ch.Phani Krishna	CSE	Neural Computing and Applications	2019	2193-1801	<a href="https://link.springer.com/journal/521">https://link.springer.com/journal/521</a>	<a href="https://doi.org/10.1007/s00521-019-04385-5">https://doi.org/10.1007/s00521-019-04385-5</a>	YES



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Mobile Cloud Data Privacy using Lightweight Data Sharing System	Kundan.B, T.Rakesh Kumar, Sarangam Kodati	CSE	International Journal of Recent Technology and Engineering	2019	2277-3878	<a href="https://www.ijrte.org/">https://www.ijrte.org/</a>	Doi:10.35490/ijret.D8643.118419	YES
Classification of Diabetes using Random Forest with Feature Selection Algorithm	K.Koteswara Chari, M.Chinna Babu, Sarangam Kodati	CSE	Interational Journal of Innovative Technology and Exploring Engineering	2019	2278-3075	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	YES
Medibot: A Medical Assistant through Natural Language Processing	Dr.K.Bhargavi	CSE	Interational Journal of Innovative Technology and Exploring Engineering	2019	2278-3075	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	YES
Implementation of Questioning Answering System Using Natural Language Processing	Dr.K.Bhargavi	CSE	Interational Journal of Innovative Technology and Exploring Engineering	2019	2278-3075	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	<a href="https://www.ijitee.org/">https://www.ijitee.org/</a>	YES
Driver Drowsiness Detection Using Opencv	R.Rajasekhar Reddy, Dr.Padmaja Pulicherla	CSE	PAIDEUMA JOURNAL	2019	0090-5674	<a href="https://www.researchgate.net/publication/360975438_Driver_Drowsiness_Detect">https://www.researchgate.net/publication/360975438_Driver_Drowsiness_Detect</a>	<a href="https://www.researchgate.net/publication/360975438_Driver_Drowsiness_Detect">https://www.researchgate.net/publication/360975438_Driver_Drowsiness_Detect</a>	YES



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Face Recognition						<a href="#">ion using Opency and Raspberry Pi</a>	<a href="#">Iyer Drowsiness Detection using Opency and Raspberry Pi</a>	
Job Shifting Prediction and Analysis Using Machine Learning	Dr.Padmaja Pulicherla	CSE	International Journal of Innovative Technology and Exploring Engineering	2019	1757-899X	<a href="https://iopscience.iop.org/article/10.1088/1757-8996/12/28/1/012056">https://iopscience.iop.org/article/10.1088/1757-8996/12/28/1/012056</a>	DOI:10.1088/1757-8996/12/28/1/012056	YES
Intresting Unknown Facts About the Fish and Its Behaviour	S.A. Kalaiselvan, Teena Joesph, N.Vadivelan	CSE	International Journal of Emerging Science and Engineering	2019	2319-6378	<a href="https://www.ijese.org/">https://www.ijese.org/</a>	<a href="https://www.ijese.org/">https://www.ijese.org/</a>	YES
A Fuzzy Logic Based Soft Computing Approach in CBIR System Using Incremental Filtering Feature Selection to Identify Petterns	V.Yadaiah, Dr. R. Vivekanandam, Rajaram Jathothu	CSE	International Journal of Applied Engineering Research	2018	0973-4562	<a href="https://www.ripublication.com/ijaer.htm">https://www.ripublication.com/ijaer.htm</a>	<a href="https://www.ripublication.com/ijaer.htm">https://www.ripublication.com/ijaer.htm</a>	YES
Distributed Hybrid AODV Algorithm for Path Concern in MANET Using Bio Inspired	Dr.J.Rajaram, Dr.M. Dhasarathant	CSE	Journal of Adv Research in Dynamical & Control Systems	2019	1943-023X	<a href="https://www.iardcs.org/">https://www.iardcs.org/</a>	<a href="https://www.iardcs.org/">https://www.iardcs.org/</a>	YES



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Techniques								
Smart Objects of the Internet of Things (IoT) Technology	Mrs. K. Swathi	CSE	International Journal of Current Trends in Science and Technology	2019	0976-9730	<a href="https://oaji.net/journal-detail.html?number=904">https://oaji.net/journal-detail.html?number=904</a>	<a href="https://oaji.net/journal-detail.html?number=904">https://oaji.net/journal-detail.html?number=904</a>	YES
E-commerce Recommendation based on Users Rating Data	C.H.V.Phani Krishna, P.Jyothi	CSE	International Research Journal of Engineering and Technology	2019	2395-0056	<a href="https://www.irjet.net/">https://www.irjet.net/</a>	<a href="https://www.irjet.net/">https://www.irjet.net/</a>	YES
Evaluating and Finding Out the Money Laundering Accounts in Online Social Networks	C.H. Phani Krishna, P.Jyothi	CSE	International Research Journal of Engineering and Technology	2020	2395-0056	<a href="https://www.irjet.net/">https://www.irjet.net/</a>	<a href="https://www.irjet.net/">https://www.irjet.net/</a>	YES
EFFICIENT FRAMEWORK FOR HEALTHCARE SECTOR TO ESTIMATE THE NUTRITIONAL VALUE OF FOOD	Dr. J. Praveen Kumar	Information Technology	The International journal of analytical and experimental modal analysis	May-2020	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1paNQZiH7qUbkyO1K-1dP88zEFYj8G20F/view?usp=sharing">https://drive.google.com/file/d/1paNQZiH7qUbkyO1K-1dP88zEFYj8G20F/view?usp=sharing</a>	YES
A VISION BASED DETECTION COUNTING	G. Archana	Information Technology	Journal of Interdisciplinary Research	May-2020	0022-1945	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	<a href="https://drive.google.com/file/d/1Y6wDvG3ibezTgNHd6">https://drive.google.com/file/d/1Y6wDvG3ibezTgNHd6</a>	YES



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THE VEHICLES USING GAUSSIAN MIXTURE MODEL AND CLASSIFICATION SYSTEM.							<a href="#">c7R2NaO-x1x2/view?usp=sharing</a>	
A MOBILE APPLICATION OF ONLINE APPOINTMENT SCHEDULING PLATFORM	E. Aruna	Information Technology	Journal of Interdisciplinary Cycle Research	May-2020	0022-1945	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	<a href="https://drive.google.com/file/d/1A_kdkxr2WIAaRomOFSZQv6uy8UYpIHh/view?usp=sharing">https://drive.google.com/file/d/1A_kdkxr2WIAaRomOFSZQv6uy8UYpIHh/view?usp=sharing</a>	YES
A MOBILE APP TO PROTECT CHILD RIGHTS	N. Priyanka	Information Technology	The International journal of analytical and experimental modal analysis	May-2020	0886-9367	<a href="https://ijaema.com/">https://ijaema.com/</a>	<a href="https://drive.google.com/file/d/1aUslCiy-9iPEPGL2s9PLNTSlaLi7IbTp/view?usp=sharing">https://drive.google.com/file/d/1aUslCiy-9iPEPGL2s9PLNTSlaLi7IbTp/view?usp=sharing</a>	YES
NOVEL ATTENTION-BASED MULTIMODAL NEURAL NETWORK MODE FOR ROBUST HUMAN ACTIVITY RECOGNITION	Dr. Ramu Moodu	Information Technology	International Journal of Advanced Science and Technology	May-2020	0886-9367	<a href="http://sersc.org/journals/index.php/IJAST/index">http://sersc.org/journals/index.php/IJAST/index</a>	<a href="https://drive.google.com/file/d/1DvfigmXC_r3OqLY_Ay4lsA8Zx4qrpb0y/view?usp=sharing">https://drive.google.com/file/d/1DvfigmXC_r3OqLY_Ay4lsA8Zx4qrpb0y/view?usp=sharing</a>	YES



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Mobile App To Support Crisis Management For Students	Y.Suresh Babu	Information Technology	Journal of Interdisciplinary Cycle Research	May-2020	0022-1945	<a href="https://icrijournal.com/">https://icrijournal.com/</a>	<a href="https://drive.google.com/file/d/1RkH9TTLjSv9MdUk3KjmQQj0vikMM0cFF/view?usp=sharing">https://drive.google.com/file/d/1RkH9TTLjSv9MdUk3KjmQQj0vikMM0cFF/view?usp=sharing</a>	YES
Dielectric properties of superparamagnetic titanium doped nanophased Mn-Zn ferrites for high frequency applications	K.S.Siva Mahalakshmi	Physics	materials research express	December -2019	2053-1591	<a href="https://iopscience.iop.org/journal/2053-1591">https://iopscience.iop.org/journal/2053-1591</a>	<a href="https://iopscience.iop.org/article/10.1088/2053-1591/ab5f95/meta">https://iopscience.iop.org/article/10.1088/2053-1591/ab5f95/meta</a>	YES



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**3.4.3.1 Link to the uploaded papers, the first page/full paper (with author and affiliation details) on the institutional website**

**A.Y: 19-20**

## DIESEL ENGINE PERFORMANCE TEST USING ALTERNATIVE FUELS LIKE B5 AND B10

G. Veeresh Kumar<sup>1</sup> & M. Naga Sailaja<sup>2</sup>

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<sup>1,2</sup>Department of Mechanical Engineering,

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### INTRODUCTION

Alternative fuels, known as non-conventional or advanced fuels, are any materials or substances that can be used as fuels, other than conventional fuels. Conventional fuels include: fossil fuels (petroleum (oil), coal, propane, and natural gas), as well as nuclear materials such as uranium and thorium, as well as artificial radioisotope fuels that are made in nuclear reactors, and store their energy. Some well-known alternative fuels include biodiesel, bio alcohol (methanol, ethanol, and butanol). Biodiesel is a safe alternative fuel to replace traditional petroleum diesel. It has high-lubricity, is a clean-burning fuel and can be a fuel component for use in existing, unmodified diesel engines. Biodiesel acts like petroleum diesel, but produces less air pollution, comes from renewable sources, is biodegradable and is safer for the environment. Producing biodiesel fuels can help create local economic revitalization and local environmental benefits. Biodiesel fuel is made from oils or fats, which are both hydrocarbons, most commonly soybean oil. These hydrocarbons are filtered, and then mixed with an alcohol, which is usually methanol, and a catalyst (sodium or potassium hydroxide). Alcohol has been used as a fuel throughout history. The first four aliphatic alcohols (methanol, ethanol, propane, and butane) are of interest as fuels because they can be synthesized chemically or biologically, and they have characteristics which allow them to be used in current engines. One advantage shared by all four alcohols is their high octane rating. The process of preparing the biodiesel from soya beans and ethanol in different composition like B5 (5% of soybean or ethanol +95% of diesel) and B10 (10% of soya bean or ethanol +95% of diesel) The final product is a petrochemical fuel that will burn in most diesel engines with no modification Biodiesel is environmentally friendly. It can help reduce dependency on foreign oil. It helps to lubricate the engine itself, decreasing engine wear. The volumetric efficiency, specific fuel consumption, heat carried by exhaust emissions and brake power of biodiesel is better than pure diesel. Of all samples blend B10 of soya bean is most desirable.

**Keywords:** Alternative fuels, Diesel engine, Biodiesel, B4, B10 samples

### BIOMASS

Biomass is the oldest form of renewable energy, has been used for thousands of years. However, its relative share has declined with the emergency of fossil fuels. Currently some 13% of the world's primary energy supply is covered by biomass, but there is a strong regional difference: developed countries source around 3% of their energy needs of biomass, while Africa's share ranges from 70- 90%. With environmental effects such as climate change coming to the forefront, people everywhere are rediscovering the advantages of biomass. Potential benefits include:

- Reducing carbon emissions if managed (produced, transported, used) in a sustainable manner;
- Enhancing energy security by diversifying energy sources and utilizing local sources;



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**Innovations in Electrical and Electronics Engineering** pp 35–43

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## Different Topologies of Inverter: A Literature Survey

Kalagotla Chenchireddy, V. Jegathesan & L. Ashok Kumar

Conference paper | First Online: 24 March 2020

1009 Accesses | 16 Citations

Part of the book series: [Lecture Notes in Electrical Engineering](#) ((LNEE, volume 626))

### Abstract

DC to AC control change is a key job in the cutting edge set up of age, transmission, appropriation, and use. DC to AC control converters assume key job in variable recurrence drives, uninterruptible power supplies, cooling, and high-voltage DC control transmission, electric vehicle drives, and static VAR compensators. This paper exhibits a survey on most significant topologies and of control of inverters.



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# Design and Simulation of a Single Phase Four Level Neutral Point Clamped Inverter



Kalagolla.Chenchireddy, V. Jegathesan, L. Ashok Kumar

**ABSTRACT**— In this paper, sinusoidal pulse width adjustment strategy for single stage four levels neutral point clamped inverter is proposed disposed of normal mode voltage. Sinusoidal pulse width modulation is much of the time utilized in modern applications. The gating sign are created by contrasting a sinusoidal reference signal and a triangular carrier sign of recurrence. The quantity of heartbeats per half-cycle relies upon the transporter recurrence.

**Index terms**— SPWM, NPC, harmonics.

## I. INTRODUCTION

DC/AC inverters are rapidly created with information of the power exchanging circuits down to earth in modern applications conversely with other power exchanging circuits. DC/AC inverters are generally utilized in AC engine drives. DC/AC inverters normally used variable voltage and variable frequency AC drives, uninterruptible power supplies, STATCOM, FACTS, voltage compensations.

In this section discuss some different multilevel inverter topologies. Voltage source inverter is mostly used in renewable energy and industrial applications. Current source inverters not used widely in industrial applications. Impedance source inverter has some smart features comparing to voltage inverter and current source inverter. Distributed generation and variable speed drives impedance source inverter used. Soft switching inverters, such as Zero voltage exchanging and zero current changing this systems to lessen the exchanging misfortunes and increase efficiency for different MLIs. Different multilevel inverters proposed previously based on applications. Three phase NPC inverter controlled [1] SVPWM reduced ripples in output current. Five-level ANPC inverter controlled SVPWM [2] and reduced common mode voltage in ANPC. Three level NPC inverter controlled SVPWM. NPC inverter controlled SVPWM improved overall performance [3] in NPC inverter. Many control techniques proposed previously for

controlling NPC inverter. But sinusoidal pulse width modulation best method for controlling NPC inverter. This paper we proposed sinusoidal pulse width modulation technique for single phase four level NPC. This Technique balancing neutral point if the load dynamic or any AC loads and reduce switching loss, reduces harmonics.

## II. OPERATION PRINCIPLE OF FOUR LEVEL NEUTRAL POINT CLAMPED INVERTER

Eliminated common mode voltages in ANPC inverter used SVPWM technique [4]. Three-level NPC inverter controlled SVPWM improved overall [5] performance. SVPWM and Virtual SVPWM techniques controlled three levels NPC inverter.

Four level NPC inverter having six IGBT switches. When top three switches on remaining bottom three switches off. Diodes connected to midpoint to midpoint switches and supply voltage.

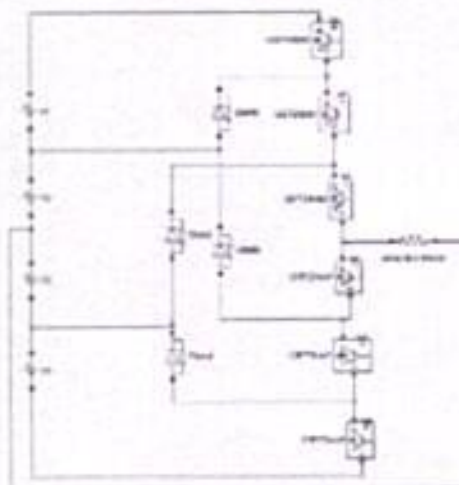


Fig 1. Main circuit of the single phase, four-level NPC inverter

TABLE 1: Switching states of 1-phase four level inverter

S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	S <sub>6</sub>	Output voltage
1	1	1	0	0	0	+2V <sub>o</sub>
0	1	1	1	0	0	+V <sub>o</sub>
0	0	1	1	1	0	-V <sub>o</sub>
0	0	0	1	1	1	-2V <sub>o</sub>

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# Electricity Theft and Transmission losses in India

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Dr R. Arunmuchi, Assistant professor-EEE, Annamalai University, Chidambaram, India

Ramesh B. Assistant professor-EEE, TKR engineering college, Hyderabad, India

Dr C. Thulasi Yammal, professor-EEE, TKR engineering college, Hyderabad, India

**Abstract**—In this paper the main specific theme, focus on Losses in electricity sector of the transmission & distribution (T&D) areas. From the consumption point of view there is an energy lost i.e. (T&D) losses in power grid while transporting electricity from generating stations. In 90s AT & C losses concept was introduced. At distribution level, it will provide the information of revenue and energy loss. Two elements were taken into considerations in AT&C losses. The union government has launched the restructured accelerated power development reform program (R-APDRP) to reduce the transmission losses and improve the power sector of state utilities.

AT&C losses by power Finance Corporation of CEA reported transmission and distribution losses year wise. At the viewpoint of utility the electricity theft & pilferage are the major causes for power loss. Quality of power can be improved by implementing HVDS to avoid theft or illegal tapping of power

**Keywords**—T&D, AT&C, Power Finance Corporation (PFC), theft and pilferage & HVDS.

## Introduction

In the process of electricity transmission from the generating station to consumption point the energy lost takes place due to transmission and distribution losses. In 90's in India the AT&C losses are introduced. AT&C provides a information of revenue and energy loss at the distribution level. AT&C losses constitute two elements as mentioned. In Transmission & distribution systems entirely related to Technical losses. Where as Commercial losses comprises of revenue realization & pilferage in Distribution systems.

Recently the union government has developed a program to improve the electricity distribution sector that is restructured accelerated power development reform program. To minimize the distribution transformer losses the union government has been introduced the supervisory control and data acquisition SCADA and IT enabled system. To achieve profits for the utilities that is break even at transmission and distribution loss levels around 20%.

The distribution utilities have huge revenue. Based on the stage of power transformation, transmission losses are divided as groups for different voltage ratings (400kv/220kv/132kv/66kv/33kv). Defect in meter reading, electricity theft or pilferage and meter defect these are commercial losses and some other losses such as insufficient reactive compensation, transformer losses and  $I^2R$  losses those are comes under technical losses of transmission system.

## Transmission and Distribution losses in India

During generation of electricity the T&D losses are 27% in India. However, by independent agencies the transmission and distribution losses have been estimated as 50% in some states. This high loss is bleeding the country resources. By this analysis if total generated power is taken into figure out of 803409 million KWh, then the lost electricity is 401704 million KWh. 741 million more individual people can have access to electricity, if it is utilized properly the 366 million more people can also access to this electricity. Consequently 198418 million KWh electricity losses can be reduced. Till now in India 46% of rural area is no electricity because of misbalancing due to above causes.

### A. Reasons

The energy dissipation in the conductors used for the transmission and distribution of electricity probably this comes under the technical losses. It can be up to 7-10 percent optimum level. In the stage of transmission system these losses are classified as transmission (33/11kv) and distribution (11/04kv) losses.

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# ARCHIVES

## Enhanced ANN with Ant Lion Optimization for Diagnose the Incipient Faults of Synchronous Generator

✎ B. Vidyasagar and Dr.S.S. Tulasi Ram

### Abstract

In the paper, an enhanced hybrid the Artificial Neural Network (ANN) and Ant Lion Optimization (ALO) technique based incipient fault detection and characterization are performed in the Synchronous Generator (SG). In this paper, the ALO algorithm is used to produce the ANN and the ANN exhibitions are enhanced. In the beginning time frame, the SG is investigated in the common condition. Starting now and into the foreseeable future, the issue is made and the framework practices are checked. Here, DWT is used to remove the highlights and structures the datasets which are sent to ANN classifier for orchestrating the kind of inadequacy. The proposed system is realized in MATLAB/Simulink stage and differentiated and the current methodologies, for example, DWT-ANN, DWT-ANN with GA and DWT-ANN with GSA strategies. To ensure the fairness of the proposed system, the factual measures are solved, for example, sensitivity, accuracy and specificity, mean, median and standard deviation.

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## A Novel Method to Enhance of Power Quality in Distribution System using IDVR

Shabbier Ahmed Syda<sup>1</sup>, Eswaraiah G<sup>2</sup>

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**Abstract:** The dynamic voltage trained worker (DVR) offers series compensation and better management resolution to voltage-sag drawback; as a results of the voltage restoration technique provides Active Power injection into the distribution system, to spice up active power at intervals the system ids done correct alternative of DVR in given network, considerably for mitigating long-duration voltage dips i.e. sag, and sag mitigation amount depends on the energy storage capability of the DVR. This paper prove higher answer in modeling the simulation of voltage sag compensation through Interline Dynamic Voltage trained worker (IDVR) and it provides sag mitigation off dc-link energy storage dynamical.

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## GRID CONNECTION OF SUB SEA POWER CABLE EMULATOR

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**Abstract**—This work proposes a new transmission line emulation system designed to test the performance of subsea power electronics systems within a power hardware-in-the-loop (P-HIL) framework. The emulator is composed of cascaded lumped parameter line equivalent sections, where all resistors of the transmission line electric model are replaced by regenerative power converters. These are employed to emulate a given behavior of relatively wide frequency band loss free resistors. Thus, most of the ohmic losses in a given test setup are avoided and the energy can be injected back to the grid. Furthermore, this emulator allows to reproduce the most significant harmonics including some of the resonance effects in the system under test. Many challenges and relevant topics of power electronics are discussed. These include high performance converters, power ripple across the dc-link of the ac-dc rectifiers, state of the art gallium nitride (eGaN) power devices, and the proposed control structure. **Index Terms**—Power Hardware-in-the-loop (P-HIL), Transmission Line Emulator, Subsea Variable Speed Drives (VSD), Extreme Performance Single Phase Rectifiers.

**Keywords:** Transmission Line Emulator, Subsea variable Speed drives, P-HIL

### I. INTRODUCTION

In offshore power systems, remote plants and connections through long submarine power cables, also known as submarine power umbilical's, generate significant voltage drops and losses. Due to resonances that naturally occur in setups with power umbilical's, it is important to forecast the effects of the harmonic content generated by the interactions between power converters, electric motors, and other equipment in the systems. Examples were reported in some applications, such as variable speed subsea motor drives with long step out cables [1] and offshore wind farms [2], [3], where the effects of resonances and delays caused by the reflection of electromagnetic waves influence the dynamic performance of a given system. Furthermore, the relatively high shunt capacitance values of subsea

cables lead to reactive power distributions that can be very different from typical onshore industrial installations. Thus, the emulation of such effects in experimental setups presents ever increased importance.

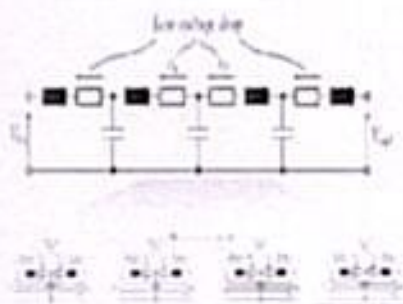


Fig. 1. Hybrid power cable emulator concept and losses diagram in a T-equivalent section. The concept is to implement the resistive voltage drops through high efficiency power converters.

In addition, such experimental setups could benefit from the use of power



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Page No: 352

## IMPLEMENTATION OF PSO BASED MAXIMUM POWER POINT TRACKING FOR SOLAR PV SYSTEM

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**ABSTRACT:** The fact that the output of the PV system is dependent upon the solar irradiance and temperature. In order to get maximum power from the solar panels the Maximum Power Point Tracking (MPPT) controllers can play an important role in photovoltaic systems, they have to operate at their maximum power point (MPP) despite the changes in the environment conditions. Maximum Power Point Tracking (MPPT) which significantly increases the efficiency of the solar photovoltaic System. The conventional method uses the incremental conductance MPPT algorithm. This paper presents the modeling and simulation of particle swarm optimization(PSO) based MPPT algorithm for PV array using boost converter. The PSO method is better than the conventional method to improve the output voltage and power. The simulation has been accomplished using MATLAB-SIMULINK.

### I. INTRODUCTION

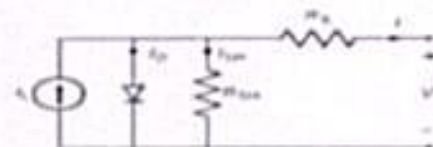
The output of the solar PV system is dependent upon the solar irradiance and temperature. In order to get maximum power from the solar panels the Maximum Power Point Tracking (MPPT) controllers can play an important role in photovoltaic systems; they have to operate at their maximum power point (MPP) despite the changes in the environment conditions. Maximum Power Point Tracking (MPPT), which significantly increases the efficiency of the solar photovoltaic System. To operate the PV array at its maximum power point, the PV system can implement a maximum-power point tracking (MPPT) controller and therefore MPPT algorithms are necessary because PV arrays have a nonlinear voltage-current characteristics. These voltage-current characteristics have a unique point, where the power produced is maximum.

This point depends on the varying environmental conditions. These conditions change during the day and are different depending on the seasons. There are different MPPT control methods used for solar PV systems, Incremental conductance(IC), Perturb and observe(P&O), Constant Current method, Constant Voltage method, Fuzzy Control, and Neural Network Control. Among all these methods Incremental conductance(IC) is commonly used because of their simplicity. For this International Journal of Scientific Research in Science, Engineering and Technology (ijrsrset.com) 651 reason, this paper presents the details of Incremental Conductance MPPT using boost converter. The simulation model of the PV based system with MPPT algorithm will be implemented in the MATLAB Simulink.

### 2. SOLAR PV SYSTEM

#### A. MODELLING OF PV SYSTEM

The PV system consists of the photo diode based on which the light energy is converted to DC energy. It will vary based on the irradiance and temperature conditions and the MPPT technique of incremental conductance method is used to track the possible maximum power from the solar modules. The DC output is converted to AC by the inverter circuit and its controlling provides the steady state voltage. The equivalent circuit for the PV array is as shown in fig.1.



Equivalent circuit of Photovoltaic system

# International Journal of Advanced Science and Technology

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## Multilevel Inverter Topologies with Sliding Mode Control: A Review

Kalagotla.Chenchireddy, V.Jegathesan

### Abstract

Multilevel inverters are known as highly efficient inverters, which can replace single level inverters in industrial and domestic applications. This paper presents a review of multilevel inverter topologies with sliding mode control. The sliding mode control is a kind of nonlinear control which has been developed mainly for the control of the variable structure system. Sliding mode control is highly suitable for applications in nonlinear systems, industrial applications, electrical drives, automotive control and furnace control.

[PDF](#)

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## Kidney disease detection and segmentation using artificial neural network and multi-kernel k-means clustering for ultrasound images

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## ABSTRACT

The main aim of this paper is to design and develop an approach for kidney disease detection and segmentation using a combination of clustering and classification approach. Nowadays, kidney stone detection and segmentation is one of the crucial procedures in surgical and treatment planning for ultrasound images. However, at present, kidney stone segmentation in ultrasound images is mostly performed manually in clinical practice. Apart from being time-consuming, manual stone delineation is difficult and depends on the individual operator. Therefore, in this work, we proposed a kidney stone detection using artificial neural network and segmentation using multi-kernel k-means clustering algorithm. Normally, the system comprises of four modules like (i) preprocessing, (ii) feature extraction, (iii) classification and (iv) segmentation. Primarily, we eliminate the noise present in the input image using median filter. Then, we extract the important GLCM features from the image. After that, we classify the image as normal or abnormal using neural network classifier. Finally, the abnormal images are given to the segmentation stage to segment the stone and tumor part separately using multi-

kernel k-means clustering algorithm. The experimentation results show that the proposed system as linear + quadratic based segmentation achieves the maximum accuracy of 99.61%, compare with all other methods.

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## 1. Introduction

Kidney stone illness is one of the real hazardous sicknesses holding on around the world. The stone infections stay unnoticed in the starting stage, which thus harms the kidney as they create. A maximum individual are influenced by kidney failure because of diabetes mellitus, hypertension, glomerulonephritis, etc. Since kidney breaking down can be threatening, diagnosis of the issue in the starting stages is advisable. Ultrasound (US) picture is one of the present accessible strategies [1]. The ultrasound imaging strategy is utilized in the medicinal practices, alongside other imaging strategies, for example, X-ray, CT, and so forth, for creating pictures of live tissue and with the aim of medical diagnosis. Since favorable circumstances of ultrasound imaging strategy, for example, being less expensive, convenience of the gadget, security of the imaging procedure to the patient, and the less measure of real time required for imaging, it has been given more consideration than

other imaging techniques [2]. It was likewise revealed that identification of the kidney disease from the US picture is viewed as the challenging task because of characteristic constraints. With the improvement in the picture handling instruments, the characterization of US kidney has turned out to be accurate and preferred. Feature extraction and selection are the important steps for kidney stone detection. There are lot of texture features are available to extract the images namely, GLCM features, statistical features, texture features, region based feature and wavelet features etc. [3]. To extract the features from images lot of methods are available. Similarly, large number of features is a great obstacle for classification [4]. So, the important features are selected. Feature selection process increases the classification accuracy and minimizes the computation complexity. Nowadays, number of optimization algorithms and machine learning algorithms are used for feature selection process [5].

Many machine learning techniques have been applied to classify the tumor, including Fisher linear Discriminant analysis [6], k-nearest neighbor [7] decision tree, multilayer perceptron [8], and support vector machine [9]. A recent comparison of

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# Design and Implementation of Fuel Cell Stack Using Matlab/Simulink

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## Abstract

Energy is the basic need in today's life. Without electrical based machines. Now a days without electrical energy the Now a days the basic need of electricity is increasing Industries, public service etc. The electricity is must and found new ways to generate electrical energy in different Renewable energy sources are decreasing. Slowly but available.

In this article, we are presenting the Hydrogen cell. In this chemical response between the H<sub>2</sub> and O<sub>2</sub>. Hence, it is a cell. Every fuel cell normally has three parts. They are electrolyte plays big role in every fuel cell.

By using the MATLAB-SIMULINK simulation is done and

**Keywords;** Fuel cell, Anode, Cathode, Electrolyte, Elec

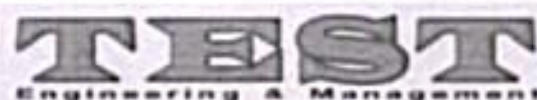
## I. INTRODUCTION

Now-a- days, every country trying to develop their own nation by using all energy resources. But they are thinking only about the development and not thinking about the depletion of resources. -Due to this, there is a scarcity of energy resources in the world. But there is a solution for this problem i.e.

in fuel cells. As it is unlimited. That means the cell. The cells produce voltage of fuel cell is many applications. The automobiles

The are implemented in Teegala Krishna Reddy Engineering College (UGC-AUTONOMOUS) Medbowli, Meerpet, Hyderabad - 97.





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# Sliding Mode Controllers for SEPIC Converter using Matlab/Simulink

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## Abstract

Nowadays the importance of renewable energy source solar cells producing DC voltage, we need converters for standalone and grid applications. This paper introduces a single ended primary inductor converter (SEPIC). An adaptive sliding mode control (SMC), this technique fast robustness controller is gaining more output.

**Keywords:** SEPIC converter, sliding mode control (SMC)

## I. INTRODUCTION

Circuits run best with tenacious and unequivocal data. Scheming the commitment to express sub-circuits is noteworthy for fulfilling plan necessities. Cooling AC change can be successfully completed with a transformer; at any rate dc-dc change isn't as clear. Diodes and voltage ranges are useful for diminishing voltage by a set total, yet can be ineffective. Voltage controllers can be used to give a reference voltage. Additionally, battery voltage reduces as batteries discharge which can cause various issues if present is no voltage control. The majority gainful system for coordinating

use a converter that can Buck-bolster converter considering the way the inductor and a capacitor converters experience proportion of data can make music; in various require using a transformer channel. This routine expensive or inefficient obfuscate the conventional is the manner in which Cuk converters handle



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## POWER QUALITY IMPROVEMENT OF MULTI-FUNCTIONAL GRID CONNECTED INVERTER WITH RENEWABLE SYSTEM

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### ABSTRACT:

To improve performance of voltage profile and current profile of power quality issues in renewable sources. This paper propose a multi-functional grid connected inverter and MFGCI is improve both voltage-based and current-based power quality issues. Using a shunt-series MFGCI (SSS-MFGCI). The SSS-MFGCI is connected in series or parallel to grid which gives the compensation of the grid voltage. The propose system is implemented and validated the Simulation result. The proposed system more effective for multi-function grid connected.

**KEY WORDS:** Distributed Energy Resources (DERs); Multi-Functional Grid-Connected Inverters (MFGCI); Static Compensator (STATCOM); Active Power Filter (APF).

### I.INTRODUCTION

Dynamic loads and different kinds of distributed energy resources (DERs) are penetrating more in distributed generation system and micro grid application, power quality issue becomes significant to supply stable and clean power. To utilize DERs effectively, multi-functional grid-connected inverters (MFGCI) have proposed as the interface between the grid and DERs. While it has the capabilities of converting DC power produced by DER into AC power and it can also be used to improve the power quality of the grid as an auxiliary function.

Variety of topologies and control methods of MFGCI are there. MFGCI can be operated to achieve unity power factor and active power filtering. Power conversion applications include solar power, wind power, energy storage systems, and various generators in distributed generation and micro grid applications. Focus on the use of MFGCI to mitigate current-based power quality problems and MFGCI functions as a static compensator (STATCOM) and an active power filter (APF).

MFGCI are connected in parallel to the grid. MFGCI as shunt compensator can inject current into the system to mitigate current-based power quality problems such as poor power factor, unbalanced current, increased neutral current, and harmonic current in the nonlinear load. Conventional GCI can also improve the voltage-based power quality issues such as voltage

# SMART CCTV SURVEILLANCE SYSTEM WITH IMPROVING RELIABILITY AND PRIVACY

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**Abstract**— The security is a scenario in which objects, animals or people are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. This paper deals with the design and implementation of Smart surveillance monitoring system using Raspberry pi and IR sensor for mobile devices. It increases the usage of mobile technology to provide essential security to our homes and for other control applications. The proposed home security system captures information and transmits it to the respective mail using the internet. Raspberry pi operates and controls motion detectors and video cameras for remote sensing and surveillance, streams live video and records it for future playback. It can also find the number of persons located with the help of the Infrared sensor. For example, when motion is detected, the cameras automatically initiate recording and the Raspberry pi device alerts the owner of the possible intrusion having a smart phone. Raspberry- Pi has two main components interacting with each other. We can able send it to the email automatically. We can able to alert the people using IOT technology.

**Keywords**—Raspberry Pi, IR Sensor, GSM, Web cam, Buzzer, etc.,

## I. INTRODUCTION

Surveillance is one of the important aspects in various fields such as banking sectors, military areas, or personal security. Due to exponential rise in burglary and theft activities, surveillance systems are proving to be a great source of security. Due to ever increasing technology people are relying on advanced technologies for their security purposes. Security systems such as CCTV have proven to be hugely popular for security purposes due to their cost efficient nature and easy maintenance. Surveillance is very helpful for law enforcement to investigate/prevent criminal activities, for recognizing and monitoring threats. Also, surveillance systems have always been playing a vital role in dealing with the burglary cases. These CCTV systems tend to monitor activities continuously. This results in high power consumption and memory wastage. Moreover, it does not give alert on any suspicious activities detected.

## II. LITERATURE REVIEW

M. Surya Deekshith Gupta, Vamsikrishna Patchava, and Virginia Menezes have implemented a system which continuously captures the surroundings and if there is any moment, it turns on the light and captures the screenshorts

that results in sending of those to authorised person as an alert.

Aruni Singh, Sanjay Kumar Singh, Shrikant Tiwari have implemented comparison of various face recognition algorithms including eigenfaces, fisherfaces, Principle Component Analysis, Local binary Pattern. In holistic based algorithms PCA has range of accuracy from (51-72)%, LDA (48.50-76.50)%, iSVM (63.5-79)% while texture based algorithm LBP shows the identification accuracy (60-94.5)% and feature based algorithm SIFT demonstrates the accuracy range (61-94)% at various image compression levels.

Aamir Nizam Ansari, Mohamed Sedky, Neelam Sharma, Anurag Tyagi have implemented a system in which Raspberry Pi executes the processing of all the data and after the data is analyzed then the set actions are triggered for example sending an email on detection of motion and uploading images and videos to the ftp server.

## III. EMBEDDED SYSTEM IMPLEMENTATION

### A. INTRODUCTION

An embedded system is one kind of computer system mainly designed to perform several tasks like to access, process, and store and also control the data in various electronics-based systems. Embedded systems are a combination of hardware and software where software is usually known as firmware that is embedded into the hardware. One of the most important characteristics of these systems is, it gives the o/p within the time limits. Embedded systems support to make the work more perfect and convenient. So, we frequently use embedded systems in simple and complex devices too. The applications of embedded systems mainly involve in our real life for several devices like microwaves, calculators, TV remote control, home security, and neighborhood traffic control systems, etc.

**B. Bringing software and hardware together for the embedded system:**

To make the software work with embedded systems we need to bring software and hardware together. For this purpose we need to burn our source code into a microprocessor or microcontroller which is a hardware component and which takes care of all operations to be done in the embedded system according to our code.

Generally, we write the source codes for embedded systems in assembly language, but the process is not only tedious



## Residual Energy Aware Routing Mechanism for WANET to Enhance the Performance of the Network

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**Abstract:-** Wireless communication is possible by either infrastructure dependent or infrastructure free. One such infrastructure free communication in wireless technology is wireless ad hoc networks. This network composed of mobile wireless devices that are distributed in radio communication region. Devices communicate one another directly, if they are present in the radio region of one another. If both are not present in the radio-communication region of each other, then they have to depends on other communication device for enable communication. This situation in terms leads the MANET devices to behave as a router to enable communication. In order do this, nodes need to have sufficient resources such as buffer, energy and processer. The energy resource is one of the constrained resources of MANET, as the application of the MANET. The major applications of MANET are military disaster relief and law enforcement. In these applications resource conservation is an important considerable issue, as we cannot recharge or replace the battery of device during the mission of the application. In order to utilize the energy in efficient way different number of mechanisms have been developed in literate in different layers communication. Routing is one of the best way of managing the energy resource of MANET. Thus, different energy considered routing protocols have been designed and developed in MNAET to manage the energy of the network during the communication. In this paper we study the different energy efficient routing protocols for MANET and evaluate the performance of them with respect to different performance metrics. Moreover, our paper majorly concentrate on the energy efficient routing protocol based on the residual energy of the node. To compute the performance of the network we use the network simulator 2 (NS-2). The results are pay the path for future research to design the energy efficient communication in MANET to improve the network lifetime.

### Introduction

Communication is the way toward transmitting the data from one communication device to another. There are a wide range of mechanisms to accomplish the transmission of data between conveying devices. In any case, the communication entities lean toward the communication which is proficient and powerful. Besides, the productivity and adequacy of the communication shifts from the various sorts of communication and situations and substances prerequisites. In practice, the communication is initiated with wired communication, further it shifted to wireless. However, present generation demands the network access any place every time. This requirement is accomplished with the development of the infrastructure free

network, i.e., wireless ad hoc networks in short WANETs.


WANET is a framework free remote system comprise of remote portable nodes disseminated in the remote radio communication territory with compelled and heterogeneous assets. Nodes in the WANET are allowed to portable structure to somewhere else. The network topology of system is dynamic and capricious because of dynamic mobility. Additionally, hubs in the system must perform as a router to advance the bundle of different nodes to have effective communication. The WANET have various qualities in correlation with wired and remote foundation based wireless network.



RESEARCH ARTICLE | JULY 28 2020

# Global stability analysis of a two mutualistic species ammensal on third species with cover for third species

Lakshmi Narayan. K; Kondala Rao. K; K. V. Murali Mohan;  
Papa Rao. A. V.

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+ Author & Article Information

AIP Conf. Proc. 2246, 020039 (2020)

<https://doi.org/10.1063/5.0014659>

The present work is devoted to an analytical study of a three species syn-ecological model which the first species (X) and second species (Y) are ammensal on the third species (Z). Here first and second species are mutually helping to each other. A Cover is incorporated in the interaction of third species and second species ( $\alpha_1$ ) and the interaction of third species and second species ( $\alpha_2$ ). Equilibrium point (Normal steady state) is identified and local and global stability for Normal steady state is discussed discussed by constructing suitable Lyapunov function. Further, exact solutions of perturbed equations have been derived. The stability analysis is supported by numerical simulation using Mat Lab.

Topics

[Computer simulation](#)

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## Medical Image Compression Using Generative Adversarial Networks

Dr. SK. Umar Faruk, Dr. K. Venkata Murali Mohan

### Abstract

Medical images need to be efficiently compressed before transmission and storage due to the storage capacity and constrained bandwidth issues. An ideal image compression system must yield a high compression ratio with good quality compressed images. Machine learning models are proposed to perform tasks, whereas humans have difficulties in completing. In this paper, machine learning algorithms such as Generative Adversarial Networks (GANs), Conditional Generative Adversarial Networks (CGANs) and Deep Convolutional Generative Adversarial Networks (DCGANs) are trained to relate the medical image contents to their compression ratio. The comparison of different methods is evaluated using various evaluation metrics such as PSNR, MSE, MAE, Compression Ratio, Compression Time and Decompression Time.

[PDF](#)

### How to Cite

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### Issue

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## Machine learning methods to approximate rainfall and wind from acoustic underwater measurements

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**ABSTRACT-** While wireless communication technology today has become part of our daily life, the idea of wireless under sea communications may still seem far-fetched. However, research has been active for over a decade on designing the methods for wireless information transmission under water. Human knowledge and understanding of the world's oceans, which constitute the major part of our planet, rests on our ability to collect information from remote undersea locations. One method of measuring precipitation and wind over the ocean is through analysis of the underwater ambient acoustics. In this study, the ambient ocean noises recorded by a passive aquatic listener (PAL) in the Mediterranean are used to compare the effectiveness of the machine learning techniques for measuring the wind speed and precipitation rate with the empirical methods from previous works. The data were collected over the timeframe of June 2011 to May 2012 and included two storms that caused severe coastal flooding in Genoa, Italy. A spar buoy at the surface above the PAL provided high-quality in situ measurements to act as the reference data for model training and validation. The results using the machine learning models show correlation coefficients of 0.95 between the acoustic data and wind speed and a reduction in unexplained variance by over a third from previous methods. The ability to measure wind and precipitation by applying machine learning on data from underwater acoustic recorders shows potential to help improve in situ measurements over oceans globally. The comparative study of acoustic wave absorption carried out by means of modeling in MATLAB.

Keywords- acoustic signals, channel, wave absorption,

### 1. Introduction

It is extremely difficult to achieve a high data rate communication link under water due to various constraints such as poor propagation of electromagnetic signals under water, high attenuation of acoustic signals, lack of accurate mathematical models of the underwater acoustic channel etc. Also, some of the wired underwater communication links would be prone to attacks by aquatic animals. Also, these wired links have problems related to dispersion and low data rate due to extreme pressure underwater. Hence the motivation and interest in wireless underwater communications. Together with sensor technology and vehicular technology, wireless communications will enable new applications ranging from environmental monitoring to gathering of oceanographic data, marine archaeology, and search and rescue missions, emergency Communications from a ship-Wired Media, mobile communication from a submarine, AUV with other stations that include ships, land based stations and other submarines wireless acoustic media and many more. The primary research goal of this project is to investigate various algorithms for underwater communication systems and hence enhance the performance. Since, low data rate is the major bottleneck in successfully implementing an underwater communication system. The project aims to address the data rate issue by investigating numerous novel algorithms customized for underwater systems. This would be done by studying and optimizing the modulation schemes and the communication parameters for an underwater channel. The underwater channel model would be opted from published literature and used for simulations. Then for this channel various studies could be



## PERFORMANCE EVALUATION OF PACKET DROPS IN WIRELESS INFRASTRUCTURE LESS NETWORKS

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**Abstract:** MANETs system made out of remote portable device that communicates by transferring on wireless medium. This system & portrayed by absence of infrastructure, without focal facilitator and central assets. Communication is conceivable by device in a system are helpful; however it is not generally valid in disseminated compelled asset condition. Hacker can play out the malicious exercises by not following directing convention of network layer protocols, one such attack is black hole attack. In which black hole device control the routing messages and pull in the correspondence data towards it and after that drop the data. Earlier works identifies and prevent black hole attack by observing the nodes in a network, which is not practical arrangement in hostile environment. The proposed technique mitigates Black hole Attack from routing path in MANETs by Secret Key and Hashing. Analysis of our results demonstrates that our proposed technique precisely remove the black hole attack and extend the performance of network.

### Introduction

Wireless mobile ad-hoc network technology is designed for the establishment of a network anywhere and anytime, characterized by lack of infrastructure, clients in a network free to move and organize themselves in an arbiter fashion. Communication may have multiple links and heterogeneous radio, can operate in a stand-alone fashion, with self configured & self maintenance. It is a wireless network consist of collection of heterogeneous mobile devices (nodes) which are connected by a dynamically varying network topology without fixed infrastructure and absence of central coordinator or base station where network intelligence placeless inside every node thus nodes in a network act as a router as well as host which means MANETs behave as a peer to peer network. The connectivity between nodes may have a multiple links and heterogeneous radio and can operate in a standalone fashion. Due to characteristics of MANETs well suited a situation where infrastructure is difficult to setup, cost or time effective.

The design, development, performance of MANETs majorly include in routing, QoS, Security, multicasting, service discovery, scalability & Resource management (energy, bandwidth, delay and battery power). The QoS design issue is inherently related with MANET's applications. QoS is the performance level of service which is offered by the network to user in case of QoS routing process it has to provide end to end loop free path with ensure the necessary QoS parameters like bandwidth, delay, jitter, availability and resources has met. Depending up on the application QoS parameter varies.

- Real Time Traffic :- Bandwidth, Delay
- Group Communication :- Battery Life
- Emergency Services :- Network Availability
- Security

Routing, QoS & security is challenging in MANETs compared to infrastructure network due to its characteristics like dynamic network topology, absence of pre established infrastructure for central administration, mobility of nodes, resource constraint, error prone channels and hidden , expose node problem. Routing in MANETs is an active research area in recent years; number of routing protocols has been developed. Routing protocols are useful when they offer acceptable communication services like route discovery time, communication throughput, end to end delay, and packet loss

Energy-Efficient routing is another effective factor for MANETs routing due to its energy Constraint characteristic so as to reducing the energy cost during data communication. Routing protocol aim is to just finding energy consumption during end to end packet travelling is not reliable routing but it also consider reliable links and residual energy of nodes which not only improve QoS but also improve life time of network. Various routing protocols have been proposed which aim to improve reliability, energy efficiency and life time of network.

In any MANET's application secure communication is important; especially in military application security is mandatory. Many security protocols have been proposed which mainly focus on the security issues related to data integrity, confidentiality and other focus on availability.



# Generation of Synthesis Handwritten Signatures Using Image Processing Techniques for Biometrics

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**Abstract-** In this study, we provide yet another method for producing synthetically generated, transcribed signature images for use in biometric applications. If there is a twist, it is included here along with the distinctive material. By adding a kinematic Kaiser channel to the direction plan, the neuromuscular manner is mimicked. A scalar version of the sigma lognormal model is used to create the pen speed, which determines the length of the channel. Practical static signature images are produced by an ink deposition model that is pixel-by-pixel coupled to the pen direction. A true database of real signatures has been used to evaluate the lexical and morphological characteristics of the blended signatures as well as the range of the synthesis parameters. The research presented shows that it is possible to create synthetic life by adjusting just four factors. Therefore, it is possible to create datasets of fake signatures that look like databases of real signatures. Depending on the requirements of the analyst, we can also alter the created dataset to produce simple or gifted frauds that are easier to recognize. The perceptual evaluation shows a normal confusion of 44.06 percent between real and fake signatures, proving the validity of the fake ones. By considering the effect of the type of pen and the number of clients on programmed signature verification, the usefulness of the combined signatures is demonstrated.

**Key Words:** Biometric recognition, off-line signature verification, synthetic generation

## 1. INTRODUCTION

The utilization of biometric characteristics has turned out to be entrenched in trade and legal sciences [1]. The most ordinarily utilized characteristics for recognizable proof or verification are the face [2], the unique mark [3] and the iris [4]. Among the most testing biometrics are those identified with human conduct as a result of their flighty changeability. It is entrenched that during the beginning periods of improvement the human neuromotor framework learns a method for composing, strolling, keystroking, and so forth that contains a kind of 'watermark' for the individual's personality. This water imprint is hard to mimic or camouflage by a falsifier in view of the contrasts between people's neuromuscular frameworks.

This hence gives a hypothetical bit of leeway to these social biometrics. It is, nonetheless, colossally hard to distinguish and portray this water mark. This is a direct result of both the moderately few examples by and large accessible and the inalienable fluctuation of human conduct. This can change for mental reasons as well as a result of the adjustment of various stances, the wearing of various dress, the utilization of various composition apparatuses and for other untouchable components. In a conduct biometric, for example, the transcribed signature, look into these days will in general spotlight on improving recognition exactness, despite the fact that subjects, for example, interoperability, norms, adaptability and format insurance are additionally picking up consideration.



# “Stability Analysis of Three Species Ammensalism Model with Time Delay”

K. V. Murali Mohan, Lakshmi Narayan. K, Kondala Rao. K, Papa Rao. A. V

## Abstract:

The present model is devoted to an analytical study of a three species syn-ecological model which the 1<sup>st</sup> species ( $N_1$ ) ammensal on the 2<sup>nd</sup> species ( $N_2$ ) and 2<sup>nd</sup> species ( $N_2$ ) ammensal on the 3<sup>rd</sup> species ( $N_3$ ). Here 1<sup>st</sup> species and 2<sup>nd</sup> species are neutral to each other. A time delay is established between 1<sup>st</sup> species and 2<sup>nd</sup> species and 2<sup>nd</sup> species and 3<sup>rd</sup> species. All attainable equilibrium points of the model are known and native stability for each case is mentioned and also the global stability of co-existing state is discussed by constructing appropriate Lyapunov operate. Further, precise solutions of perturbed equations are derived. The steadiness analysis is supported by numerical simulation victimization MatLab.

**Keywords:** Ammensalism, Time Delay, Equilibrium points, Global Stability, Lyapunov function, MATLAB.

## I. INTRODUCTION

Ammensalism is a relationship in which a result of one life from adversary affects the other living being. It is explicitly a populace collaboration in which one creature is hurt, while the other is neither adversely nor decidedly influenced. The case for ammensalism, air contamination brought about via vehicles, power producing stations or metal smelters frequently causes extreme harm of plants in the influenced territory, while people get no immediate profit by this relationship. Tall trees that structure the woodland shelter prevent light from achieving littler plants howl. It is a fact that time delay in biological systems is a reality and it can have complex impact on the dynamics of the system namely loss of stability, induced oscillations and periodic solutions. It is a known fact that in any prey-predator system, the consumed prey does not contribute to the instant growth of the predator population, but with a time lag. This is reflected in the works of Cushing [4], Kuang [16], Gopalsammy [17] and some other authors have discussed models by incorporating delay

terms. As far back as research in the order of a hypothetical environment was started by Lotka[1] and Volterra [2]. Later on, many mathematicians and ecologists contributed to the growth of this area as reported in the treaties of Meyer [3], Cushing [4] and Kapur [5, 6]. Lakshmi Narayan et al. [8, 9, 10] investigated prey-predator ecological models with a partial cover for the prey and alternative food for predator and Time Delay. Ravindra Reddy.B et al. [11] studied A Model of Two Mutually Interacting Species with Limited Resources and a Time Delay. Paparao. A. V. et al. [12, 13, 14] studied three species ecological models with time delay. Kondala Rao. K. et. Al [15] discussed a three species dynamical system of ammensal relationship of humans on plants and birds with time delay.

Ammensalism is a biological connection between the species where first species ( $N_1$ ) influence on the second species ( $N_2$ ) and second species ( $N_2$ ) influence on the third species ( $N_3$ ) without themselves being influenced in any capacity. Here first species ( $N_1$ ) and third species ( $N_3$ ) are impartial to one another. The model is represented by a system of three ordinary differential equations. All possible equilibrium points are identified and the stability of co-existing state is discussed using Routh-Hurwitz criteria. Further solutions of quasi-linearized equations and the results are simulated by Numerical examples using Mat Lab.

## II. BASIC EQUATIONS.

The model equations for a system of three interacting species are given by the following set of non-linear first order simultaneous differential equations.

$$\begin{aligned} \frac{dN_1}{dt} &= f_1(N_1, N_2, N_3) = a_1 N_1 - \alpha_1 N_1^2 \\ \frac{dN_2}{dt} &= f_2(N_1, N_2, N_3) = a_2 N_2 - \alpha_2 N_2^2 - \alpha_3 N_2 \int_0^t k_1(t-s)N_1(s)ds \\ \frac{dN_3}{dt} &= f_3(N_1, N_2, N_3) = a_3 N_3 - \alpha_3 N_3^2 - \alpha_4 N_3 \int_0^t k_2(t-s)N_2(s)ds. \end{aligned} \quad (2.1)$$

Here  $k_1(t-s)$  &  $k_2(t-s)$  is giving weight factors to the influences at time t of  $N_1$  and  $N_2$  of time s.

That is  $k_1(t-s)$  &  $k_2(t-s)$  are rate of change of  $N_1$  and  $N_2$  after a time interval (t-s)

$$\text{Let } t-s = z \Rightarrow s = t-z \quad (2.2)$$

$k_1(z) \geq 0$  &  $k_2(z) \geq 0$  and we normalize it, so that

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## Kidney disease detection and segmentation using artificial neural network and multi-kernel k-means clustering for ultrasound images

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## ABSTRACT

The main aim of this paper is to design and develop an approach for kidney disease detection and segmentation using a combination of clustering and classification approach. Nowadays, kidney stone detection and segmentation is one of the crucial procedures in surgical and treatment planning for ultrasound images. However, at present, kidney stone segmentation in ultrasound images is mostly performed manually in clinical practice. Apart from being time-consuming, manual stone delineation is difficult and depends on the individual operator. Therefore, in this work, we proposed a kidney stone detection using artificial neural network and segmentation using multi-kernel k-means clustering algorithm. Normally, the system comprises of four modules like (i) preprocessing, (ii) feature extraction, (iii) classification and (iv) segmentation. Primarily, we eliminate the noise present in the input image using median filter. Then, we extract the important GLCM features from the image. After that, we classify the image as normal or abnormal using neural network classifier. Finally, the abnormal images are given to the segmentation stage to segment the stone and tumor part separately using multi-kernel k-means clustering algorithm.

The experimentation results show that the proposed system as linear + quadratic based segmentation achieves the maximum accuracy of 99.61%, compare with all other methods.

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## 1. Introduction

Kidney stone illness is one of the real hazardous sicknesses holding on around the world. The stone infections stay unnoticed in the starting stage, which thus harms the kidney as they create. A maximum individual are influenced by kidney failure because of diabetes mellitus, hypertension, glomerulonephritis, etc. Since kidney breaking down can be threatening, diagnosis of the issue in the starting stages is advisable. Ultrasound (US) picture is one of the present accessible strategies [1]. The ultrasound imaging strategy is utilized in the medicinal practices, alongside other imaging strategies, for example, X-ray, CT, and so forth, for creating pictures of live tissue and with the aim of medical diagnosis. Since favorable circumstances of ultrasound imaging strategy, for example, being less expensive, convenience of the gadget, security of the imaging procedure to the patient, and the less measure of real time required for imaging, it has been given more consideration than

other imaging techniques [2]. It was likewise revealed that identification of the kidney disease from the US picture is viewed as the challenging task because of characteristic constraints. With the improvement in the picture handling instruments, the characterization of US kidney has turned out to be accurate and preferred. Feature extraction and selection are the important steps for kidney stone detection. There are lot of texture features are available to extract the images namely, GLCM features, statistical features, texture features, region based feature and wavelet features etc. [3]. To extract the features from images lot of methods are available. Similarly, large number of features is a great obstacle for classification [4]. So, the important features are selected. Feature selection process increases the classification accuracy and minimizes the computation complexity. Nowadays, number of optimization algorithms and machine learning algorithms are used for feature selection process [5].

Many machine learning techniques have been applied to classify the tumor, including Fisher linear Discriminant analysis [6], k-nearest neighbor [7] decision tree, multilayer perceptron [8], and support vector machine [9]. A recent comparison of

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## An Efficient Optimal Neural Network-Based Moving Vehicle Detection in Traffic Video Surveillance System

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### Abstract

This paper presents an effective traffic video surveillance system for detecting moving vehicles in traffic scenes. Moving vehicle identification process on streets is utilized for vehicle tracking, counts, normal speed of every individual vehicle, movement examination, and vehicle classifying targets and might be executed under various situations. In this paper, we develop a novel hybridization of artificial neural network (ANN) and oppositional gravitational search optimization algorithm (ANN-OGSA)-based moving vehicle detection (MVD) system. The proposed system consists of two main phases such as background generation and vehicle detection. Here, at first, we develop an efficient method to generate the background. After the background generation, we detect the moving vehicle using the ANN-OGSA model. To increase the performance of the ANN classifier, we optimally select the weight value using the OGSA algorithm. To prove the effectiveness of the system, we have compared our proposed algorithm with different algorithms and utilized three types of videos for experimental analysis. The precision of the proposed ANN-OGSA method has been improved over 3% and 6% than the existing GSA-ANN and ANN, respectively. Similarly, the GSA-ANN-based MVD system attained the maximum recall of 89%, 91%, and 91% for video 1, video 2, and video 3, respectively.

**Keywords** Moving vehicle detection · Artificial neural network · Oppositional-based learning · Gravitational search optimization algorithm · Traffic video surveillance system

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# *Soft computing based color image demosaicing for medical Image processing*

**D. R. Ramji, C. Anna Palagan, A. Nithya, Ahilan Appathurai & E. John Alex**

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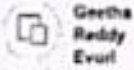
Anti-lock braking system (ABS) and regenerative braking system (RBS) in hybrid electric vehicle for smart transportation system

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Abstract

Pulse width modulation (PWM) based (a non-consistent) braking system is used to keep the wheels from being bolted in the proposed antilock braking system (ABS). Using this method a better hold of the street by wheels is possible and halting separations likewise diminish essentially particularly on precarious street surfaces like frosty or wet streets. The active vitality of the wheel is by and large lost amid braking as warmth because of grinding among brake cushions. This vitality can be recuperated using regenerative braking systems (RBS). In this strategy, the overabundance vitality is put away incidentally in capacitor banks before it gets changed over to warm vitality and is squandered. This framework delays the battery life by reviving the battery utilizing the put away vitality. Subsequently the mileage of the electric vehicle likewise increments as it can travel more separation in a solitary battery charge. These two techniques together help make electric vehicle vitality productive and more secure and less demanding to utilize subsequently anticipating and diminishing the quantity of mishance's.

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# Energy Aware Relay GAF algorithm for WSN using Improved Conservative schemes

T Venu Madhav



**Abstract:** Wireless sensor systems (WSN) is the system of Sensor Nodes (SNs) in which every node have detecting, correspondence and calculation office. The fundamental impediment of WSN is that SNs have restricted vitality. So the fundamental focal point of research in WSN is to improve the Network Lifetime by falling vitality utilization. A few areas mindful directing convention has been proposed. Geographic Adaptive Fidelity (GAF) is one of the most famous vitality mindful steering conventions. It moderates vitality by recognizing equality between sensors from a steering point of view and after that killing superfluous sensors, while keeping up the availability of the system. Anyway conventional GAF can't achieve the ideal vitality use. It requires progressively number of jumps to transmit information from source to sink, so that it prompts higher bundle delay. The underlying issue of essential GAF is information can be sent in just flat and vertical. The issues which are being worked in this undertaking are minimization of jump check, parcel deferral and separation secured by the bundle postponement steering utilizing vitality mindful Relay GAF calculation. Both the conventions are actualized in MATLAB. Investigation and reproduction results show critical enhancements of the projected work contrasting with customary GAF in the part of absolute jump check, arrange lifetime vitality utilization, all out separation secured by the information bundle before achieving the sink, and parcel delay.

**Index Terms:** WSN, GAF, Hop count, energy consumption, MATLAB

## 1. INTRODUCTION

As of late, different steering conventions have been suggested through greater vitality productivity in WSNs so as to limit vitality use and draw out the system lifetime [1]. The principal objective of structuring directing conventions is to accomplish higher vitality preservation for the transmission of information bundles to the sink so as to expand the system lifetime [2]. Since vitality utilization because of information sending starting with one sensor then onto the next is straightforwardly corresponding to the rectangular of the broadcast separation among the transmitter also the collector, most steering conventions favor multi-bounce transmission instead of direct transmission [3,4]. In multi-jump directing conventions, when a sensor has an information parcel to remain conveyed to the sink, it checks whether the sink is in the transmission go or not.

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In the event that it is, an information bundle can be conveyed legitimately, else, it searches for the accessible alternatives of neighboring sensors straightforwardly associated with it and chooses any of them

as a hand-off and advances the information parcel to it. This procedure proceeds until information scopes to the sink [5]. The information bundles got from neighbour sensors can likewise be amassed to dodge excess conventions WSNs were suggested where the idea of vitality is considered a important constraint in dragging out the lifespan of the scheme. Area-based navigation conferences use sensor physical zone data to track data in the center provided by GPS or any other sensor-equipped limitation frameworks. Sensors can use their spatial locations (promote scores) to determine other adjacent cameras' excellent methods of picking up another detector as a hand-off to move the product towards the sink [6, 7].

So as to accomplish greater vitality protection, greatest directing conventions utilize a subgroup of sensors conveyed inside the area. GAF is a topology control founded multi-bounce steering convention dependent on virtual lattices which self-designs repetitive sensors into little gatherings and utilizations restricted, conveyed calculations to regulator device obligation cycle to expand arrange operative period [8, 9]. It maintains vitality while maintaining a greater network while maintaining superfluous detectors in a state of remainder. GAF calculation uses GPS or some other restriction structures equipped with detectors to order detectors into small meetings depending on their fields. Indeed, it is not possible to decide equal detectors for transmission between detectors even with sensor information in the spatial area [10]. For certain devices, devices that are equivalent to the conveyor may not be proportional to others. GAF uses the concept of the digital structure to evaluate this problem. For this, the location of the sensor is divided into a few small square networks, where any sensor of a single frame can be transmitted to any sensor in the adjacent lattice. In this manner, all sensors in every matrix are proportional for speaking with the contiguous frameworks. Inside every framework, sensors are comparable from a directing perspective, so just a single sensor should be dynamic at some random time. The magnitude of the lattice blocks is defined to such an effect in standard GAF that any two most remote detectors in any two adjacent networks can talk to each other. Sensors forward packets towards the toilet to a sensor located in the adjacent network [11]. For every matrix, just a single sensor is dynamic at once and the remainder of them are in rest mode to expand the general lifetime of the system.



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# An Energy Efficient Routing method for improving Network lifetime with proper uniform routing strategies in Wireless Sensor Networks with Centered Base station

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**Abstract:**

During the development and use of wireless sensor networks (WSNs), different routing protocols have been proposed in different studies. The protocols come with varying features regarding their clustering probabilities and thresholds. Indeed, most of the proposed models have proved superior in such a way that they have extended the network lifetime of the systems to which they have been applied. Despite this positive trend, however, the models have been associated with non-uniformity in the various networks' epochs. With the nodes' sectors divided in the networks, especially with the aim of optimizing energy consumption, a factor that has determined how sensor nodes and base stations communicate via a clustering approach or directly has been that which entails distance. To ensure that the problem of cluster non-uniform division is overcome, the network needs to be segmented to obtain fixed sectors in the entire network lifetime. Indeed, the latter arrangement translates into a reduction in the average distance of data transmission. Also, in the respective regions, the selection of cluster heads does not rely on other regions, implying that each zone has a cluster head. For center base stations in the target zones, the EERACBSH and EERACBS models are proposed. For the case of LEACH, it also exhibits horizontal segmentation and seeks to achieve energy efficiency in each region. Outside the regions, especially with heterogeneous and homogeneous networks, EEMCRPH and EEEMCRP algorithms have been proposed, respectively. In this study, findings from the simulation suggest that the proposed model extends the network lifetime of the system, outperforming other algorithms with which it has been compared. Hence, the technique reflects a superior routing protocol that strives to improve on the outcomes that have been associated with other routing frameworks that have been proposed and implemented by other researchers.

**Keywords:** heterogeneous, homogeneous, routing protocol, energy efficiency, network stability, network lifetime, data packet, base station, cluster head, WSN

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**Abbreviations:**

EERACBS - Energy efficient Routing algorithm for Centered Base Station

EERACBSH - Energy efficient Routing algorithm for Centered Base Station for heterogeneous networks

ZEEL - Zonal Energy efficient LEACH

EEEMCRP - Energy Efficient Multi clustered Routing Protocol for Homogeneous networks

EEMCRPH - Energy Efficient Multi clustered Routing Protocol for Heterogeneous networks

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# Design of Multistage CORDIC Configuration for DSP Applications

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**Abstract:** CORDIC is a software effective shifting and adding algorithm which is used for the calculation of trigonometric, logarithmic, hyperbolic and other regular, transcendental functions in several digital signal processing applications. This article presents the development of the pipeline system to calculate virtual trigonometric values, modular and scalable. With the help of cordic processor finished in circular rotation mode which provides high system performance in pipeline structure, which decreases latency at each level. For the layout of a pipeline, saving area on FPGA is necessary and can be accomplished by minimizing the number of micro rotations. Several iterations are needed to minimize the measured quantization error.

**Index Terms:** CORDIC, FPGA, DSP applications, pipelined

## I. INTRODUCTION

Most of the other contemporary DSP algorithms necessitate elementary functions along with other sine and cosine, tangent functions, the inverse of exponentiation, and differentiation and integration functions. To execute these functions many software solutions were made, which includes techniques like power sequence, look-up table, etc. But endured with most disadvantages. Look-up table methodologies allowed large memory to produce high accuracy outcomes, however fast. The need for the power sequence took too long to achieve the desired precision. For software powerful results CORDIC came under examination with DSP. The accuracy of the result is maintained without any external amount of chip storage by maintaining equal stability between the lookup table and the power series process. The advances in VLSI engineering made easy to design an architecture that is operating at high speed for their several types of signal and image processing applications in various technologies.

This provides a substantial boost in mapping the CORDIC algorithm to hardware structures by designers. These contemporary DSP systems demand a substantial improvement in real-time performance, along with a reduction in costs and lesser market time. Such systems are designed for different performance factors, such as accuracy, energy, and surface. By allowing this type of architectures that are supposed to work with higher clock poles, we can optimize the structure. IC technology enables application developers with a range of deployment types. The implementing design specifies the technologies to be used, the arrangement of the switching components and the materialization of device features. The most complex development framework utilized currently is perhaps the system that can be reconfigured. FPGAs are reconfigurable devices often used for the application of CORDIC architectures as co-processors. FPGAs operate with less speed and take less quantity of energy. Digital sine and cosine signals can be produced in various ways by trigonometric functions. On the other hand, the CORDIC algorithm allows for the quick and efficient generation of digital sinus and cosine wave. By using polynomial equations and other mathematical calculations. We can obtain sine and cosine by table scan, as it is a disadvantage.



# Design and Implementation of a New Routing Algorithm for Fault Tolerance in Network

P. Padmaja, G.V. Marutheswar

**Abstract:** The possibility to integrate more and more cores on the same chip puts severe constraints on the reliability, to which it is important to provide correct services in the presence of faults. Many fault tolerant routing algorithms are used to overcome the faults in Network on chip. However, these routing algorithms, suffer from another problem like the congestion. In this work, a novel approach inspired by Catnap is proposed for NoCs using Local and Global congestion detection mechanisms with hierarchical sub-networks architecture. With the help of these two techniques, the NoC becomes fault tolerant and is able to efficiently utilize the throughput. After simulation results shows that the proposed algorithm gives a better performance by reducing the latency and increase the reliability of the network. In addition, the algorithm has another advantage: it reduces the congestion which is considered as a temporary fault. Simulations show that our proposed algorithm reduces the latency more than 15% and throughput is improved by 20% compared to the PDA- FTR routing

**Index Terms:** Network on Chip, Fault Tolerance, Congestion, Reliability, Sub-Network, Routing Algorithm

## I. INTRODUCTION

Network on Chip (NoC) is a technic designed for perfect communication in a system on chip (SoC). This internalization of communications leads to important questions such as performance and energy consumption. Decreasing the transistor size has made semiconductors more sensitive to faults. Thus the challenge is, to maintain the system functionality during its operational lifetime and ensure that the system performance is preserved. For this reasons, researchers have attached a great deal of importance to the reliability in networks on chip.

The fault tolerance routing algorithm is the process of finding a new path to steer packets from sources to destinations in a faulty network, by choosing an optimal path the routing algorithm can efficiently increase the performance of the network. Congestion is another key factor which leads to increase the transmission delay and power consumption. For this, routing algorithms can improve performance by re-routing packets through less congested regions and distributing traffic over the network. Finally,

failures and congestions should be managed in an effective way to ensure availability and robustness into the network on the chip.

## II. BACKGROUND

The main challenge to increase the reliability and provide a good performance is to deal with the principal problems in routing algorithms such as deadlock, congestion and failures. In the literature, there are many various approaches which have been suggested to solve this issue. Figure 1 summarizes some significant works about fault-tolerant techniques in NoC.

The Gradient (Pratomo & Pillemer, 2012) suggested an adaptive routing algorithm to tolerate faulty node. The proposed routing algorithm divides the entire system in eight zones by gradient line. The main disadvantage of these approaches is that they do not foresee an efficient mechanism to control the congestion problem, in order to make a good decision routing for complex traffic condition. To avoid congestion and failure at the same time, the solution proposed by (Ebrahimi et al. 2012) and, (Ebrahimi et al. 2013) adopts a minimal path to reduce the congestion caused by the presence of faults.



Fig1: Some related works on fault-tolerant techniques in NoC

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These algorithms are able to select the shortest path to route packets as long as a path exists. (Chang and al.2013) proposed another routing algorithm which is inspired from ACO called ACO-FAR to perform a load balancing with low latency and a high throughput.



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## AN ENHANCED DESIGN OF HYBRID FILTER USING PSEUDO INVERSE FILTERING TECHNIQUE

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**ABSTRACT:** Hybrid filter is used for eliminating harmonics in the power system. In this paper we deal the design of hybrid power filter using pseudo inverse filtering technique. In hybrid power filter, the active part is used to filter out the higher order harmonics, while lower order harmonics are eliminated by passive filter. Digital band-pass filters employs IIR algorithm to extract the corresponding harmonic components to be canceled, and then the signals are conditioned according to the magnitude and phase distortion caused by the passive filter to reconstruct the harmonic signals to be eliminated. From results we can observe that proposed hybrid filter gives good performance and remains stable.

**KEY WORDS:** Active filters, hybrid filters, passive filter, power filters, power system harmonics, pseudo inverse system.

### INTRODUCTION

The broad utilization of non direct loads in household, business, mechanical division; causes control quality issues, for example, consonant current, poor power factor, unbalance, voltage hang and swell, responsive power trouble and so forth. A portion of the instances of nonlinear loads are uncontrolled and controlled rectifiers; variable speed drives both AC and DC, continuous power supplies, circular segment heaters, electronic weight, programmable rationale controllers and so on. Every one of these gadgets are affordable, adaptable and vitality effective, they may break down power quality by infusing symphonious current into the power framework and expending inordinate responsive power, as they are drawing non sinusoidal current from utilities. These wonders can cause numerous issues, for example, reverberation, over the top nonpartisan flows, low power factor and so forth. The power quality (PQ) issues in power utility circulation frameworks are not new.

Advances in semiconductor gadget innovation have fuelled unrest in power hardware over the previous decade and there are signs that this pattern will proceed. In any case, the power gadgets based types of gear which incorporate flexible speed engine gadget, electronic power supplies; battery chargers are in charge of the ascent in PQ related issues. These non-straight loads have all the earmarks of being prime wellsprings of consonant contortion in a power conveyance framework. Consonant flows delivered by non-straight loads are infused once more into power dissemination framework through point of common coupling (PCC). As the consonant flows go through the line impedance of the framework, symphonious voltages shows up, causing twists at PCC. The symphonious current outcomes in debasing the power quality in dissemination framework.

Many circuit setups of the filters have been proposed to restrain the present twisting. Detached filters with low impedances at the predominant symphonious frequencies were utilized to decrease the sounds for the thought of equipment cost. Anyway there circuit arrangements have a few disadvantages. The inactive filters with fixed pay qualities are insufficient to filter the present sounds. The arrangement of parallel reverberation happens between the framework impedance and inactive filters [1-2].

The advancements and utilization of dynamic filters have been looked into on account of the expanding concern the power nature of the customers or dispersion side.



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# SOLAR BASED FLOOR CLEANER ROBOT USING ARDUINO UNO

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**Abstract:** Households of today are becoming smarter and more automated. Home automation delivers convenience and creates more time for people. Domestic robots are entering the homes and people's daily lives, but it is yet a relatively new and immature market. However, a growth is predicted and the adoption of domestic robots is evolving. The purpose of this project is to design and implement a Cleaning Robot Autonomous. Floor Cleaner Robot is designed to make cleaning process easier rather than by using manual vacuum. The main objective of this project is to design and implement a Dry and Wet robot prototype. Robot will have several criteria that are user friendly.

With the advancement of technology, automated floor cleaning machines are getting more attention of researchers to make life of mankind comfortable. The concept is developing in economic countries but the reasons for non-popularity is the design complexity, cost of machines, and operational charges in terms of power tariff. In this paper, a semi-automated floor cleaning machine is proposed. This is capable of cleaning floor effectively in dry as well as wet cleaning tasks. This floor cleaning machine is designed by keeping the basic considerations for reduction in cost and efforts while being environmentally friendly and easy to handle.

**Keywords:** Arduino Uno, Ultrasonic Sensor, L293D Motor Driver IC, LCD Display, Lead Acid Battery.

## I. INTRODUCTION

Cleaning is important work approximate every place. Sometimes this is easy and sometimes difficult. Sometimes we assigned people for purpose of cleaning and pay money and sometimes cleaning is required in areas where presence of living being dangerous so we cannot assign living being in every place. Some places are so that have a large floor area in that place for cleaning purpose we need more than one person so we required some technique to compensate these problems. Automation is a great solution of this problem. So, we make an autonomous floor cleaning robot. Ultrasonic sensor is the most important component for autonomous floor cleaning robot because ultrasonic sensor works as eyes of robot. Ultrasonic sensor useful for turning of robot by sensing the obstacle or wall. Sensing distance range set by programming. In this range robot sense the obstacle and turn back, cleaning reason we need more than one individual so we required some method to repay these issues. In headway of science a robot come in light however it works by a faculty. To keep away from this limit of faculty we require more innovations. Computerization is an extraordinary arrangement of this issue. So, we make a self-governing floor cleaning robot that worked by web of things and Arduino programming. Families of today are getting more astute and furthermore more mechanized. Home robotization conveys accommodation and makes more opportunity for individuals. Homegrown robots are entering the





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## Recital Augmentation of Cache Execution in Cluster Based Mobile Adhoc Network

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### ABSTRACT

Storing is a standout amongst the best procedures used to enhance the information get to execution in remote systems. Getting to information from a remote server forces high idleness and power utilization through sending hubs that guide the solicitations to the server and send information back to the customers. What's more, getting to information might be problematic or even unimaginable because of mistaken remote lin ks and every now and again detachments. Because of the way of MANET and its high regular topology changes, and additionally little store estimate and obliged control supply in versatile hubs, the administration of the reserve would be achallenge. To keep up the MANET's security and versatility, grouping is considered as a viable approach. In this paper a productive reserve administration technique is proposed for the Cluster Based Mobile Adhoc Arrange (C-B-MANET). The execution of the technique is assessed regarding bundle conveyance proportion, idleness and overhead measurements.

**Keywords:**— MANET, Cache Management, Cluster Based Caching System

### I. INTRODUCTION

One of the key troubles in cell advert-hoc networks (MANETs) is cache control, which improves the transmission ability of the community. Moreover, perfect placement and manipulate of caching machine declines the electricity intake.

Two fundamental concerns in MANET's cache control are the way to keep balance, and the scalability of the cache device. One option to these issues is cluster based totally MANET as shown in figure 1. Cache control procedures consist of three phases [1 and 15] as shown in figure 2.

1. **Replacement:** this algorithm is liable for evicting much less crucial or expired statistics, with time to live (TTL) identical to 0, whilst the node cache is complete and a new records is to be fetched on a request from consumer.



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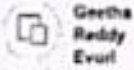
Anti-lock braking system (ABS) and regenerative braking system (RBS) in hybrid electric vehicle for smart transportation system

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Abstract

Pulse width modulation (PWM) based (a non-consistent) braking system is used to keep the wheels from being bolted in the proposed antilock braking system (ABS). Using this method a better hold of the street by wheels is possible and halting separations likewise diminish essentially particularly on precarious street surfaces like frosty or wet streets. The active vitality of the wheel is by and large lost amid braking as warmth because of grinding among brake cushions. This vitality can be recuperated using regenerative braking systems (RBS). In this strategy, the overabundance vitality is put away incidentally in capacitor banks before it gets changed over to warm vitality and is squandered. This framework delays the battery life by reviving the battery utilizing the put away vitality. Subsequently the mileage of the electric vehicle likewise increments as it can travel more separation in a solitary battery charge. These two techniques together help make electric vehicle vitality productive and more secure and less demanding to utilize subsequently anticipating and diminishing the quantity of mischance's.

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# Comparative Analysis of Classification Techniques for Heart Disease with Data Mining WEKA Tool

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**Abstract**—In current decades, heart disease has been recognized as like the leading cause of death throughout the world. However, it is considered so the most preventable or controllable disease at the same time. According in conformity with World Health Organization (WHO), the express and timely analysis of heart disease plays a remarkable role within preventing its progress and reducing related treatment costs. Data mining methods and machine learning algorithms play a very important function within this area. The researchers accelerating their research works to boost a software with the help machine learning algorithm which perform help doctors to take a decision regarding both prediction and diagnosing of heart disease. The main objective over this research paper is predicting the heart disease regarding a patient the use of machine learning algorithms. Comparative study concerning Naive Base Classifier, K-nearest neighbor, Support vector machines and Random Forest the precision and recall about machine learning algorithms is performed through a graphical representation concerning the results.

**Key Words**—Data mining, Heart disease, WEKA, Naive Base Classifier, K-nearest neighbor, Support vector machines and Random Forest

## I. Introduction

In the past decade, heart disease has been the leading cause of death in different continents and countries in the world, regardless of the income level of countries [1]. According to WHO report, heart disease is the leading cause of death across the world, accounting for 7.2 million deaths, i.e., 12.8% of all fatalities in the world [2]. Figure 1, illustrates deaths from heart disease across the world (scale: 1:100000). According to recent research predictions, cardiovascular diseases will become the leading cause of death up to 2030. Although cardiovascular diseases have been identified as the leading cause of death in the world in the past decade, they have been introduced as the most preventable and controllable diseases [3]. The complete and correct treatment of a disease depends on the timely diagnosis of that disease [4]. An accurate and systematic tool for identifying high-risk patients and extracting data for timely diagnosis of heart disease seems a critical need.

Every day, modern computer-based systems collect large amounts of data using automatic data record systems in different fields. Data mining technology is the product of the evolution of database technology, IT and storage devices [5]. The current challenges is according to make data mining and knowledge discovery systems applicable in accordance with a wider range regarding domains [6]. Researchers are adopting data mining strategies to diagnose one of a kind diseases who consists of diabetes [7], stroke [8], cancer [9] and heart disease [10]. Considering the high rate about cardiovascular induced fatalities, researchers have tried in imitation of adopt data mining structures to diagnose bravery disease [11].

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# Kidney disease detection and segmentation using artificial neural network and multi-kernel k-means clustering for ultrasound images

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## ABSTRACT

The main aim of this paper is to design and develop an approach for kidney disease detection and segmentation using a combination of clustering and classification approach. Nowadays, kidney stone detection and segmentation is one of the crucial procedures in surgical and treatment planning for ultrasound images. However, at present, kidney stone segmentation in ultrasound images is mostly performed manually in clinical practice. Apart from being time-consuming, manual stone delineation is difficult and depends on the individual operator. Therefore, in this work, we proposed a kidney stone detection using artificial neural network and segmentation using multi-kernel k-means clustering algorithm. Normally, the system comprises of four modules like (i) preprocessing, (ii) feature extraction, (iii) classification and (iv) segmentation. Primarily, we eliminate the noise present in the input image using median filter. Then, we extract the important GLCM features from the image. After that, we classify the image as normal or abnormal using neural network classifier. Finally, the abnormal images are given to the segmentation stage to segment the stone and tumor part separately using multi-kernel k-means clustering algorithm.

Kernel K-means clustering algorithm. The experimentation results show that the proposed system as linear + quadratic based segmentation achieves the maximum accuracy of 99.61%, compare with all other methods.

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## 1. Introduction

Kidney stone illness is one of the real hazardous sicknesses spreading around the world. The stone infections stay unnoticed the starting stage, which thus harms the kidney as they create. A maximum individual are influenced by kidney failure because of diabetes mellitus, hypertension, glomerulonephritis, etc. Since kidney breaking down can be threatening, diagnosis of the issue in the starting stages is advisable. Ultrasound (US) picture is one of the present accessible strategies [1]. The ultrasound imaging strategy is utilized in the medicinal practices, alongside other imaging strategies, for example, X-ray, CT, and so forth, for creating pictures of live tissue and with the aim of medical diagnosis. Since favorable circumstances of ultrasound imaging strategy, for example, being less expensive, convenience of the gadget, security of the imaging procedure to the patient, and the less measure of real time required for imaging, it has been given more consideration than

other imaging techniques [2]. It was likewise revealed that identification of the kidney disease from the US picture is viewed as the challenging task because of characteristic constraints. With the improvement in the picture handling instruments, the characterization of US kidney has turned out to be accurate and preferred. Feature extraction and selection are the important steps for kidney stone detection. There are lot of texture features are available to extract the images namely, GLCM features, statistical features, texture features, region based feature and wavelet features etc. [3]. To extract the features from images lot of methods are available. Similarly, large number of features is a great obstacle for classification [4]. So, the important features are selected. Feature selection process increases the classification accuracy and minimizes the computation complexity. Nowadays, number of optimization algorithms and machine learning algorithms are used for feature selection process [5].

Many machine learning techniques have been applied to classify the tumor, including Fisher linear Discriminant analysis [6], k-nearest neighbor [7] decision tree, multilayer perceptron [8], and support vector machine [9]. A recent comparison of

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# Smart Agricultural using Internet of Things, Cloud and Big Data

Sarangam kodati, S Jeeva

**Abstract:** Internet of Things (IoT) plays a crucial role in smart agriculture is an emerging concept, because IOT sensors are capable of providing information about agriculture fields and then act upon based on the user input. A smart agricultural system represents the usage of contemporary technology IoT. Because IoT sensors capable of providing information about their agriculture fields. The proposed aims making use of evolving technology i.e. IoT and smart agriculture using automation big data architecture in combination with cloud computing, mobile computing, big data, by access according to real-time information or data, forecasting, and monitoring of physical items and IoT development is expected to make a notable change in agricultural management and operations. This paper focuses filed monitoring using IoT devices which would provide live soil moisture, humidity and temperature of the field to the farmers.

**Keywords:** Big-Data, Cloud computing, Internet of Things, Mobile Computing, Smart Agriculture.

## I. INTRODUCTION

Big data and Internet of Things inspecting are the latest advances beyond the most recent few of years and services are being developed of various spaces utilizing these as much key innovations. Sensor innovation has likewise been progressed and numerous sorts over sensors like environmental sensors, gas sensors are created and utilized in functions according to the need. Agriculture is the guideline spine of India's economic development. The most basic block that rises in standard developing is climatic change. The amount of effects of climatic change joins overpowering precipitation, most phenomenal storm and warmth waves, less precipitation, etc. On account of these, the effectiveness decreases to a real degree.

The climatic change also raises the ecological results, for instance, standard changes in the life cycle of plants. To support the profitability and limit of confinement the limits in the agriculture field, there is a need to use inventive innovation and strategies called the Internet of Things. Today, the Internet of Things (IoT) is changing towards agribusiness industry and engaging farmers to match the gigantic difficulties they go up against. Farmers can get huge information and data about continuous examples and development using IoT.

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The entire procedure spins around the gathering of data for use by the farmers and different partners. This is the most significant piece of its working. The devices utilized range from sensors to cameras and satellite pictures. The second part comprises of the system which will help move the data generated by the devices as referenced before. Various kinds of network technologies like GSM, LTE, WiFi, 3G and so on might be utilized relying on the accessibility and necessities. The third part comprises of information gathering and processing technology like the Cloud services. The cloud servers can be made independent of the areas and hence most suitable for IoT type of frameworks. The information can be put away and figured upon on such servers. The cloud services can be taken on compensation for each utilization arrangement as they are getting to be well known, therefore. The last part of the system will be the big data analytics tools which can deal with the tremendous measure of information generated and put away on the cloud servers, to excavate significant patterns and patterns in the data [1]. For instance, climate forecasts and market analysis should be possible utilizing such tools. IoT sensors are fit for outfitting farmers with data about gather yields; precipitation, inconvenience invasion, and soil sustenance are to generation and offer exact information which can be used to enhance cultivating strategies after some time. Internet of things, with its persistent, precise and shared attributes, will pass on phenomenal changes to the cultivating stock framework and give a fundamental advancement to working up a level stream of horticultural coordination's.[8].

## II. IOT APPLICATIONS IN AGRICULTURE

IoT can be of incredible utilized in the field of farming. It very well may be useful in observing the development of medicinal plants. These plants are fixed with RFID labels and sensors. At the point when there is an exceptional or surprising change in the growth of plant because of temperature or humidity, the sensors sense this and the RFID labels send the EPC (data) to the reader and are shared over the web. The farmer or researcher can get to this data from a remote place and take essential activities. The Internet of Things has the possible to transform the ways we live in the world we have progressively proficient industries, more connected vehicles, and more astute urban areas, all these as parts of an incorporated IoT system. The ever-growing worldwide populace would touch around 9.6 billion by 2050. So, to feed this, to nourish this large populace, the agriculture industry needs to grasp IoT. The interest for more sustenance needs to address defeating difficulties, for example, rising environmental change, extraordinary climate conditions and natural the effect so much results from escalated agriculture rehearses. Farming using IoT advances will assist

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# A Smart Health Care Applications and Benefits using IoT

Gullipalli Apparao Naidu, Sarangam Kodati, Jeeva Selvaraj

**Abstract:** Internet of Things (IoT) is the developing paradigm, where a vast number of smart object and smart devices associated with the internet for communication. The fast development of the IoT technology makes it feasible for connecting different smart items collectively through the Internet and giving higher and more data interoperability strategies for significant utilize and other application reason. IoT devices are utilized in numerous fields which make the client's daily life all the more simple and agreeable. Patient Physiological data observing is significant in any hospital, this system proposed healthcare applications and benefits dependent on IoT, software, and hardware, this system can indicate temperature heart rate with precision and notice and position state of a patient.

**Keywords :** Internet of Things (IoT); Medical application; health care application; Smart device

## I. INTRODUCTION

The Internet of things (IoT) is 10 years old, however, the idea of connecting devices has been around since the 70s. Dwindle T Lewis authored the Internet of things in 1985[2]. The year of 1999 has been a considerable year for the development of IoT [1]. The system of smart devices was conceptualized path, way back to the 1980s. The first since forever Internet associated apparatus was a candy machine. It is a growing technology. In the new region of communication or technology, the explosive improvement of digital devices, advanced smart cellular phones, and drugs which may be imparted physically has grew to become into the basic instrument regarding daily life. The current generation of the connected world is the IoT which interfaces devices, sensors, machines, vehicles and other "things". "In the event that we had a personal computer that knew all, there was according to know about things using the data they collected without any assist from us we would most likely track and count all and incredibly decrease loss, waste and cost. We would know when things required to replace, fixing or reviewing, and whether they were fresh or past their good. IOT basically associates various items (sensors) to one another, Through connect medium which can be remote or wired. Basically, IoT made everyday life simple and we can do things automatically with utilizing IoT innovation [10]. It includes many fields like domestic automation, human services,

## II. APPLICATIONS OF IOT

The IoT has a wide scope of applications and can be effectively executed in areas, for example, the healthcare medical sector, retail business, travel and the travel industry, hypermarkets, occasion the board, the environmental systems, logistic system, restaurants, Railway station, Bus stand and Air-port to show the data and warning. In the shopping center, it is additionally used to control the stickiness and temperature of the shopping center by means of focal AC by utilizing a temperature sensor. In Industrial association, it tends to be likewise utilized [3]. E-show system might be utilized to show an Emergency message in Hospitals and, etc.



Fig 1: Internet of Things (IoT)

## III. HEALTHCARE APPLICATIONS AND BENEFITS USING IOT

IoT is useful in the medicinal health care field. At the point when any patient has hospitalized whose status requires close consideration can be repeatedly observing educating IoT-driven, non-intrusive checking. This required sensors to gather far reaching physiological data and utilizing gateways and the cloud to analysis and store the information and then forwarding analysis information remotely to caregivers for further analysis and review. These methods help according to improve the quality about consideration consistent consideration and lower the expenditure of concern by dispensing with the requisite for a caregiver to efficiently take part in data collection and analyze [4]. Also, the technology can be utilized to monitor utilizing little, wireless solutions joined through the IoT. These solutions can be utilized to safely capture patients healthcare information from a different of sensors to analysis down the information and afterward share it through a remote network with medicinal health care experts who can make fit health recommendations [9]. The primary target is to improve life

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# Minimizing Energy Consumption Based on Neural Network in Clustered Wireless Sensor Networks

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Wireless sensor networks were organized with the collections of sensor nodes for the purpose of monitoring physical phenomenon such as temperature, humidity and seismic events, etc., in the real world environments where the manual human access is not possible. The major tasks of this type of networks are to route the information to sink systems in the sensor network from sensor nodes. Sensors are deployed in a large geographical area where human cannot enter such as volcanic eruption or under the deep sea. Hence sensors are not rechargeable and limited with battery backup; it is very complicated to provide the continuous service of sending information to sink systems from sensor nodes. To overcome the drawback of limited battery power, this paper proposes the concept of minimizing energy consumption with the help of neural networks. The modified form of HRP protocol called energy efficient HRP protocol has been implemented in this paper. Based on this concept, the workload of cluster head is shared by the cluster isolation node in order to increase the lifetime of the cluster head node. Also cluster monitoring node is introduced to reduce the re-clustering process. The implementation procedure, algorithm, results and conclusions were proved that the proposed concept is better than the existing protocols.

**Keywords:** Energy Consumption, WSNs, Neural Networks, HRP Protocol, Clustering Process.

RESEARCH ARTICLE

## 1. INTRODUCTION

### 1.1. Wireless Sensor Networks

Wireless sensor Networks are a type of distributed networks which are formed by small and lightweight nodes. Each sensor node is also called as mote. Sensor nodes are deployed to monitor the environment or any other objects for measuring the environment or any other objects for measuring the physical parameters such as temperature, pressure and humidity, etc.,. Wireless sensors are used now-a-days in many applications such as environmental monitoring, traffic analysis and remote sensing, etc. Wireless sensors have many working units and the major four working units are transmission rate, power consumption, scheduling of nodes and computation [1]. It has many real time applications, the sensor nodes are performing different tasks like neighbor node discovery, smart sensing, data storage and processing, data aggregation, target tracking, control and monitoring, node localization, synchronization and efficient routing between nodes and base station. The simple structure of the Wireless sensor networks is shown in Figure 1.

### 1.2. Kinds of Wireless Sensor Networks

The categories of Wireless Sensor Networks; the mechanism by how they are organized were discussed below in detail.

#### 1.2.1. Terrestrial Networks

These networks contain many hundreds to thousands of nodes which are organized in an ad hoc or structured manner. Terrestrial WSNs are clever to establish communication with the base stations particularly. The structured terrestrial WSN contemplates two dimensional placement models, three dimensional placement models, grid placement and optimal placement. In this type of networks the batteries were backed up by solar cells as the alternate source since the battery power is limited. The Energy preservation can be attained by applying low duty cycle operations, minimized delays and also by optimal routing.

#### 1.2.2. Underwater Networks

The earth is filled with nearly 75 percent of water and the networks under water contain more number of sensor nodes and vehicles. The data were collected from the sensor nodes with the help of Self-governing immersed vehicles. Sensor failures, lengthy delays in propagation and

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## Automated Detection of Cancer by Analysis of White Blood Cells

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### Abstract

Nowadays, the research of white blood cells estimate and discovery of a large number of infections. The examination of white blood cells (WBCs) is a subject of enormous interest to hematologists. Now a days the morphological examination of blood cells is executed physically by trained operators. This contains various disadvantages, such as nonstandard accuracy, a delay of the research and dependent on the operator skills. The proposed technique a total and fully automatic technique for detection of cancer by means of minute images blood sample. This paper exhibits initially individualizes white blood cells from blood, afterward, features of white blood cells are extracted. This is significant because segmentation of basis is much simpler than the segmentation of the whole cell.

**Keywords:** White Blood Cells, Pre Process, Smoothing, Segmentation

### 1. Introduction

Already the analysis of blood test is finished by manual strategy, which require progressively human inclusion and it is tedious procedure and its precision rely on procedure performed by master. The human visual assessment is monotonous, protracted and repetitive[1]. The computerized investigation by PC requires just picture and not a genuine blood test; for this, it goes to be more reasonable and yet progressively exact in giving exact gauges result.



Fig 1.(a) Normal Cell (b) Affected Cell

# Assessing Network Parameters by Web Real-time Communications

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**Abstract:** In the context of networks where assurance of information delivery is a prime user requirement, it becomes essential to estimate the key performance indicators and carry out a proactive analysis to ascertain if the current network conditions would meet the Quality of Service requirement of particular service. In this project the key is to carry out a QoS aware transmission of Voice, Video and Data over an IP network for ensuring delivery assurance with requisite service specific QoS. An integrate GUI to be deployed at both the sender and the receiver will be developed and this will act as first front end for the transmission and the measurements. An 'active and collaborative tool based or a passive tool based approach' will be used for measurement of network KPI whereas 'COTS (Commercial off the shelf)/FOSS (Free and Open source) freely downloadable or a custom developed utility/tools' would be used for generation of traffic.

**Keywords:** Web-RTC, Network, Parameters, QoS and Protocol.

## I. INTRODUCTION

Today's internet usages are migrating to triple way functionalities and it is necessary to provide good Quality Of Service for the networks in real-time like Video Conferences, Telephony using IP, e-commerce and e-business etc., The current internet model is well suited for the traditional applications like transferring a file, sending emails, browsing and chatting etc., But these model doesn't provide the quality, guaranteed and timely carriage of the actual packets. Today's Multimedia based functionalities in the real-time applications need very good guarantee, timely delivery without delay and loss of the actual packets.

The delays in the real time applications are highly sensitive. It leads to reproduction of the continuous events like images and speech. The data packets reaching the destination should not be delayed to enable playing at the exact time. If the packet was not arrived to the destination in time or lost in the transmission media, then it leads to generation of a gap in the information availability to the user. It reduces the quality of the audio or video production at the destination and the performance will degrade. The performance reduction is directly proportional to the amount of delay or loss of the packets in the transmission media. In real time applications, the destination device will not wait for the whole data to be

available at the end. It begins to play the received stream of data immediately once the packets of the video or audio has been received at the end. The stream pattern of the media is not defined earlier by the duration. It is not required to wait for the long time duration and need to be downloaded for playing the audio or video.

The real time applications expect the packets to be available in the correct timing. The existing protocol doesn't have a mechanism to request for the lost packets to resend and will not wait for the packet to be received from source system again. The round trip delay between the source and the destination will be more in the synchronization process. TCP doesn't have any mechanism to handle this and so User Datagram Protocol (UDP) will be used for carrying this type of packets. But, UDP doesn't have the facility of recovering the lost packets. It doesn't give the guarantee of the packet delivery and not bother about the order of packet delivery. But the voice or video conferencing applications need to be guaranteed for timely delivery without any loss and delay of the packets in the transmission media. This is the major constraint for real-time applications. The Brief history of the proposed WebRTC is shown in Figure 1.

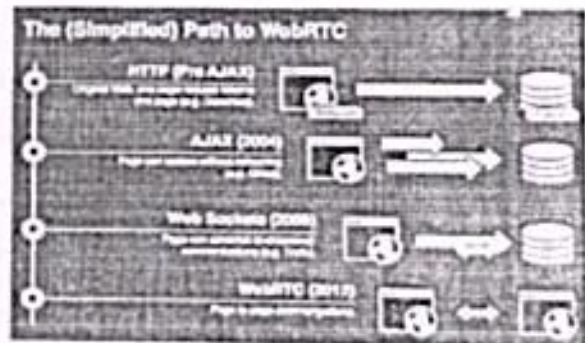


Fig. 1 Brief history of WebRTC

## II. LITERATURE SURVEY

The real-time applications rely on absolute differentiated services in order to have guarantee on the end-to-end delay. Major resources referred throughout this paper are IETF-RTCWEB standards draft-ietf-rtcweb-overview-15, RFC 5766, draft-ietf-rtcweb-rtcp-usage-25.

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# Retrieving Songs By Lyrics Query Using Information Retrieval

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**Abstract:** Music is an all-time favorite interest of most of us and hence with this paper, a system is proposed to find songs based on a search of a song with a text from a lyric of the song including the title, artist, and album of a song. When we forget the title of the song and if we want to search a song from our playlist it becomes difficult to manually search for it, relying on an existing system proves to be more time taking. The existing system includes the conventional method where we need to search manually on a search engine.

The proposed system describes a system that is an application which can help list songs easily and faster on searching based on the lyrics of the song. We have tried to achieve this by mapping multiple lyrics files with the audio versions. Another aspect is to retrieve songs of different language as many of us prefer to listen to music of more than one language. Getting information quickly and with best results is the key to achieve efficiency. By using this application, anyone can search for songs by creating their playlist by signing into the application.

## I. INTRODUCTION

This paper describes a system which is designed to list songs based on a search for any phrase of the lyrics of the song or title of the song including artists and albums. It is a mode to simplify and provide ease over various present music applications. The current system proposed is a music application which helps a user to search various songs based on the input given in form of text or audio. The given input is considered as a query which is searched among the lyrics files using information retrieval technique like Algebraic methods using the Vector Space Model. The results of the lyrics files obtained are mapped to the audio files and the list of songs are displayed to the user. The results are displayed based on the term frequency. The output is displayed as a list of songs. The user can then select the required option from the set of given outputs. If there is only one song displayed, then it shows the song and starts playing it. Using an algebraic model to retrieve

### Motivation:

- Through this paper, we aim to take the initial steps of searching a song with the phrases of the lyrics as the key.

- Many users listen to songs every day and when they want to listen to a song from their huge playlist. It becomes difficult to remember all the song titles. This application helps us to search songs based on words or phrases related to its lyrics.

This application helps users listen to their favorite list of songs.

## II. LITERATURE SURVEY

The existing system includes the conventional method where we need to search manually on the internet. This is time-consuming as after getting the result, we might need to navigate to few URLs to find the song and play it. There are two interesting applications which help with lyrics or song search. Firstly, Shazam - It recognizes the song when it is played rather than recognizing a human voice. This might help us a few times while a song is being played, else it would help us when we sing a song that we remember. Secondly, Musixmatch - This app doesn't help us search according to lyrics rather it displays the lyrics when the song is played. This is helpful when we want to know the lyrics while the song is being played, but it has failed when we tried to search for a song using text from its lyrics as the key for this is to display lyrics while the song is being played.

### User Survey

Our main target is users who love listening to music. This application gives users an easy and efficient platform for scanning and searching for songs of different genres and languages.

Our team approached different people in various fields and localities. We started a survey by sharing a form through social media and asking their opinions. The form included a few questions like:

1. How useful their music app is?
2. On an average how much time do u spend on music on a weekly basis?
3. Can they search effectively?
4. Would you want the search the songs based on lyric file?
5. Would you try if it is for free?

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# Classification and Enrichment of Unlabeled Feedback Data using Machine Learning

B. Kranthi Kiran, Padmaja Pulicherla

**Abstract:** These days' data gathered is unstructured. It is becoming very hard to have labelled data gathered, due to the volume of the data being generated every second. It is almost impossible to train a model on the unstructured/unlabelled data. The unlabelled data will be divided into groups using the ML techniques and CNN/Deep learning/Machine Learning techniques will be trained using the grouped data generated. The model will be enhanced over time by the feedback given by the users and with addition of new data as well. Existing models can be trained over labelled data only. Without labelled data models cannot be used for prediction and reinforcement learning. In this approach though the data is unlabelled if a feature column is specified we will be able to train the model with the help of SME. This will be helpful in many areas of classification and prediction of the trends and patterns. Machine learning, Deep learning techniques (Supervised) will be used to implement the data. Tools used will be Python, PyTorch and TensorFlow. Input can be any data (Audio/Video/pictographic/text). Labelled data and a model file which could be used for further predictions, and which will be improved over feedback.

**Keywords :** Classification, Unstructured data, Machine Learning, CNN and Prediction.

## I. INTRODUCTION

Data Analysis and Analytics are important in the market for any company to foresee its growth; data plays a major role now-a-days. Without proper understanding of data, reliable conclusions cannot be drawn. If drawn, it will have an adverse effect on business. Hence understanding data is vital and key for decision-making, but there is a problem with data being gathered. It cannot be used straight away for making decisions. These days' data gathered is unstructured. It is becoming very hard to have labelled data gathered, due to the volume of the data being generated every second.

There are many ways for labelling the gathered data. In this, we will discuss about labelling the data using machine-learning techniques. It is hard to divide data into qualitative groups. The unlabelled data will be divided into groups using the clustering techniques and CNN/Deep learning/Machine learning techniques will be trained using the grouped data generated. The model will be enhanced over time by the feedback given by the users and with addition of new data as well. By doing this we will be able to qualitatively differentiate the data which can be further used for data analysis and decision-making. As the data is

evolutionary, we can reduce the dependency on SME (Subject Matter Expert) for classifying the data. In fact, it will be a very helpful tool for cleansing the data qualitatively for an SME.

In this approach, we will try to group the data given the features using clustering techniques. Descriptions about data manually are taken as inputs, we will try to match those descriptions on the groups clustered, and we will qualitatively classify the data based on the descriptions. Only one-time process. Once the labelling of data is done, then we will pass this labelled data to SME (optional Step). SME will further churn the data and then this input will be given to train an incremental ML algorithm and further data classification will be done by that. It also capable of feedback learning.

Labelling the groups based on the various categories of the data, matching the groups with the category, improving the model over feedback, scaling the model to handle near real time data and improving it on the fly are some serious challenges in this approach.

## II. LITERATURE SURVEY

A significant traffic jam in machine learning is data collection and in manifold group of people it is a dynamic investigation issue. From a data administration perspective in this study an author execute a complete study of data collection. For data collection the incorporation of machine learning and data managing is fragment of a greater tendency of big data and AI incorporation and for novel investigation it opens a lot of breaks [1]. Machine learning techniques of current tendencies for the instinctive cataloging of RS pictures are lectured in this paper. Mainly the author concentrated on two novel paradigms such as active learning and semi supervised. In view of SVM based procedures, above-mentioned tactics are hypothetically and experimentally scrutinized.[2] For interference discovery in what way Semisupervised machine learning method can be recycled for both labeled and unlabeled data are shown by an author in this paper. To produce a model an author take a less quantity of labeled data and the prophecy of unlabeled traffic by this model is shown by an author in the suggested method. Future added effort can be allocating with coursing of actual world traffic [3]. Major demolition and defeat of life and assets all over the place have been done by Earthquakes. Moreover to guess the P and S wave appearance periods.

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# Image Map: Alternative for Password Based Authentication

Padmaja.Pulicherla, Shiva Reddy Baddam

*Abstract:* In the world today there are millions of websites and other web applications which operate with customizations to the user using the user account registration. This naturally requires a user name or a unique ID like email address and a password. This kind of authentication is being employed from days past to invention of authentication systems. But today with many such websites it has become a herculean task to remember the passwords of each and every sites. There are solutions like writing down or noting on any electronic device but these has equal physical chances of being revealed. So there is a need for a brand new authentication techniques which are better than existing ones and are easy to implement. Image map is one such an alternative that can replace traditional systems. This technique makes use of images taken from users during registration and certain number of points on one exclusive image from taken set of images.

*Keywords:* Image map, Alternative for password, other login techniques, Alternate authentication.

## I. INTRODUCTION

In the world today there are millions of websites and other web applications which operate with customizations to the user using the user account registration. This naturally requires a user name or a unique ID like email address and a password. This kind of authentication is being employed from days past to invention of authentication systems. But today with many such websites it has become a herculean task to remember the passwords of each and every sites. There are solutions like writing down or noting on any electronic device but these has equal physical chances of being revealed. So there is a need for a brand new authentication techniques which are better than existing ones and are easy to implement. Image map is one such an alternative that can replace traditional systems. This technique makes use of images taken from users during registration and certain number of points on one exclusive image from taken set of images.

## II. LITERATURE REVIEW

### A. Two step verification

Two-step verification is considered an alternative but true is not. Two step verification need the first authentication on platform and second on users phone or any other device. Google implements one such verification process. The main problem with this is, it can be applied only if you have your phone and an extending application of each site installed on it.

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### B. Finger print

Finger print based authentication is a secured way but this can be applied only if the user carries or possesses a bio-metric device or finger print scanner which is a tuff task and 99% of people today don't do. So this can be a secured way but cannot be an alternative.

### C. Face recognition

Face recognition is even a better way to authenticatn, which can be applied using concepts of computer vision and machine learning. This requires an additional camera to capture the face. Cameras are now a days available on every phone but the problem shows up while dealing with desktops. Not all desktops may have camera which reduces the scope of the applicability.

### D. One time passwords to the registered mobile numbers

OTP (One-time password) have proven them efficient in the fields of banking and other high security demanding departments but coming to a average website such security is secondary and the primary factor is easy accessibility. There may be cases where the phone is dead or lost and the owner is trying to find his phone using FindMyDevice, in this case the OTP cannot be received This leads to a obstacle again.

## III. PROPOSED SYSTEM

Using image map as alternative the websites during the registration of a user can ask him/her to upload certain number of images of his choice. These images can be stored in the database as BLOB (Binary large object). Then these should be displayed to him and should ask to pick any one of them all.

After picking the image the image should be showed individually with the dimensions of 300px \* 300px. Then user should be asked to plot certain points on image. Consider three points. Now record these points and the image offsets and can be sent to the server for the storage in database for future authentication.

The points plotted are of size 1px \* 1px, so user may not be able to plot them exactly every time. So we consider a radius of 50px (Maximum size of finger point of touch devices and maximum error negotiation for desktops) around the valid point. If the points plotted during the login are in the valid range, then we call the authentication legitimate else illegitimate.



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## Theoretical Research on NTBS Protocol : Its Implementaion and Possibilities in Nibble-bits for VANET Security

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### Introduction

**Abstract**— The tremendous development of wireless communication technology has revolutionized human lifestyles in providing the most convenience and flexibility over accessing internet services and reliable services offered for privacy and security. Research on VANETs has been receiving increasing interest both in the algorithmic aspects as well as standardization efforts due to the high mobility and sparse distribution of the vehicles on the road. VANET environment is the promising approach to provide traffic, safety and other applications to the drivers as well as passengers. In VANET, achievements are meant for not only reliable data delivery but also the delivery of information efficiently with security. Security is an important aspiration for VANET in view of the facts that improved security which reduces accidents and consequently improves traffic conditions and yet save lives. Clustering algorithms have emerged as an alternative powerful learning tool accurately analysis the massive volume of data generated by using modern technology in order to deliver a message to its destination. Clustering is using to improve routing scalability and reliability in VANET system, as it results in the distributed formation of hierarchical network structures by grouping vehicles together based on correlated spatial distribution and relative velocity. Depends on the IEEE 802.11p standard, the dedicated short range communication (DSRC) system supports two types of communication environments: First is vehicle-to-infrastructure (V2I) and second is vehicle-to-vehicle (V2V) communication. In this article, we can increase the information shareability by using NTBS clustering protocol by using TTRs concept.

**Keywords**—VANET; NTBS; Nibble-bits; Ad-Hoc Network; Wireless Communication; DSRC;

An Ad hoc Network itself is a system of network forming arbitrary topology with P2P connection. It is called as decentralized network. If network will create for short period of time then it is termed as Ad hoc network. In Ad hoc networks the goal will be increasing the mobility and flexibility [1, 2, and 3].

Existence of communication among vehicular nodes in order to provide safety conditions on road with best communication is called VANET. Very high number of people is sharing of information in VANET system. So, providing security to information sharing is must. In VANET system, each vehicle contains number of device which is used for sending and receiving the data [4].

In VANET system every node should maintain connectivity with other vehicular nodes in order to obtain best communication facility. Without security, information sharing is meaningless and an attacker easily attack on that information and also assets of network are damaged by corrupting the whole network [5]. We can provide security using secure protocols. In secure protocols, increase of communication range directly proportional to secure protocol involved. The goal of our paper is to increase the communication capability in VANET system environment to achieve the secure communication by developing NTBS Clustering protocol for VANET in ubiquitous Computing Environment.

The usage of automobiles provides many benefits to society, including transportation provision, and revenue generation from the tax opportunities and travel facilities. Vehicles play an important role in our daily life in providing transportation facility to carry goods from one place to another place, and comfort with safety conditions to passengers as well as drivers. Messages exchanged in VANETs to increase the range of awareness of drivers beyond their authentication level, thus significantly improving safety and comfort conditions to all passengers in a vehicular node. In VANET system environment provides, applications such as



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# KEY NODE SELECTION NETWORK ANALYSIS AND CENTRALITY MEASUREMENTS ON A DATASET OF CANCER DOCUMENTS

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## ABSTRACT

Network analysis deals with interdisciplinary study of analyzing relationships. Networks possess inherent topological characteristics and integrate multiple sources of high throughput data. A dataset which contains 1000 article titles on cancer disease were considered to evaluate the importance of centrality measurements of nearly 47 cancer genes, and their associated data is also considered to select the most central group of nodes from a network. Centrality analysis revealed that the variables "cancer" and "patient" were reported to have high values than others which suggest the fact that these two parameters are highly influential in communicating with other nodes. Further, key node selection analysis comprising eight centrality measurements resulted in "cancer" as the most central group of nodes from a network.

**Keywords:** network analysis, cancer, network centrality, key node.

## 1. INTRODUCTION

Network analysis has witnessed prominent role in the field of computational sciences as it deals with social, interactive data in the context of analyzing relationships among objects in data. Network analysis is popular in various domains like social science, mathematics, computer science and bioinformatics [1] [2] [3]. Network modeling is the interdisciplinary study of relationships. The nodes or members of the network can be groups or organizations. Network structure can be studied at many different levels the dyad, triad, subgroup, or even the entire network [4]. The distance between two nodes in a network can be measured by determining the minimum number of steps between them [5]. Networks possess inherent topological characteristics that impart emergent properties of biological relevance, such as functional robustness [5]. Network analysis integrates multiple sources of high throughput data and link data sets with subsequent modeling efforts, thereby enabling continuous refinement of systems analysis [6]. Network biology is one of the rapidly developing area of research controlled by a complex system-level network of molecular interactions [7]. Network analysis equates the assembly of pairwise connections (edges) between discrete objects (nodes) coalesces to form a network, or graph [8]. Graphs that contain many cohesive subsets as well as short paths, on average, are often termed *small world* networks. Characterizations of the centrality of each data point in the network are based on the degree (*degree centrality*), on the lengths of paths from one data point to all other variables (*closeness centrality*), or on the extent to which the shortest paths between other data points pass through the given data point (*betweenness centrality*). Measures of network centralization signify the extent of heterogeneity among data in these different forms of centrality [9]. Also Centralization measurements reveal whether a network has a star-like topology or the nodes of the network have on average the same connectivity. Graph partitioning or community structure detection algorithms elucidate within- and between-community edges. The present paper

genes and their associated data to select the most central group of nodes from a network.

## 2. MATERIALS AND METHODS

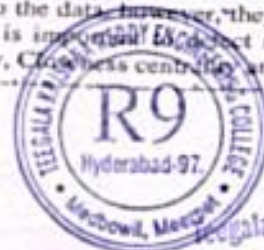
Networks are a natural way to represent information. Nodes in such networks organize into densely linked groups that are commonly referred as network communities. Nodes in such networks organize into densely linked clusters. To extract communities from a given undirected network, it is advisable to choose a scoring function (e.g., modularity) that quantifies the intuition that communities correspond to densely linked sets of nodes [10]. The degree of a node in an undirected graph is the number of connections or edges the node has to have with other nodes. A dataset of 1000 entries with the term 'cancer' in pubmed literature database was selected to perform network analysis, to analyse the important terms and their distribution in the network. A term document matrix (TDM) was created from the corpus where rows correspond to documents and columns correspond to terms. A sparse adjacency matrix was constructed and nearly 47 terms appeared and the centrality measurements were carried out on these terms using keyplayer package [11].

### 2.1 Network analysis

Centralization measurements were carried out to assess whether a network has a star-like topology and also to understand whether the nodes of the network have on an average the same connectivity. Network centralities such as Degree centrality [12], Closeness centrality [13] [14], Eigenvector centrality and Betweenness centrality were evaluated.

### 2.2 Network centralities

In general, central nodes or intermediate nodes affect the topology of the network. Some points are not central to the data, however, they might have crucial role, hence it is important to select such nodes using Degree centrality, Closeness centrality and Eigenvector Centrality.



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# An image classification framework exploring the capabilities of extreme learning machines and artificial bee colony

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## Abstract

A hybridized image classification strategy is proposed based on discrete wavelet transform, artificial bee colony (ABC) and extreme learning machine (ELM). The proposed methodology works in three phases: (a) in preprocessing phase, images are decomposed and features are extracted from images using bi-orthogonal wavelet functions; (b) secondly, modified ABC (MABC) optimization algorithm is proposed to determine the optimal parameters such as hidden layer weights and biases to be used by ELM for classification; (c) the ELM in the third phase has been trained and tested with three brain image datasets for different diseases along with normal brain images. The performance recognition of the proposed MABC-ELM in terms of accuracy, rate of per-image classification and speedup has been made with variants of ELM such as ELM, ABC-ELM and MABC-ELM and also with MLPNN, naïve Bayesian, linear regression classifiers. Finally, the percentage of accuracy observed by the proposed MABC-ELM, for acute stroke-speech arrest, glioma and multiple sclerosis datasets, is 90%, 90% and 100% with eight hidden nodes in the ELM architecture, and it can be concluded that MABC-ELM gives better generalization performance, more compact network architecture and the hybridization of ELM with modified ABC is worth investigated.

**Keywords** Extreme learning machine · Discrete wavelet transform · Artificial bee colony · MRI image classification

## 1 Introduction

Medical image processing has become a vital factor in the medical and clinical research fields. Medical image processing also includes image analysis and proper visualization of medical images such as magnetic resonance imaging (MRI), computed (axial) tomography (CT) and

positron emission tomography (PET). Biologists study the cells and their functionality, radiologists work on the MRI and CT scan to identify and quantify the tumors, and neurologists or neuroscientists identify the regional metabolic brain activities from the PET and MRIs. Considering the huge requirement of proper analysis and visualization of such medical images, there is boon of image processing. Therefore, computer scientists and researchers are moving toward the development of computational methods for the design of standard user interfaces, databases, analysis tools which can enhance the biomedical research, diagnose, monitor and treat the diseases [1–5].

Medical image classification is a research area that is nowadays receiving a great deal of attention from computer scientists, researchers and doctors community to address the problem of medical image analysis and diagnosis of diseases [6, 7]. Classification refers to a significant area of machine learning and can be used in the field of biomedical data analysis, financial market forecasting, proper storing and retrieval of data. In machine learning, various strategies have been developed such as artificial neural network

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# Mobile Cloud Data Privacy using Lightweight Data Sharing System

Kundan.B, T.Rakesh Kumar, Sarangam Kodati

**Abstract:** The data security problem in mobile cloud becomes more and more severe and it prevents further development of mobile cloud. There are substantial studies that have been conducted to improve the cloud security. However the most of them are not applicable for mobile cloud since mobile devices only have limited computing resources and power. So we propose a light weight data sharing scheme (LDSS) for mobile computing it adopts CP-ABE (Cipher text policy attribute based encryption) as access control technology using normal cloud environment but changes a structure of access control tree to make suitable for mobile cloud environment. It is important to use the resources provided by Cloud Service Provider to store and share data. Thus LDSS can effectively reduce the over load on the mobile device side when users are sharing a data in mobile cloud environment.

**Keywords:** LDSS, CP-ABE, Mobile Cloud Computing, Data Security, CSP, Data Encryption, Access Control.

## I. INTRODUCTION

The rise of cloud technology and mobile applications allows personal information to be saved/retrieved from just about anywhere. The data security concern is becoming increasingly acute in mobile cloud and helps to prevent further mobile cloud development. Significant studies have been carried out to enhance cloud protection, but most are not relevant to the mobile cloud since only limited software space and power is available for mobile devices. Mobile cloud applications with minimal cognitive efficiency are required. We therefore deliver a Lightweight Data Sharing Framework for Mobile Cloud computing. Services with low calculation payload are needed. The plan was designed to deliver lightweight and safe data storage/processing and data recovery from the cloud, as well as to reduce mobile equipment load. Cloud provides computer system resources, notably data storage and computer power, on-demand without user-active direct management. The term usually serves to describe data centers that are accessible to many users of the internet. Wide clouds, nowadays primarily, are often spread across a variety of central network locations and can be used as an edge database when the client interfaces are relatively close to each other.

The document discusses the supplier and the processing of knowledge, data owner and the role of the employee in the

cloud. Safe and efficient access to outsourced software and internet access to large-scale information in a vital sector work in a safe and competent manner. The element does not simply ensure safe entry to the externalized information but depends on encryption-based access control and over-encryption. Where organizations share information across their centralized database systems, cohesive partnerships, worries over possible risks of information spills or software abuse avoids cloud alliances. The existing system takes about half an hour to perform the same work on a mobile device when encrypting takes one minute on pc. In comparison, current approaches do not address very well the issue of user privilege transfer, which could contribute to a very large revocation value. To mobile devices this does not happen either. There is clearly no correct solution to solve the problem of secure data sharing in mobile cloud. As the mobile cloud is increasingly popular, it is urgently needed to provide an active and secure data sharing system for mobile cloud. There is no acceptable framework for data security in the mobile cloud. The price of user authentication and cancellation is high. The protection for single person details is insubstantial to the software proprietors. It will be a real stress. We are not able to satisfy each one of the needs of information holders. You are consuming a large amount of data. What are more important resources that are not available to mobile phones. Every high rejection price could be reached.

For cell phones, this is not a fact. Obviously, no course is going to suit. Such apps allow individuals (informational proprietors) to upload images, records, files and various documents to the cloud and to exchange them with other persons (informational customers). For some data holders, the security of knowledge on the person sensitive information is a major concern.

## II. PROPOSED SYSTEM

In this we propose a small weight data sharing (LDSS) system for mobile cloud computing. In order to effectively control access to cipher code, we have developed an algorithm named LDSS-CP-ABE, focused on the attributes dependent encryption approach. For encrypting and decrypting activities they use proxy servers. In our methodology, ABE's complex calculation operations on proxy servers minimize the computing overhead substantially on mobile devices on the client side. We have benefits such as having effective data access methods. Yet performance and cost management have been enhanced. Information confidentiality through LDSS-CPABE is also protected. The changed decryption key edition is sent to the proxy servers in a safe way.

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# Classification of Diabetes using Random Forest with Feature Selection Algorithm

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**Abstract:** Diabetes has become a serious problem now a day. So there is a need to take serious precautions to eradicate this. To eradicate, we should know the level of occurrence. In this project we predict the level of occurrence of diabetes. We predict the level of occurrence of diabetes using Random Forest, a Machine Learning Algorithm. Using the patient's Electronic Health Records (EHR) we can build accurate models that predict the presence of diabetes.

**Keywords:** Electronic Health Records, Random Forest with Feature Selection, Machine Learning Algorithm.

## I. INTRODUCTION

Health regard system surrounds a powerful amount of self-restrainer's data wherever the advice mining are often addressed for extraction secret specimen. Diabetes could be a lingering badness which may be object by embody's incapability to accommodate, or once person cannot usefulness the hormone that it propagate. the event of diabetes mellitus includes extensive name loss, dis-performance and falling of classified organs (WHO). As a ensue, it's greatly insure destruction in patients. There are mainly 2 formulas of DM: obliging I (C-1) and lenient II (C-2). C-1 occur once the corporation is not any longer willing to alter out hormone whereas C-1 is national in puerility and in addition relate to as keto acidosis prostrate DM. this friendly of polygenetic complaint is a smaller amount national; only concern 5-10% of individuals with polygenetic illaess have C-1. C-2 occur once the substance is incapable to utilize the hormone made or not enough hormone is made. In addition, there's another variety of polygenic disorder named physiological state polygenic.

A disorder that develops throughout maternity an excessive amount of aldohexose in blood will injury eyes, kidneys, and nerves. It also can explication for cardiovascular ailment, kneck, and inability in disposition stream to blackleg. Overweight, want of vex, plight narration and distress double the obtainable hazard of polygenetic irregularity.

The primary cause of Classification 2 diabetes is obesity and absence of practice. Some individuals are in greater danger of genetics than others. Classification 2 obesity accounts for about 90% of disease instances, with the remaining 10%, mainly owing to form I arthritis mellitus and gestational cancer. There is a reduced complete insulin concentration for blood glucose regulation in arthritis mellitus Classification 1 owing to autoimmune caused Loss of pancreatic insulin-producing beta cells.

Diabetes diagnosis implies descent judgment, such as faithful protoplasm corn sugar, parol corn sugar toiceration proof, or glycosylated hemoglobin. Classification 2 diabetes mellitus can be incompletely anticipated by allege an analogical moment, task methodically, and corrosion well. Treatments implicate turn in trial and food. If descent sugar-coat direct are not enough subjugate, the curative production Typically met form in is advise. Eventually many kin may also necessity insulin injections. It is commit that race soften frank be routinely restrained in those on insulin. However, this may not be indigence in that attractive globule. In accomplice who are corpulent, Bariatric coeliotomy often mankind DM. Classification 2 DM mellitus scold have risen street in preference with obesity since 1960. By 2017 the number of diagnoses of the disease was roughly 412 million, compared to some 40 million in 1990. It ordinarily empty at the date of ordinary and older, although ignorant individuals have increased the charge of Classification 2 DM. With the 1918s, Classification 2 diabetes mellitus is associated with a 10-year shorter arithmetic mean of estity, and one of the first illnesses to be characterized was diabetes mellitus.

## II. REVIEW WORK

Diabetes is a long lasting ceaseless This disease affects the body by decreasing the enzyme that carries sugar into the platelets. This increases the body's glucose amount, causing significant problems such as stroke, lung illness, vision, renal inability and mortality. Diabetic patients shows loss of weight, obscured vision, infections, frequent urination, etc. Diabetes can be categorized mainly into three types. They are Classification 1, Classification 2 and Gestational diabetes. The Classification 1 also called as Juvenile Onset Diabetes Mellitus is created when the human body declined to deliver insulin. The Classification II or Adult onset diabetes is described by the strength of insulin. They can lead to complicated arrangements, such as renal deception, stroke, coronary heart disease and cancer. Gestational diabetes in pregnant women is impacted. This classification is extremely important because both mom and child can be diagnosed. Various medical tests are used for malaria identification and diagnosis. They includes the following

- Fasting Blood Glucose Test (FBS)
- > PostPrandial Blood Sugar Test (PPBS)
- > Random Blood Sugar Level (RBS)
- > Oral Sugar Tolerance Test
- > Glycosylated haemoglobin (HbA1c)
- > Urine Test

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# MediBot : A Medical Assistant through Natural Language Processing

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**Abstract** – The project is based on the medical assistance through a chatbot using machine learning, natural language processing and dialog flow. It is a conversational bot that is designed to give information on generic medication. There is a need for an application that aides people independent of time and location. Every time a person gets health issues, he/she can have a conversation with bot and get to know possible effects of symptoms.

**KeyWords:** Chatbot, Natural language processing, Medical assistance, Dialogflow, Artificial Intelligence.

## 1. INTRODUCTION

In this modern world people don't have enough time to attend their medical needs in conventional manner. Few people hesitate to consult doctor due to the increase in medical consultation cost even for simple concern like fever, cold etc. It is not always possible to take a doctor's appointment and get immediate assistance due to shortage of doctor's in certain areas. In addition people hesitate to share their mental and sexual issues with doctor.

While the medical costs are increasing dramatically, we are in a period that has a heavy increase in the utilization of smartphone and has access to everything on the finger tips. Hence there is a need to combine the medical concerns to smartphone environment which will make the access ability easy and convenient to a person.

In order to achieve this we are developing a web application that can be accessed through internet using a smart phone or a computer for medical assistance. We are proposing a medical assistance chat bot which is easily access able, fast and accurate.

## 2. BACKGROUND

Ref. [1] "A related term to machine conversation is the chatbot, a conversational agent that interacts with users, turn by turn using natural language. Different chatbots or human-computer dialogue systems have been developed using text communication starting from ELIZA that simulates a psychotherapist, and then PARRY which simulates a paranoid patient."

Ref. [2] "Eliza is the well-known artificial therapist. The bot tries to rephrase the questions of the client and reacts on certain keywords. If no keyword is found, Eliza replies with fixed phrases to keep the conversation going."

Ref. [3] "With the improvement of data-mining and machine-learning techniques, better decision-making capabilities, availability of corpora, robust linguistic annotations/processing tools standards like XML and its applications, chatbots have become more practical, with many commercial applications." Ref. [4] "Medicine is a field in which such help is critically needed." And in the recent times, robots and other forms of artificial intelligence are used in some sorts of medical applications

Ref. [5] "Chatbot Erica is developed for a dental practice in Netherlands. This online assistant is used to answer frequently asked questions of patients and visitors on the website. Among others, Erica has the important task to answer questions about free dental billing rates." Furthermore, Ref. [6] "Virtual Companion acts as a personal healthcare assistant and consists of an automated avatar with an embedded chatbot and other technologies to provide the requested information needed by the user."

These days, different technologies can be utilized to have a convenient and accessible health services to all. An example is the Ref. [7] "Telephone Consultation which uses telephone that offers not only time-efficiency and cost-saving benefits but also the open-ended availability and the risk of fuelling demand." Likewise, Ref. [8] "Online Doctor/ Medical Consultation overcomes geographic obstacles as well as gives the professional understanding for the patient with their concern, with no need to hold back for any medical expert, journey or even losing business days."

## 3. RELATED WORKS

The following researches were studied to develop the project:

A. An Interactive Healthcare System with personalized Diet and Exercise Guideline recommendation [10]. Jerry C.C. Tseng, Bo-Hau Lin, Yu-Feng Lin, Yu-Feng Lin, National Cheng Kung University, Taiwan.

- Browser and app-based Healthcare Assistant.
- Diet and Exercise Guidelines and Physical Examination.
- Reminding functionality.



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# Implementation of Question Answering System Using Natural Language Processing

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## ABSTRACT:

Question Answering (QA) system in information retrieval is a task of automatically answering a correct answer to the questions asked by human in natural language using either a pre-structured database or a collection of natural language documents. It presents only the requested information instead of searching full documents like search engine. As information in day to day life is increasing, so to retrieve the exact fragment of information even for a simple query requires large and expensive resources. This is the paper which describes the different methodology and implementation details of question answering system for general language and also proposes the closed domain QA System for handling documents related to education acts sections to retrieve more precise answers using NLP techniques.

**KEYWORDS:** retrieval, natural language, pre-structured database, fragment, general language, closed domain, precise, NLP

## 1. INTRODUCTION:

Question answering (QA) is a computer science discipline within the fields of information retrieval and natural language processing (NLP), which is concerned with building systems that automatically answer questions posed by humans in a natural language.

A QA implementation, usually a computer program, may construct its answers by querying a structured database of knowledge or information, usually a knowledge base. More commonly, QA systems can pull answers from an unstructured collection of natural language documents.

Some examples of natural language document collections used for QA systems include:

- a local collection of reference texts
- internal organization documents and web pages
- compiled newswire reports
- a set of Wikipedia pages
- a subset of World Wide Web pages





## DRIVER DROWSINESS DETECTION USING OPENCV FACE RECOGNITION

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**Abstract:** Driver fatigue has become one of the main causes of vehicle accidents in the world in recent years. The driver's condition, i.e. drowsiness, is a clear way of measuring driver exhaustion. It is therefore very important to recognize the driver's drowsiness in order assist the human to reach destination safely without any problem. In this paper the main motto is to implement a reliable framework that suits the application for the detection of sleepiness. The primary objective of the work is to capturing the images from the driver continuously and obtain the information of eye in accordance with the specified algorithm. A webcam in this system records the video and the driver is detected with image processing techniques in each frame. The facial characteristics of the detected face are pointed and the aspect ratio, the mouth opening ratio and the nose longitation relationship are calculated and drowsiness is detected in accordance with their values.

**Keywords:** Image Processing, Computer vision, Eye Aspect Ratio, OpenCV

### INTRODUCTION:

In the US, approximately 100,000 driver drowsiness or fatigue crashes are estimated by the National Highway Traffic Safety Administration (NHTSA) every year [1]. The National Highway Traffic Safety Administration recorded 72,000 accidents, 44,000 incidents and 800 fatalities in 2013 because of driver drowsiness [2]. Every human being in today's world uses a vehicle. Often it is regarded necessary, but it's become a requirement in the

life of a common man. People are very concerned about their safety and the safety of vehicles is also important in the event of a theft or an accident. Drowsiness is a naturally occurring phenomenon that nobody strictly takes. This human characteristic can however have serious and fatal consequences if it is not taken into consideration or acts especially during motoring on roads. Drowsiness is described as being sleepy.

A human needs a minimum of 6-7 hours of sleep per day to function properly and conduct his/her daily activities. If this particular aspect is overlooked and a person does not get sufficient sleep because of any excuse, this leads directly to drowsiness. This can become dangerous when a person drives a vehicle. Hardly any of the accidents happen due to the driver's sleepiness, and this can be controlled. Driver drowsiness monitoring is a system which guarantees the protection of the vehicle, which in effect may help prevent injuries such as when the driver appears sleepy. Different factors, such as road conditions, weather conditions and mechanical fault or faults, may trigger car accidents. Nonetheless, 80% of the malfunctions occur due to driver error involving drinking and driving, exhaustion and sleepiness.

Factors like sight, unconscious reasoning and cognition affect the capacity of the driver to steer the vehicle. This can lead to accidents by reducing these factors. The second category computer vision techniques are particularly efficient because drowsiness can be



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# “Stability Analysis of Three Species Ammensalism Model with Time Delay”

K. V. Murali Mohan, Lakshmi Narayan. K, Kondala Rao. K, Papa Rao. A. V

## Abstract:

The present model is devoted to an analytical study of a three species syn-ecological model which the 1<sup>st</sup> species ( $N_1$ ) ammensal on the 2<sup>nd</sup> species ( $N_2$ ) and 2<sup>nd</sup> species ( $N_2$ ) ammensal on the 3<sup>rd</sup> species ( $N_3$ ). Here 1<sup>st</sup> species and 2<sup>nd</sup> species are neutral to each other. A time delay is established between 1<sup>st</sup> species and 2<sup>nd</sup> species and 2<sup>nd</sup> species and 3<sup>rd</sup> species. All attainable equilibrium points of the model are known and native stability for each case is mentioned and also the global stability of co-existing state is discussed by constructing appropriate Lyapunov operate. Further, precise solutions of perturbed equations are derived. The steadiness analysis is supported by numerical simulation victimization MatLab.

**Keywords:** Ammensalism, Time Delay, Equilibrium points, Global Stability, Lyapunov function, MATLAB.

## I. INTRODUCTION

Ammensalism is a relationship in which a result of one life from adversary affects the other living being. It is explicitly a populace collaboration in which one creature is hurt, while the other is neither adversely nor decidedly influenced. The case for ammensalism, air contamination brought about via vehicles, power producing stations or metal smelters frequently causes extreme harm of plants in the influenced territory, while people get no immediate profit by this relationship. Tall trees that structure the woodland shelter prevent light from achieving littler plants howl. It is a fact that time delay in biological systems is a reality and it can have complex impact on the dynamics of the system namely loss of stability, induced oscillations and periodic solutions. It is a known fact that in any prey-predator system, the consumed prey does not contribute to the instant growth of the predator population, but with a time lag. This is reflected in the works of Cushing [4], Kuang [16], Gopalsammy [17] and some other authors have discussed models by incorporating delay

terms. As far back as research in the order of a hypothetical environment was started by Lotka[1] and Volterra [2]. Later on, many mathematicians and ecologists contributed to the growth of this area as reported in the treaties of Meyer [3], Cushing [4] and Kapur [5, 6]. Lakshmi Narayan et al. [8, 9, 10] investigated prey-predator ecological models with a partial cover for the prey and alternative food for predator and Time Delay. Ravindra Reddy.B et al. [11] studied A Model of Two Mutually Interacting Species with Limited Resources and a Time Delay. Paparao. A. V. et al. [12, 13, 14] studied three species ecological models with time delay. Kondala Rao. K. et. Al [15] discussed a three species dynamical system of ammensal relationship of humans on plants and birds with time delay.

Ammensalism is a biological connection between the species where first species ( $N_1$ ) influence on the second species ( $N_2$ ) and second species ( $N_2$ ) influence on the third species ( $N_3$ ) without themselves being influenced in any capacity. Here first species ( $N_1$ ) and third species ( $N_3$ ) are impartial to one another. The model is represented by a system of three ordinary differential equations. All possible equilibrium points are identified and the stability of co-existing state is discussed using Routh-Hurwitz criteria. Further solutions of quasi-linearized equations and the results are simulated by Numerical examples using Mat Lab.

## II. BASIC EQUATIONS.

The model equations for a system of three interacting species are given by the following set of non-linear first order simultaneous differential equations.

$$\begin{aligned} \frac{dN_1}{dt} &= f_1(N_1, N_2, N_3) = a_1 N_1 - \alpha_1 N_1^2 \\ \frac{dN_2}{dt} &= f_2(N_1, N_2, N_3) = a_2 N_2 - \alpha_2 N_2^2 - \alpha_3 N_2 \int_0^t k_1(t-s) N_1(s) ds \\ \frac{dN_3}{dt} &= f_3(N_1, N_2, N_3) = a_3 N_3 - \alpha_3 N_3^2 - \alpha_4 N_3 \int_0^t k_2(t-s) N_2(s) ds. \end{aligned} \quad (2.1)$$

Here  $k_1(t-s)$  &  $k_2(t-s)$  is giving weight factors to the influences at time t of  $N_1$  and  $N_2$  of time s.

That is  $k_1(t-s)$  &  $k_2(t-s)$  are rate of change of  $N_1$  and  $N_2$  after a time interval (t-s)

$$\text{Let } t-s = z \Rightarrow s = t-z \quad (2.2)$$

$k_1(z) \geq 0$  &  $k_2(z) \geq 0$  and we normalize it, so that

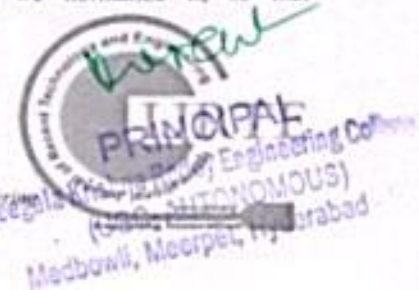
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# Job Shifting Prediction and Analysis Using Machine Learning

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**Abstract** - In today's volatile employment structure, the employees tend to shift the job in an unexpected manner. In that case the company may face issues regarding scarcity of the workforce and find problem to reemploy quickly. Thus to overcome this problem we have designed a predictive model to anticipate the chances of an employee leaving the job. In this project the train and the test datasets are taken from Analytics Vidhya site where in the algorithm used to do the prediction are Random Forest, XGBoost, CatBoost, LightGBM out of which CatBoost has performed the best and ended up giving the most accurate prediction. The datasets provided by Analytics Vidhya were structured in nature but incomplete in observance thus to fill that the missing values imputation procedure had to be performed and then the data was fed to the algorithm for prediction. Knowing the employees approach towards job shift prior would actually help the company to plan out the workforce efficiently. CatBoost is a gradient boosting technique on decision trees library made available as open source by Yandex. It is universally applied across a wide range of areas and to a variety of problems. Considering accuracy, robustness, usability, extensibility catboost as an upper hand over the other models.

**KeyWords:** Logistic Regression, SGD Classifier, Decision Trees, Naive Bayes, Random Forest, AdaBoost, Gradient Boosting, XGBoost, Target, Experience, Last New Job, Size of Company.

## 1. INTRODUCTION

1.1 In the present day IT rush, the competition between many multinational companies is at a whole new level and these companies want their best employees to stay with them to sustain in the market. For this they have to know whether their employees are happy with their work and pay or are they willing to shift to a new company.

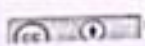
1.2 This made us to go for a research about how the above given problem could be solved. Through many documentation and cases, it worked out that data science and machine learning can make the work less requesting and faster.

1.3 using the features present in the dataset. The dataset for this is removed.

1.4 from the Analytics Vidhya site. With machine learning algorithms, using python as core we

can predict the chances whether an employee will stay in the company or will shift to a new company.

1.5 The aim of the project would be to train a model for prediction. The model is trained on train data set which will be validated on test dataset. The CatBoost and other algorithms are used for prediction. Exploratory analysis of data is done to analyze the dependency of the target variable on



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# Interesting Unknown Facts About the Fish and Its Behavior

S. A. Kalaiselvan, Teena Joseph, N. Vadivelan

**Abstract:** The country is gifted with the vast resource in terms of water like rivers, tanks, lakes etc. A fish can be defined as an aquatic creature, which is a cold-blooded vertebrate and has gills throughout life and limbs if any are in form of fins. There are nearly 2500 species out of which 930 are freshwater and the rest are marine. Breathing in depth of the water bodies across all over the world is really amazing, charming and interesting. The fishes may come in all the aspects of different shapes, colors, and their sizes. Nearly 450 million years the fishes have in attendance, also before the occurrence of the dinosaurs the fishes have swam in the sea. This article is going to make aware the types of fishes, interesting and unknown aspects of the fishes in the sea.

**Keywords:** Gills, Fins, Blooded, Species, Charming

## I. INTRODUCTION

Now a day's there is the drastic growth in sea research to monitor and finds the new amazing and interesting species in the sea. Fish have the distinction of being the first vertebrates on Earth. Most fishes are plentiful of water all over the body, for human being fishes are the most important resource especially as a food because it contains more minerals and vitamins as it staying in water bodies. Inside water, there are various kinds of living organisms are living and they are moving from one place to another location in their way. The new invention of fish is being discovered is still on process. The fish can breathe using gills (usually, but lungfish and some others have lungs), have backbones, have a scaly skin and have various fins instead of limbs.

Most people will recognize a "typical" fish like a goldfish, bass, bluegill, snapper, or grouper because of experience with aquariums, going fishing, or enjoying fish for dinner. And most people know that lampreys, sharks, rays, eels, seahorses, and other strange-looking aquatic creatures are fishes, while shellfish, cuttlefish, starfish, crayfish, and jellyfish (despite their names) are not fishes. But some fish species are weird enough, and look enough like salamanders or other animals, that it is not always easy to be sure that one is looking at a fish.

## II. TYPES OF FISHES AND SPECIALTIES

Nearly there are 32000 more species are described as fishes in the sea. In the survey, we have gathered some craziest and most attractive facts about the fish that we can find.

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1. Goldfish
2. Mudskippers
3. Batfish
4. Atlantic hagfish
5. Sunfish
6. Small as a grain of Rice
7. Sailfish
8. Deadly Puffer Fish
9. Lungfish

The above types are some amazing fishes having interesting facts.

### 1. Goldfish:

Goldfish may look like toothless but actually it has teeth's, actually, the teeth are located in their throats. It is named as pharyngeal teeth, with the help of the teeth goldfish can crush up their food.

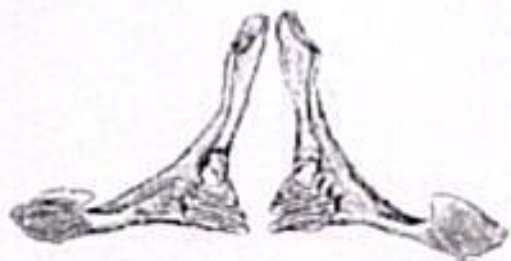


Fig 1: Pharyngeal Teeth (0,4-4,0) of Goldfish

The above figure 1 shows the skeleton structure of the pharyngeal teeth. The structural arrangement of Pharyngeal teeth is one row (0,4-4,0) its looks like molar but narrow and smooth edged without extensive grinding surfaces.

### 2. Mudskippers:

The mudskipper is a rather adaptable creature, it can walk by using the pectoral fins, skip on the land. It is comfortable on land that it can toss itself up to two feet in the air in a spectacular flip. In order to stay alive on land, it keeps a supply of water on its gill chambers when it has journeyed out of the water also it can breathe using the pores of its skin when it is dripping wet.

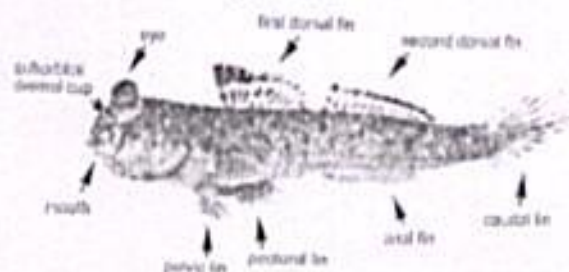


Fig 2: Mudskippers with Specifications



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## A Fuzzy Logic Based Soft Computing Approach in CBIR System Using Incremental Filtering Feature Selection to Identify Patterns

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### Abstract

Content based Image Retrieval (CBIR) may be a set of techniques for retrieving semantically-relevant pictures from an image database supported automatically-derived image options. Generally, in CBIR systems, the visual features are described at low-level. They are simply rigid mathematical measures that cannot influence the inherent subjectivity and foginess of individual's understandings and perceptions. As a result, there is a niche between low-level features and high-level semantics. We have a tendency to be witnessing the era of massive information computing where computing the resources is turning into the most bottleneck to handle those massive datasets. With in the case of high dimensional data where every view of information is of high spatiality, feature selection is important for additional rising the clustering and classification results.

In this paper, we have a tendency to propose a new feature selection method is Incremental Filtering Feature Selection (IFFS) algorithm that employs the Fuzzy Rough Set for choosing best subset of features and for effective grouping of huge volumes of data, respectively. We introduce a new system of visual features extraction and matching by using Fuzzy Logic (FL). FL is a powerful tool that deals with reasoning algorithms used to emulate human thinking and decision making in machines. An In depth experimental comparison of the proposed method and other methods are done. The performance of the proposed model yields promising results on the feature selection, and retrieval accuracy in the field of Content based Image Retrieval.

**Keywords:** Content Based Image Retrieval, Fuzzy Logic, Fuzzy Color, and Incremental Filtering Feature Selection.

### INTRODUCTION

Very massive collections of images are growing quickly because of arrival of cheaper storage devices and also the internet. Finding an image from a huge set of images is very challenging task. One solution to this problem is to label images manually. But it is too expensive, time consuming and not feasible for several applications. Moreover, the labeling process depends on the semantic accuracy in describing the image. Therefore, many content based image retrieval systems are developed to extract low levels features for describing the image content [1].

A typical content-based retrieval system (as in Fig 1) is split into 2 stages: off-line feature extraction and on-line image retrieval [2]. In off-line stage, the system mechanically extracts visual attributes of every image in the database based on its pixel values and stores them in a different database inside the system, known as a feature database. In on-line stage, the user will submit a query example to the retrieval system. The system represents this example with a feature vector. The distances (i.e., similarities) between the feature vectors of the query example and those of the media in the feature database are then computed and ranked. The system ranks the search results and then returns the results which are most similar to the query examples.

Image data is vague in nature and in content-based retrieval this property creates some issues like [3]:

1. Descriptions of image contents typically involve inexact and subjective concepts.
2. Typically imprecision and vagueness exist in descriptions of the images and in some of the visual features.
3. User's needs to image retrieval could also be naturally fuzzy.

Fuzzy Logic (FL) is used in CBIR system because it is the character of of image data, and also the nature of human perception and thinking process. So, it can minimize semantic gap between high level semantic and low level image features. Also, it is robust to the noise and intensity modification in the images. Finally, the users are interested in results according to similarity (closeness) instead of equality (exactness).

In [4], a color histogram representation, called Fuzzy Color Histogram (FCH), is presented by considering the color similarity of each pixel's color associated to all the histogram bins through fuzzy-set membership function. An approach for computing the membership values based on fuzzy-means algorithm is developed. The proposed FCH is further exploited in the application of image indexing and retrieval. Konstantinidis et al [5] proposed a fuzzy linking system for color histogram creation in  $L^*a^*b^*$  color space. It contains 10 bins, and 27 rules used to derive the final histogram. Kucukturek et al [6] proposed a fuzzy linking system for color histogram creation in  $L^*a^*b^*$  color space. Their system contains 15 bins, and 27 rules used to derive the final histogram.



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## An Efficient Optimal Neural Network-Based Moving Vehicle Detection in Traffic Video Surveillance System

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### Abstract

This paper presents an effective traffic video surveillance system for detecting moving vehicles in traffic scenes. Moving vehicle identification process on streets is utilized for vehicle tracking, counts, normal speed of every individual vehicle, movement examination, and vehicle classifying targets and might be executed under various situations. In this paper, we develop a novel hybridization of artificial neural network (ANN) and oppositional gravitational search optimization algorithm (ANN-OGSA)-based moving vehicle detection (MVD) system. The proposed system consists of two main phases such as background generation and vehicle detection. Here, at first, we develop an efficient method to generate the background. After the background generation, we detect the moving vehicle using the ANN-OGSA model. To increase the performance of the ANN classifier, we optimally select the weight value using the OGSA algorithm. To prove the effectiveness of the system, we have compared our proposed algorithm with different algorithms and utilized three types of videos for experimental analysis. The precision of the proposed ANN-OGSA method has been improved over 3% and 6% than the existing GSA-ANN and ANN, respectively. Similarly, the GSA-ANN-based MVD system attained the maximum recall of 89%, 91%, and 91% for video 1, video 2, and video 3, respectively.

**Keywords** Moving vehicle detection · Artificial neural network · Oppositional-based learning · Gravitational search optimization algorithm · Traffic video surveillance system

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# Distributed Hybrid AODV Algorithm for Path Concern in MANET Using Bio Inspired Techniques

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**Abstract**— The mobile ad-hoc network is the self configuring type of network in which mobile nodes can join or leave the network when they want. In this work, AODV, DSR and DSDV routing protocol is compared under various parameters like delay, packet loss and throughput. The improvement in the AODV protocol will be proposed for path concern from source to destination. The proposed improvement will be based on bio-inspired techniques. These bio-inspired techniques are cuckoo search and bee colony algorithm. The cuckoo search and bee colony algorithm will search optimal path from source to destination. The searched path will be compared with the AODV protocol and nodes which are common in the path are selected as the best nodes for the path. The protocol technique is implemented in NS2 and it is been analyzed that it performs well in terms of throughput, delay and packet loss than AODV protocol.

**Keywords**— Mobile Ad Hoc Networks, AODV, DSDV, DSR, Bee Colony Optimization, Cuckoo Search Algorithm.

## 1. Introduction

In day-to-day communication, wireless networks play a prominent role. There are many applications where it is broadly utilized like military applications, industrial applications and in personal area networks. Due to its simplicity of installation, scalability, flexibility it is very popular in other applications also. Wireless network has further two categories: Infrastructure and Infrastructure less. In Infrastructure remote systems, the base stations are settled, the mobile node can move while communicating [1]. Moreover when nodes go out of the range of one base station it comes to the range of other base stations. In infrastructure less network or an ad hoc network, base station is not fixed and router moves in any direction during communication [2]. So, this network makes its own route for flu using routing protocol. MANET is a self-designing system, in which topology is dynamic. These hubs are attempting to adapt to the typical impact of radio correspondence channels, multi-client impedance, multi-way blurring and so on. The plan of an ideal steering convention for MANET is profoundly troublesome. To decide the availability of system associations, there is needs of an effective calculation connect planning, and directing in such powerful situations, turns out to be vital [3]. In such type of network mobile node configures with random topology. In the random topology each node are aware of the nodes which are their adjacent nodes or in their direct range. The nodes in MANETs are interrelated using the multi-hop communication paths. Simply, it mentions that all the nodes in the hop must be prepared to contribute in the procedure of delivering a packet by forwarding it from source to destination. Packets are travel through multiple paths [4]. A single file is divided into several data packets, and then these packets are forwarded through different paths. The destination nodes and all the packets are combined in sequence to generate the original file. There are various routing protocols that plan to make an ideal pathway with negligible number of mediator hubs amongst source and goal. The course ought to have less overhead and sensible data transmission utilization for transmitted the message on time [5]. The protocol should be able to perform in an effective & efficient manner throughout the networking environment consisting of heterogeneous ad hoc networks i.e., from small to large Multi-hop networks. There are three categories of these routing protocols, which include proactive routing protocols, the reactive and hybrid routing protocols with respect to the routing topology which is changed during MANET used in MANET [6]. Proactive routing protocols constantly retain the updated state of the network topology and are typically called as a table-driven. The Proactive routing protocols includes DSDV, OLSR routing protocols. The second category includes reactive routing protocols also known as source-started on-request directing conventions, these are request driven receptive conventions. Therefore, they do not follow the procedure creating & updating routing tables with routing information at regular intervals. As they are on demand routing



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## Smart Objects of the Internet of Things (IoT) Technology

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### Abstract:

Due to recent development and innovation in both hardware and software, the global network of networks, or Internet of Things (IoT), is finally becoming a reality. The IoT's diverse billions of communicating devices, or smart objects (SOs), enables a new paradigm of interactivity among all manner of things and people. One of the IoT's biggest hurdles is the monolithic nature and fragmentation of existing vertical closed systems, architectures, and application areas. In this paper discussed briefly about the initiatives like Policy on Internet of Things (IoT), Smart Cities, Centre of Excellence for IoT in Bangalore by GOI and NASSCOM, Andhra Pradesh to become an IoT hub with first-of-its-kind policy, Tech Giants back Digital India Vision taken up by Government of India as well as the applications of IoT. Methodology of IoT in India.

**Keywords:** Smart Objects (SOs), Policy on Internet of Things (IoT), Centre of Excellence for IoT, IoT hub with first-of-its-kind policy, Tech Giants back Digital India Vision.

### INTRODUCTION:

The digital space in India is undergoing a major transformation and with Prime Minister Narendra Modi leading the Digital India campaign, Magazine chalks down five major Internet of Things (IoT) initiatives taken by the Indian government. But before we dive into the top 5 IoT initiatives, here's a bit of lowdown on the emergent IoT market share of India According to reports, India is expected to capture 20 % share in the global Internet of Things (IoT) market in the next five years and the overall global market is estimated to touch US\$ 300 billion by 2020. Another reports point out the IoT market in India is projected to grow at a CAGR more than 28.2 per cent during 2016-2022. Now, India already

has a strong base in technology and the public-industry partnership is bound to bring about a monumental change. One of the most notable IoT initiatives for India will be delivering health, education and financial services to remote areas. Thereby, building a bridge between rural and urban India with IoT will be a landmark step in empowering millions in rural India and tackling. Here are the top 5 IoT initiatives by Government of India

#### 1. Policy on Internet of Things (IoT):

In a first for the Indian government, 2015 saw the roll-out of a draft policy on IoT that laid down the

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## A VISION BASED DETECTION COUNTING THE VEHICLES USING GAUSSIAN MIXTURE MODEL AND CLASSIFICATION SYSTEM.

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### ABSTRACT

Traffic Analysis has been a problem that city planners have dealt with for years. Smarter ways are being developed to analyze traffic and streamline the process. Analysis of traffic may account for the number of vehicles in an area per some arbitrary time period and the class of vehicles. People have designed such mechanism for decades now but most of them involve use of sensors to detect the vehicles i.e. a couple of proximity sensors to calculate the direction of the moving vehicle and to keep the vehicle count. Even though over the time these systems have matured and are highly effective, they are not very budget friendly. The problem is such systems require maintenance and periodic calibration. Therefore, this study has purposed a vision based vehicle counting and classification system. The system involves capturing of frames from the video to perform background subtraction in order detect and count the vehicles using Gaussian Mixture Model (GMM) background subtraction then it classifies the vehicles by comparing the contour areas to the assumed values. The substantial contribution of the work is the comparison of two classification methods. Classification has been implemented using Contour Comparison (CC) as well as Bag of Features (BoF) and Support Vector Machine (SVM) method.

### I. INTRODUCTION

The need of efficient management and monitoring of road traffic has increased in last few decades because of the increase in the road networks, the number and most importantly the size of vehicles. Intelligent traffic surveillance systems are very important part of modern day traffic management but the regular traffic management techniques such as wireless sensor networks Inductive loops and EM microwave detectors are expensive, bulky and are difficult to install without interrupting the traffic.

A good alternative to these techniques can be video based surveillance systems. Video surveillance systems have become cheaper and better because of the increase in the storage capabilities, computational power and video encryption algorithms.

The videos stored by these surveillance systems are generally analyzed by humans, which is a time consuming Job. To overcome this constraint, the need of more robust, automatic video based surveillance systems has increased interest in field of computer vision. The objectives of a traffic surveillance system is to detect, track and classify the vehicles but they can be used to do complex tasks such as driver activity recognition, lane recognition etc. The traffic surveillance systems can have applications in a range of fields such as, public security, detection of anomalous behavior, accident detection, vehicle theft detection, parking areas, and person identification.

A Traffic surveillance system usually contains two parts, hardware and software. Hardware is a static camera installed on the roadside that captures the video feed and the



## A MOBILE APPLICATION OF ONLINE APPOINTMENT SCHEDULING PLATFORM

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### ABSTRACT

We are developing a Next Generation Online appointment scheduling Platform designed to improve the service to patients with easy access. Online Appointment OPD Management System that provides patients or any user an easy way of booking a doctor's appointment online from anywhere, anytime. Online Registration System (Hospital OPD Management Software) is a framework to link various hospitals across the country for User based online registration and appointment system, where counter based OPD registration and appointment system through Hospital Management Information System (HMIS) has been digitalized. this mobile app facilitates online appointments with various departments of different Hospitals using login information. New Patient will get appointment as well as Unique Registration number. If User is already registered with our Software, then appointment number will be given and Registration will remain same.

### I. INTRODUCTION

Health care is one of the fastest growing industries all over the world. Before the last few years, medical appointments were usually taken on the phone calls or by visiting the hospitals in person. This process needed the involvement of individuals so; the ability to take appointment was restricted to the availability of schedulers, phone lines or the physical presence of a person. With the growth of time, everybody demanded timeless and efficient medical care delivery because manual appointments (that requires the physical presence of both individuals) and long waiting lines have formed an irritating situation for the healthcare institutions. So, it created a need for such an integrated health care system that could deliver seamless care to both outpatients as well as inpatients.

The emergence of online appointment system offered timeless and efficient access to health care services. Therefore, for hospitals and other medical societies, online appointment booking has a great importance and a subject of interest (Koole, 2007). Booking appointment online has become a new trend in the past few years and is considered as one of the key processes in the healthcare industry. Bailey (1952) considered scheduling system as a trade-off or a compromise between a doctor and patient's waiting times. Patients who get late for the appointments or who fails to come becomes the reason for the

underutilization of a doctor's time. Idle time and underutilization of doctor's time are also resulted by gaps in the appointment times (Bailey, 1954). Different researchers agreed that main patient dissatisfaction is caused by long waiting times. Cayirli (2003) defined access time as the time between patients' request for the appointment and the time he is checked up. According to Veral, waiting time is the time between consultation and the scheduled time while neglecting the early arrival of a patient (Veral, 2003).

Different researchers defined waiting /access time in different ways. A well-designed appointment system supposed to improve patients' satisfaction by reducing cost and time of clinics and hospitals especially in the busy lives we are leading today. With the growing population need for more efficient ways to access a medical treatment is also growing. Through an online appointment scheduling system, a user gets access to the doctor's online webpage and can make an appointment with online software. Patient/user can also provide additional medical history in advance, giving adequate time to the doctor to prepare the necessary information for consultation. In this way, online appointment scheduling systems are helping doctors and the patients and making the healthcare delivery efficient. Nowadays there are many kinds of online appointment tools available in the market which is easy to set up and not too much expensive.



## EFFICIENT FRAMEWORK FOR HEALTHCARE SECTOR TO ESTIMATE THE NUTRITIONAL VALUE OF FOOD

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### ABSTRACT

There has been a rapid increase in dietary ailments during the last few decades, caused by unhealthy food routine. Mobile-based dietary assessment systems that can record real-time images of the meal and analyze it for nutritional content can be very handy and improve the dietary habits and, therefore, result in a healthy life. This paper proposes a novel system to automatically estimate food attributes such as ingredients and nutritional value by classifying the input image of food. Our method employs different deep learning models for accurate food identification. In addition to image analysis, attributes and ingredients are estimated by extracting semantically related words from a huge corpus of text, collected over the Internet. We performed experiments with a dataset comprising 100 classes, averaging 1000 images for each class to acquire top 1 classification rate of up to 85%. An extension of a benchmark dataset Food-101 is also created to include sub-continental foods. Results show that our proposed system is equally efficient on the basic Food-101 dataset and its extension for sub-continental foods. The proposed system is implemented as a mobile app that has its application in the healthcare sector.

### I. INTRODUCTION

High Calorie food intake can be harmful and result in obesity, which is a preventable medical condition that causes abnormal accumulation of fat in the body. It can result in numerous diseases such as obesity, diabetes, cholesterol, heart attacks, blood pressure, breast, colon and prostate cancers and other diet-related ailments. In order to deal with such problems, people are inclined towards making a difference in their diet plans by paying more attention to what type of food they are consuming. Diet management is a key concern amongst individuals belonging to different age groups. However, one major challenge in diet management is to maintain a balance between what one eats and how one monitors his/her food consumption. The immense increase in ailments such as high cholesterol, blood pressure, strokes etc.

demand for nutritional and diet management for which people resort to expensive nutrition therapies. It is a known fact that energy balance plays a pivotal role in maintaining a healthy weight and lifestyle. If people become more aware about their food intake and its nutritional value, then the diseases mentioned above and allergies can be reduced. This work aims to develop a mobile application that can record real time images of meal and analyze it for nutritional content, so that people can improve their dietary habits and lead a healthy life.

In visual object recognition tasks, Convolutional Neural Networks (CNN) have found great success and therefore CNNs are also employed for recognizing food items present in an image. In this work, we employ CNNs to acquire top 1 recognition accuracy rates of 85%. Another challenge is



## A MOBILE APP TO PROTECT CHILD RIGHTS

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### ABSTRACT

Child labour in general refers to the employment of children in any work that deprives children of their childhood, interferes with their ability mentally, physically, socially or morally. Hence such children are to be protected by NGO's. E-Adopt is an android application which is mainly meant for elimination of child labour. It provides services where users can login or register and can enter the details of child and type of child labour the child is involved in. So that any NGO can take up the child from that location.

### I. INTRODUCTION

Traditionally, non-profit organizations, or NGO's, have had to rely on minimal advertising and physical donations in order to achieve their goals. However, with the invention of smartphones, NGO's now have access to developing their own mobile applications which vastly expand their capabilities.

Not only can NGOs increase the amount of advertising for their respective organizations, as well as accept digital donations, but apps make it easier to routinely engage with volunteers, and makes managing large events a breeze. Mobile Apps for NGO's are far more than just an ad and a donation button, however, and app development for charities has a surprising amount of thought behind it.

Now, one might be wondering about the cost to develop a simple charity donation mobile application if they are active in this domain. A simple charity domain can add much more capabilities by having a custom mobile application developed.

What Makes Great Mobile Apps for NGO's?

Pioneering in the domain of mobile applications development for 10+ years, we at Let's Nurture can tell you that - Like the development of any mobile application, NGO app development for charities follows a series of stages from start to finish, with each stage focusing on a key aspect of the app's design and functionality.

### II. EXISTING SYSTEM

Rescuing a child from child labour is done manually. So it is very hectic to report child labour because of the legal constraints of police and law. It is difficult for NGO to reach to each and every location where child labour is being practiced.

#### Solution :

The solution for this problem is "E-ADOPT"

### III. PROPOSED SYSTEM

Our idea is to make easy for the people to inform the NGO'S about child labour through an android application. This makes the NGO's to save the children and take care about them. This android application also provides the users to adopt a child they want to. This makes the people to follow the law and also helps them to easily adopt a child.

NGO App is a unique approach for the NGO owners and their clients who want to manage the cause, customers, donations, events etc. in a tech friendly and innovative manner. The app contains various features in it which make the work to be managed properly and efficiently. Through this app, the NGO Owners can manage all the data of their customers. The owners can view and add the cause, donation, events, and gallery to the app. The customers can view the events and can ask the queries and can give the feedbacks. All the functionalities of an app like sending notifications, managing the cause, donation, and events, etc.



# NOVEL ATTENTION-BASED MULTIMODAL NEURAL NETWORK MODE FOR ROBUST HUMAN ACTIVITY RECOGNITION

Dr. Ramu Moodu<sup>1</sup>, Ch.Sony<sup>2</sup>, M.Krauthi Kumar<sup>2</sup>, M.Shiva<sup>4</sup>

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<sup>2,3,4</sup>UG Scholar In Department Of IT Teegala Krishna Reddy Engineering College,Telangana

## Abstract

The purpose of this study is to determine whether current video datasets have sufficient data for training very deep convolution neural networks (CNNs) with spatio-temporal three-dimensional (3D) kernels. Recently, the performance levels of 3D CNNs in the field of action recognition have improved significantly. However, to date, conventional research has only explored relatively shallow 3D architectures. We examine the architectures of various 3D CNNs from relatively shallow to very deep ones on current video datasets. Based on the results of those experiments, the following conclusions could be obtained: (i) ResNet-18 training resulted in significant overfitting for UCF-101, HMDB-51, and ActivityNet but not for Kinetics. (ii) The Kinetics dataset has sufficient data for training of deep 3D CNNs, and enables training of up to 152 ResNets layers, interestingly similar to 2D ResNets on ImageNet. ResNeXt-101 achieved 78.4% average accuracy on the Kinetics test set. (iii) Kinetics pretrained simple 3D architectures outperforms complex 2D architectures, and the pretrained ResNeXt-101 achieved 94.5% and 70.2% on UCF-101 and HMDB-51, respectively. The use of 2D CNNs trained on ImageNet has produced significant progress in various tasks in image. We believe that using deep 3D CNNs together with Kinetics will retrace the successful history of 2D CNNs and ImageNet, and stimulate advances in computer vision for videos. The codes and pretrained models used in this study are publicly available.

## I. INTRODUCTION

The use of large-scale datasets is extremely important when using deep convolutional neural networks (CNNs), which have massive parameter numbers, and the use of CNNs in the field of computer vision has expanded significantly in recent years. ImageNet [4], which includes more

Recent advances in computer vision for images (top) and videos (bottom). The use of very deep 2D CNNs trained on ImageNet

generates outstanding progress in image recognition as well as in various other tasks. Can the use of 3D CNNs trained on Kinetics generates similar progress in computer vision for videos? than a million images, has contributed substantially to the creation of successful vision-based algorithms. In addition to such large-scale datasets, a large number of algorithms, such as residual learning, have been used to improve image classification performance by adding increased depth to CNNs, and the use of very deep CNNs trained on ImageNet have



## Mobile App To Support Crisis Management For Students

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<sup>2,3,4</sup>UG Scholar In Department Of IT Teegala Krishna Reddy Engineering College,Telangana.

### ABSTRACT

Develop Student Grievance Support System” is an android application. Its acts as an interface between a user and a admin between the faculty and the students. Complaint box system is a major steps taken in the colleges. It is used by the user to file the complaints related to college activities. Faculty problem or campus related problems like sports, canteen, and library. In today's existing system we have to go through college officials to lodge complaint about certain issues which take long time and may not be solving the problem in that case complaint through android application is used. We provide different attributes in the application like department, subject and the year of the student. In this application we provide a password to the admin so that the admin can see the complaints from the students.

### I. INTRODUCTION

The purpose of this project is to provide optimised solutions for the student grievances. The proposed model for the student complaint management system will have ability to minimize students dissatisfaction we try to improve the relationship between student and university by presenting the model of e-complaint web based system This system will give solution to the students grievances. The existing system has manual processing through committee, principal, concerned departments and AICTE. The proposed system had capable to complete the process automatically by using our application.

This research work addressed Students' grievance management system at in institute, It was affirmed in this study that organizational complaints are inevitable. A grievance management system like Institute use to receive various complaints from students. Complaints lodged range from Academic, Administrative, social and other

issues relating to the student. This platform allows for complaints to be lodged remotely by students with issues relating to their registration, examination, examination result, computation of their Grade Point Average (GPA) and hall of residence complaints and thereby enhances the response time for the appropriate unit to resolve the addressed complaints.

Grievance Redressal System is an online platform to receive and act on complaints reported by students of private or public institutions, enabling prompt actions on any issue raised by them and to avail services more effectively.

Grievance Redressal System can be handled directly by institutes through their own websites. Also the smart web portal for grievance processing connects students and action-takers directly through online platform. Grievance System helps to pursue quick action for solving the grievance, while maintaining affordability and ease to the users.



# Energy Aware Relay GAF algorithm for WSN using Improved Conservative schemes

T Venu Madhav



**Abstract:** Wireless sensor systems (WSN) is the system of Sensor Nodes (SNs) in which every node have detecting, correspondence and calculation office. The fundamental impediment of WSN is that SNs have restricted vitality. So the fundamental focal point of research in WSN is to improve the Network Lifetime by falling vitality utilization. A few areas mindful directing convention has been proposed. Geographic Adaptive Fidelity (GAF) is one of the most famous vitality mindful steering conventions. It moderates vitality by recognizing equality between sensors from a steering point of view and after that killing superfluous sensors, while keeping up the availability of the system. Anyway conventional GAF can't achieve the ideal vitality use. It requires progressively number of jumps to transmit information from source to sink, so that it prompts higher bundle delay. The underlying issue of essential GAF is information can be sent in just flat and vertical. The issues which are being worked in this undertaking are minimization of jump check, parcel deferral and separation secured by the bundle postponement steering utilizing vitality mindful Relay GAF calculation. Both the conventions are actualized in MATLAB. Investigation and reproduction results show critical enhancements of the projected work contrasting with customary GAF in the part of absolute jump check, arrange lifetime vitality utilization, all out separation secured by the information bundle before achieving the sink, and parcel delay.

**Index Terms:** WSN, GAF, Hop count, energy consumption, MATLAB

## I. INTRODUCTION

As of late, different steering conventions have been suggested through greater vitality productivity in WSNs so as to limit vitality use and draw out the system lifetime [1]. The principal objective of structuring directing conventions is to accomplish higher vitality preservation for the transmission of information bundles to the sink so as to expand the system lifetime [2]. Since vitality utilization because of information sending starting with one sensor then onto the next is straightforwardly corresponding to the rectangular of the broadcast separation among the transmitter also the collector, most steering conventions favor multi-bounce transmission instead of direct transmission [3,4]. In multi-jump directing conventions, when a sensor has an information parcel to remain conveyed to the sink, it checks whether the sink is in the transmission go or not.

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DOI: 10.23940/ijae.F813008629  
Journal Website: [www.ijeat.org](http://www.ijeat.org)

In the event that it is, an information bundle can be conveyed legitimately, else, it searches for the accessible alternatives of neighboring sensors straightforwardly associated with it and chooses any of them

as a hand-off and advances the information parcel to it. This procedure proceeds until information scopes to the sink [5]. The information bundles got from neighbour sensors can likewise be amassed to dodge excess conventions WSNs were suggested where the idea of vitality is considered a important constraint in dragging out the lifespan of the scheme. Area-based navigation conferences use sensor physical zone data to track data in the center provided by GPS or any other sensor-equipped limitation frameworks. Sensors can use their spatial locations (promote scores) to determine other adjacent cameras' excellent methods of picking up another detector as a hand-off to move the product towards the sink [6, 7].

So as to accomplish greater vitality protection, greatest directing conventions utilize a subgroup of sensors conveyed inside the area. GAF is a topology control founded multi-bounce steering convention dependent on virtual lattices which self-designs repetitive sensors into little gatherings and utilizations restricted, conveyed calculations to regulator device obligation cycle to expand arrange operative period [8, 9]. It maintains vitality while maintaining a greater network while maintaining superfluous detectors in a state of remainder. GAF calculation uses GPS or some other restriction structures equipped with detectors to order detectors into small meetings depending on their fields. Indeed, it is not possible to decide equal detectors for transmission between detectors even with sensor information in the spatial area [10]. For certain devices, devices that are equivalent to the conveyor may not be proportional to others. GAF uses the concept of the digital structure to evaluate this problem. For this, the location of the sensor is divided into a few small square networks, where any sensor of a single frame can be transmitted to any sensor in the adjacent lattice. In this manner, all sensors in every matrix are proportional for speaking with the contiguous frameworks. Inside every framework, sensors are comparable from a directing perspective, so just a single sensor should be dynamic at some random time. The magnitude of the lattice blocks is defined to such an effect in standard GAF that any two most remote detectors in any two adjacent networks can talk to each other. Sensors forward packets towards the toilet to a sensor located in the adjacent network [11]. For every matrix, just a single sensor is dynamic at once and the remainder of them are in rest mode to expand the general lifetime of the system.



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## Materials Research Express



## PAPER

## Dielectric properties of superparamagnetic titanium doped nanophased Mn-Zn ferrites for high frequency applications

Ch S L N Sridhar<sup>1</sup>, K S Siva Maha Laxmi<sup>2</sup>, D M Potukuchi<sup>3</sup> and Ch Sanyasa Lakshmi<sup>4</sup><sup>1</sup> Department of Physics, Vignana Bharathi Institute of Technology, Aushapur(v) Ghatkesar (M), Hyderabad-501301, Telangana, India<sup>2</sup> Department of Physics, Teegala Krishna Reddy Engineering College(R9), Medbowli, Meerpet(V), Saroornagar(M), Hyderabad-500097, Telangana, India<sup>3</sup> Department of Physics, University College of Engineering, Jawaharlal Nehru Technological University, Kakinada-533003, India<sup>4</sup> Department of Physics, Gayatri Vidya Parishad College of Engineering for Women, Kommadi, Madhurawada, Visakhapatnam-530048, India

E-mail: lakshmisarma2002@gmail.com

**Keywords:** nanophased ferrites, dopant concentration, hydrothermal synthesis, dielectric properties, superparamagnetism**Abstract**

Effect of  $Ti^{4+}$  ions on Structural, Dielectric and Magnetic properties of nanophased  $Mn_{0.5}Zn_{0.5}Ti_xFe_{2-4x/3}$  ( $x = 0.0, 0.01, 0.02, 0.03, 0.04$  and  $0.05$ ) ferrites synthesized by hydrothermal method is studied. XRD peaks reveal pure spinel phase without extra peaks. Lattice parameter ( $a$ ) is found to vary non-linearly with dopant concentration ( $x$ ). An overall decrease in Crystallite Size ( $D$ ) (varying from 78 nm–41 nm) with  $x$  is witnessed. Values of dielectric constant ( $\epsilon'$ ) and loss factor ( $\tan \delta$ ) of  $Ti^{4+}$  doped Mn-Zn ferrites are lower than that of the undoped sample. Increase of AC resistivity ( $\rho$ ) by an order of 10 in  $Ti^{4+}$  doped Mn-Zn ferrites is ensued due to locking of  $Ti^{4+}-Fe^{2+}$  pairs. Lowered values of  $M_s$  is attributed to spin canting due to growth of nanosized grains, weakening of exchange interactions by non-magnetic  $Ti^{4+}$  doping and lower values of x-ray density. Transition from single to multi-domain region of Mn-Zn-Ti ferrites is clearly evinced from the plot of Coercivity ( $H_c$ ) with  $D$ . Reduced value of coercivity to zero upto a critical size of ~49 nm indicates the existence of superparamagnetism in these ferrites. Superparamagnetism is first ever reported in the present case of  $Ti^{4+}$  doped Mn-Zn ferrites synthesized by hydrothermal method. Relatively lowered values of  $\epsilon'$  (29–18),  $\tan \delta$  (of the order of  $10^{-2}$ – $10^{-3}$ ), higher values of  $\rho$  ( $10^6 \Omega$ -cm) and lowered values of  $H_c$  obtained with  $Ti^{4+}$  doping improve the eddy current losses and direct these materials for high frequency applications.

**1. Introduction**

Mn-Zn ferrites are an important class of soft ceramic magnetic materials, with relatively low cost, lower core losses, high electrical resistivity and high initial permeability and have a wide range of applications [1] in electronic or electrical peripherals. Rapid development in power electronic devices towards miniaturization tends to increase the operating frequency of the Mn-Zn ferrites to relatively higher values resulting in dramatic increase in power losses. One of the key strategies to improve the electromagnetic properties is to synthesize [2] the nanoferrites from their bulk counterparts. Occurrence of new physical phenomena like quantum confinement and larger surface to volume ratio in the nano regime along with improved power losses and enhanced electrical resistivity are reported [3, 4] in nanophased Mn-Zn ferrites. Owing to these phenomena, they have enormous technological and biomedical applications in ferrofluids, magnetocaloric refrigeration, Magnetic Resonance Imaging (MRI) and guided drug delivery. Although nanoparticles of pure metals like Fe, Co and Ni are found [3, 4] to exhibit superparamagnetism, they have limited applications due to their chemical instability and relatively lower sizes of few nanometers. On the other hand, magnetic metal oxides such as spinel ferrites have a great potential for applications as they are relatively inert and their properties can be improved [7] by addition of dopants. Single domain particles are formed in this size varying from 10–40 nm resulting in an increase of coercivity with increase in crystallite size. In this single domain region, reduced coercivity to nearly



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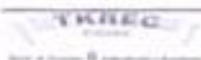


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### 3.4.3 Number of research papers published per teacher in the Journals as notified on UGC CARE list during the last five years

18-19								
Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal		
						Link to website of the Journal	Link to article/paper /abstract of the article	Is it listed in UGC Care list
Comparison of Non-Earthquake and Earthquake Resistant framed structures	Mohd Muneeruddin Khan, Ravali Reddy & K. Navya Sree	Civil Engineering	International Journal of Technical Innovation in Modern Engineering and Science(IJTIMES)	Apr-19	2455-2585	<a href="http://www.ijtimes.com">International Journal of Technical Innovation in Modern Engineering &amp; Science (ijtimes.com)</a>	<a href="http://www.ijtimes.com">COMPARISON OF NON-EARTHQUAKE RESISTANT AND EARTHQUAKE RESISTANT FRAMED STRUCTURES   International Journal of Technical Innovation in Modern Engineering &amp; Science (ijtimes.com)</a>	YES
Impact of weather change and possible solutions to building constructions	Mohd Muneeruddin Khan	Civil Engineering	International Journal of Technical Innovation in Modern Engineering and Science(IJTIMES)	Oct-18	2455-2585	<a href="http://www.ijtimes.com">International Journal of Technical Innovation in Modern Engineering &amp; Science (ijtimes.com)</a>	<a href="http://www.ijtimes.com">IMPACT OF WEATHER CHANGE AND POSSIBLE SOLUTIONS TO BUILDING CONSTRUCTION   International Journal of Technical Innovation in Modern Engineering &amp; Science (ijtimes.com)</a>	YES



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Structural and Thermal Analysis of IC Engine Connecting Rod Using Ansys	G. Veeresh Kumar, M. Naga Sailaja	Others( Mech/C E)	International Journal of Modern Engineering and Research Technology	Jan-19	ISSN: 2348-8565 (Online)	<a href="http://www.ijmert.org">International Journal of Modern Engineering and Research Technology (ijmert.org)</a>	<a href="#">IJMERT-Vol-6-Issue-1-0001.pdf</a>	YES
Design and Development of Autonomous UAV Quadcopter for Precision Agriculture with Cost-Effective	Dr. K. Venkata Murali Mohan	ECE	Journal of Interdisciplinary Cycle Research" (JICR)	Jun-19	0022-1945	<a href="https://drive.google.com/file/d/115T50wSeG3jLj8Hc12-EsWv_rnpL5vD5/view">https://drive.google.com/file/d/115T50wSeG3jLj8Hc12-EsWv_rnpL5vD5/view</a>	<a href="#">DOI:18.0002.JICR.2019.V11I16.008301.26875</a>	YES
Novel review of security issue in security model of cloud computing facing environment	Dr. K. Venkata Murali Mohan	ECE	International Journal of Intellectual Advancements and Research in Engineering & Computations	May 2019	2348-2079	<a href="https://journals.indexcopernicus.com/api/file/viewByFileId/925346.pdf">https://journals.indexcopernicus.com/api/file/viewByFileId/925346.pdf</a>	<a href="https://journals.indexcopernicus.com/api/file/viewByFileId/925346.pdf">https://journals.indexcopernicus.com/api/file/viewByFileId/925346.pdf</a>	YES



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Arduino based Implementati on of wearable sensor device for continuous monitoring of cardiac activity during sleep	Dr. K. Venkata Murali Mohan	ECE	The Internatio nal journal of analytical and experimen tal modal analysis	Feb-19	0886-9367	<a href="https://drive.google.com/file/d/1edtrHz8qtpKHLioTQEdeFkgcic-VheKW/view">https://drive.google.com/file/d/1edtrHz8qtpKHLioTQEdeFkgcic-VheKW/view</a>	DOI:18.0002.IAEMA.2019.V11I2.208301.02737	YES
Majority Logic Implementati on Of Mac Unit	S.NAGI REDDY&P .SHARMIL A RANI	ECE	JETIR	Jul-18	2349-5162	<a href="http://www.jetir.org">www.jetir.org</a>	<u>MAJORITY LOGIC IMPLEMENTATION OF MAC UNIT [jetir.org]</u>	YES
Revoluationary Techniques For Traditional Farming To Cloud Farming Using Raspberry Pi	S.NAGI REDDY&P .SHARMIL A RANI	ECE	JETIR	Aug-18	2349-5162	<a href="http://www.jetir.org">www.jetir.org</a>	<u>JETIR1808690.pdf</u>	YES
High Speed Low Offset Low Kick Back Noise Dynamic	S.NAGI REDDY&P .SHARMIL A RANI	ECE	JETIR	Sep-18	2349-5162	<a href="http://www.jetir.org">www.jetir.org</a>	<u>JETIR1809650.pdf</u>	YES



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Latch Comparator for ADC								
Design of PLC Receiver Using Clock Gating for DFT	B.NEERIS HA&P.SH ARMILA RANI	ECE	IJAMTES	Sep-18	2249-7455	<a href="http://Home.ijamtes.org">Home.ijamtes.org</a>	<a href="#">106_sept_ijmte-998.pdf.ijamtes.org</a>	YES
A Novel Architecture Of Cellular Neural Network Using Dsp Core	S.NAGI REDDY&V.LAVANY A	ECE	IJAMTES	Sep-18	2249-7455	<a href="http://Home.ijamtes.org">Home.ijamtes.org</a>	<a href="#">107_sept_ijmte-999.pdf.ijamtes.org</a>	YES
Image compression using differential evolution based multi-level thresholding of binary plane difference coding	Dr. K. Venkata Murali Mohan	ECE	Journal of Applied Science and Computations	Jan-19	3980-3988	<a href="https://app.box.com/s/2egn7hswvsdyo7h1qo37prp7fni7vv4o">https://app.box.com/s/2egn7hswvsdyo7h1qo37prp7fni7vv4o</a>	<a href="https://app.box.com/s/2egn7hswvsdyo7h1qo37prp7fni7vv4o">https://app.box.com/s/2egn7hswvsdyo7h1qo37prp7fni7vv4o</a>	YES
Job Shifting Prediction and Analysis Using Machine	Dr.Padmaja Pulicherla	CSE	International conference on computer	2019	1742-6596	<a href="https://iopscience.iop.org/article/10.1088/1742-6596/1228/1/011001">https://iopscience.iop.org/article/10.1088/1742-6596/1228/1/011001</a>	doi:10.1088/1742-6596/1228/1/011006	YES



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Learnino			vision and machine learning					
Remote data integrity checking based on cloud storage system	T Ravle, k.Swathi	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Mitigating Mobile Web Specific Attacks Using Machine Learning	P.Pravallika Chandar, M.Chinna Babu, P.Ashwini	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Achieving secure, universal, and fine-grained query results verification for secure search scheme over encrypted cloud data	Dr. K.Satish kumar	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
A Novel Security for Computing Data	Dr. A. Rama Murthy	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES



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Analysis of On-Demand Routing Protocols under multiple Black hole Nodes	Dr. N.Venkatadri, K.Ramesh Reddy, K.Srilatha Reddy	CSE	International Journal of Research in Computer Science, Engineering and Information Technology	2018	2456-3307	<a href="https://ijsreseit.com/index.php/home">https://ijsreseit.com/index.php/home</a>	<a href="https://doi.org/10.32628/CSEIT18367">10.32628/CSEIT18367</a>	YES
AccAccess Control Integrity Checking On Outsourced Cloud Storage	Dr. N.Venkatadri	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Effectiveness of Particle Swarm Optimization for Early Software Reliability Prediction	Dr.P.Padma ja	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Mitigate Privacy Leakage of Query Statistical Properties	Dr.P.Padma ja	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES



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Using Dual Cloud Interaction Protocols								
Achieving secure, universal, and fine-grained query results verification for secure search scheme over encrypted cloud data	Dr.K.Satish Kumar	CSE	International Journal of Research	2018	2236-6124	<a href="https://iirpublisher.com/">https://iirpublisher.com/</a>	<a href="https://iirpublisher.com/">https://iirpublisher.com/</a>	YES
IoT Using by Machine Learning Techniques	P. Jyoth	CSE	International Journal of Pure and Applied Mathematics	2018	1314-3395	<a href="http://www.acadpubl.eu/hub/SpecialIssue">www.acadpubl.eu/hub/SpecialIssue</a>	<a href="http://www.acadpubl.eu/hub/SpecialIssue">www.acadpubl.eu/hub/SpecialIssue</a>	YES
Information Extraction using Big Data	Dr.A.V Prathap Kumar, Dr.K.Satish Kumar	CSE	International Journal of Pure and Applied Mathematics	2018	1314-3395	<a href="http://www.acadpubl.eu/hub/SpecialIssue">www.acadpubl.eu/hub/SpecialIssue</a>	<a href="http://www.acadpubl.eu/hub/SpecialIssue">www.acadpubl.eu/hub/SpecialIssue</a>	YES
SRAM using Memory Block	Dr.A.V Prathap Kumar, Dr.K.Satish Kumar	CSE	International Journal of Pure and Applied Mathematics	2018	1314-3395	<a href="http://www.acadpubl.eu/hub/SpecialIssue">www.acadpubl.eu/hub/SpecialIssue</a>	<a href="http://www.acadpubl.eu/hub/SpecialIssue">www.acadpubl.eu/hub/SpecialIssue</a>	YES



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	Kumar		Applied Mathematics					
Clouds and IoT	Dr.A.V Prathap Kumar, Dr.K.Satish Kumar	CSE	International journal of Engineering Research in Computer Science and Engineering	2018	2394-2320	<a href="https://ijercse.com/">https://ijercse.com/</a>	<a href="https://ijercse.com/">https://ijercse.com/</a>	YES
Diagnosis Childrens with Dyslexia using Machine Learning Technique	Dr.A.V Prathap Kumar, Dr.K.Satish Kumar	CSE	International Journal of Pure and Applied Mathematics	2018	1314-3395	<a href="http://www.acadpubl.eu/hub/Special%20Issue">www.acadpubl.eu/hub/Special Issue</a>	<a href="http://www.acadpubl.eu/hub/Special%20Issue">www.acadpubl.eu/hub/Special Issue</a>	YES
Quantum Attack Resistant Multistage Comprehensive Security Suite for Healthcare Cloudlets	N.Sowmya, P.Ashwini	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES



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Bandwidth and Energy Saving Encrypted Search for Data Privacy on Mobile Cloud	Kudumula Navatha, P. Jyothi, P. Ashwini	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Cloud Annulment consultant in Identity-Based Encryption for its Applications	P. Jyothi	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
EPESOS: An Enhanced Web Search Algorithm for Query Process	Dr.N.Vadivelan, P. Ashwini	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Geo Recommender System for Dynamic Decision in Social Media	P.Ashwini	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES
Remote data integrity checking based on cloud storage	K.Swathi	CSE	International Journal of Research	2018	2236-6124	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	<a href="https://ijrpublisher.com/">https://ijrpublisher.com/</a>	YES



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system								
Discern Strain Build Interaction in Social Web Using Attributes	G.Maheshwari, P.Mahesh Kumar, P. Ashwini	CSE	International Journal of Research	2018	2236-6124	<a href="https://iirpublisher.com/">https://iirpublisher.com/</a>	<a href="https://iirpublisher.com/">https://iirpublisher.com/</a>	YES
Design of Secure Routing Protocols for Mobile AdHoc Networks	Lalbahadur KETHAVATH	CSE	International Journal of Computer Engineering & Technology	2018	0976-6375	<a href="https://iaeme.com/Home/journal/IJCE">https://iaeme.com/Home/journal/IJCE</a>	<a href="https://iaeme.com/Home/journal/IJCE">https://iaeme.com/Home/journal/IJCE</a>	YES
Architecture for 5G Networks for Security	B.Narsingam, A.Yadagiri	CSE	JETIR	2018	2349-5162	<a href="https://jetir.org/index.html">https://jetir.org/index.html</a>	<a href="https://jetir.org/index.html">https://jetir.org/index.html</a>	YES
Biometric Authentication process by using Software as a Service in Cloud Computing	G.Rani, J.Rachana	CSE	JETIR	2018	2349-5162	<a href="https://jetir.org/index.html">https://jetir.org/index.html</a>	<a href="https://jetir.org/index.html">https://jetir.org/index.html</a>	YES
A Review on Human Thinking in Artificial Intelligence	MD Salma, G.Sweetha	CSE	JETIR	2019	2349-5162	<a href="https://jetir.org/index.html">https://jetir.org/index.html</a>	<a href="https://jetir.org/index.html">https://jetir.org/index.html</a>	YES



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Construction of Private Methodical Query services in the Cloud with RASP data commotion	Shubhashree Sahoo, Gogu Swathi	CSE	International Journal of Advance Research, Ideas and Innovations in Technology	2018	2454-132X	<a href="https://www.ijariit.com/">https://www.ijariit.com/</a>	<a href="https://www.ijariit.com/">https://www.ijariit.com/</a>	YES
Recital Augmentation of Cache Execution in Cluster Based Mobile Adhoc Network	Dr. Ch. V. Phani Krishna .	IT	International Journal of Modern Engineering and Research Technology	Jan-19	IJMERT, P-ISSN:2348-8565	<a href="http://www.ijmert.org/">http://www.ijmert.org/</a>	<a href="http://www.ijmert.org/Publications/IJMERT-Vol-6-Issue-1-0003.pdf">http://www.ijmert.org/Publications/IJMERT-Vol-6-Issue-1-0003.pdf</a>	YES



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# COMPARISON OF NON-EARTHQUAKE RESISTANT AND EARTHQUAKE RESISTANT FRAMED STRUCTURES

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Student, TKR Engineering College

**K. Navya sree**

Student, TKR Engineering College

**Mohd Muneeruddin Khan**

Asst. Prof. TKR Engineering College

**Keywords:** Framed structure, Earthquake loads, Deflection, Base shear

## ABSTRACT

Framed structures are the structures having the combination of beam, column, slab and footings to resist the lateral and gravity loads. These structures are usually used to overcome the large moments developing due to the applied loading. In this study a framed structure is studied for two conditions of loadings 1) dead load and live load & 2) dead load, live load and earthquake loads. The results of selected parameters were compared.

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- ABSTRACT

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# IMPACT OF WEATHER CHANGE AND POSSIBLE SOLUTIONS TO BUILDING CONSTRUCTION

Muhammad Muneeruddin Khan

Chief Engineer, TREC Engineering College

**Keywords:** Global warming, Climate changes, Earthquake, Tsunami, heavy rainfall

## ABSTRACT

With frequent changes in weather and possible outcome of global warming there are drastic changes in the weather and this may affect the buildings and future constructions. Most of the habitats situated on coastal areas are most likely to be exposed to storms and recent scenarios of tsunami. In this paper I am discussing about the recent catastrophic damages due to natural calamities and possible solutions to escape this kind of disasters

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ABSTRACT

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### Structural and Thermal Analysis of IC Engine Connecting Rod Using Ansys

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#### ABSTRACT

The connecting rod is a greater link inside of combustion engine. It combine the plunger to the crankshaft and is answerable for transferring power from the piston to the crankshaft. It has to work on high r.p.m because of which it has to severe stressed which make its design living for internal combustion engine. In this paper, design of connecting rod for IC engine by analytical method. On the base of that mean a physical model is created in CATIA V5. Structural analysis of connecting rod has been analyzed using FEA. With the use of FEA various stresses are adapted for a appropriate loading conditions FEA software ANSYS WORKBENCH 14.5. Structural and Thermal analysis done on different materials(C70 steel and ALSIC). The obtained results (Stresses, Shear Stress, Total deformation, Strain, Temperature distribution, Heat flux) based on results concluded the suitable material for connecting rod and more compared on the base of various performances-

**Keywords:**— *Catia, Ansys, Connecting rod, Thermal analysis, Structural analysis.*

#### I. INTRODUCTION

The internal combustion engine is essentially a crank-slider mechanism, wherever the slider is that piston in this case. The piston is affected up and down by the rotation of crankshaft. The piston is encapsulated inside a combustion chamber. The combustion of a fuel happen with associate oxidizing agent in a combustion chamber that is an integral part of the working fluid flow circuit. In an internal combustion engine, the growth of the high-temperature and high-hitting gases created by combustion applies direct force to piston. This force moves the part over a distance, named as connecting rod, crankshaft, which transforms chemical energy into useful mechanical energy. It acts as a linkage between piston and crank shaft. The small end of connecting rod attaches to the piston pin, gudgeon pin (the usual British term) or wrist pin, that is presently most frequently press fit into the



## **DESIGN AND DEVELOPMENT OF AUTONOMOUS UAV QUADCOPTER FOR PRECISION AGRICULTURE .WITH COST-EFFECTIVE**

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### **Abstract**

Precision Farming technique enables in inputs from farms to be utilised in unique quantities to get improved common yields in comparison to standard traditional agricultural cultivation techniques and methods. As a result, it's miles a complete and holistic machine designed to optimize and maximise manufacturing production with the aid of using combining crucial factors and elements of facts, era technology, and control so that it will enhance manufacturing and production efficiency, advance the quality of product, crop chemical utilization efficiency in good number maintain and preserve energy and therefore, guard environment .In this paper our approach is to develop cost-effective solution for precision agriculture based Drones .The design approach and the process is discussed in the following sections.

*Keywords: Precision Agriculture, Quadcopters, Agriculture Farm Analysis, Global Positioning System*

### **1. INTRODUCTION**

The global food ecosystem is currently confronted with significant issues and many formidable challenges, which are expected to worsen significantly during the next 40 years. In 2014, the Massachusetts Institute of Technology classified "agricultural drones" as the primary position among the ten breakthrough technologies [5].

A lot can be accomplished right away with current technologies and knowledge. If there is enough desire and investment. But coping with the future challenges, more dramatic adjustments to the food system will be required to meet the problems and lots of investments in research to develop innovative solutions to fresh occurring problems. The total productivity declines, diminishing and degrading natural resources, stagnating farm incomes, lack of eco-regional tactic, deteriorating and fragmented and scrappy and holdings, agricultural trade and occupation liberalization, restricted non-farm employment opportunities, and world-wide climatic variants turned out to be foremost have and major concerns in agricultural growth and development. As a result, adopting the use of newly emerged era technology adoption is viewed as one approach to growing agricultural productiveness withinside the destiny.

A precision farming tactic recognises site-specific discrepancies inside fields and acclimates control measures consequently, in place of dealing with a whole area primarily based totally on a few hypotheticals and assumed common average circumstances that may not exist or happen everywhere withinside the area of field. Today's precision agricultural improvements in all possible ways can also additionally deliver technology for tomorrow's environmentally pleasant agriculture and in a way to progress a longer way[4]. Precision farming, mainly withinside the case of small farmers in developing and developed nations, precision farming holds the promise of performing the capability and potential of notably improved yields with minimum and well-organized utilization of exterior inputs. The possibility of the frequent data collection and the mapping of field variability allows to more regular application of PA practices and better decisions [8].

Precision Agriculture is a management approach and a powerful tool that necessitates information technologies to gather and make use of the valuable, treasured data statistics [1]. From kind of assets and incorporate factors it into decision-making process and get better possible results. For use with



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International Journal of Intellectual Advancements and Research in Engineering Computations

Novel review of security issue in security model of cloud computing facing environment

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ABSTRACT

Cloud computing is now days everyone uses increasing trend in distributed computing environment changes. It contains disturbing storage and processing require tools are used cloud environment is portends a major universal moment changes. Instead of running program me by the computer's hardware .the "cloud" is a term organizing metaphor for the internet hosted by everything. It works the largest group of interconnected individual desktop computers or network servers; they can be used public or private. Cloud computing is a dynamical IT industry resource and remote provisioning scalable and measured documents and decentralized its resources. It represents by boundary of a cloud environment. It maintains documentation web- based architecture. Now days people from everywhere to access other people anywhere.

Cloud computing consists of different services providing. One of the Software as a Service(SaaS) has on many business orientated application as well as in our day to day life we can say that technology . Cloud computing is finding out since last few years internet based. It shared software and resources and information are available on demand device access in public it allows cost and complexity of service providers to access and operational costs. Any time users to access application tenuously. .on behalf of users, directly construct cloud service provided to software updates and cost of services. Etc. cloudprovides consumers integrity, availability, confidentiality, authenticity, and privacy importance of service. Another service is an Infrastructure as a Service (IaaS) is provides base layers where demands is very volatile-any time there significant spikes and thoughts in terms of demand on the infrastructure. Servers abase lays for many other models Platform as a Service (PaaS) clouds. Security of PaaS clouds forms multitenant architecture includes access control. It privacy protected together the service provides and user security problems. In this paper, we are going to some major issues of cloud security provide.

**Keywords:** Cloud Computing, Deployment model, Service level management utility, Saas, Security issues keys, IaaS, PaaS,

INTRODUCTION

Cloud computing is a major broad range of service. It can significant of developments in technologies, many vendors in term of "cloud". Is metaphor for internet .it consists of assembling desktop process and a personal computer on internet interconnected devices hosted?

cloud is a collection of services it consists organization select where, when and how can use cloud computing. Meaning of Cloud computing is a model for to make able convenient, on-request interconnected network access to a share pool configuration of its resources . documents, networks, servers, storage ,applications, and

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# Arduino based Implementation of wearable sensor device for continuous monitoring of cardiac activity during sleep

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**Abstract** - In this paper, a novel wearable sensor device Heartbeat is presented, which can continuously monitor movements and cardiac parameters at the wrist. The miniaturization and energy optimization of sensors opens up new possibilities in the field of sleep research. The sensor is designed to realize high-resolution measurements for up to 48 hours constantly. Wearable sensors are capable of recording vital parameters during sleep simply and unobtrusively. To analyze sleep architecture and sleep disorders, continuous monitoring of movements and cardiorespiratory parameters in high resolution is of central importance. Measurements during sleep show that up to 98% of the pulse intervals are correctly detected. Furthermore, the comparison of the heart rate variability (HRV) parameters between IPG and the gold standard of ECG demonstrate the potential of the sensor as a valid tool for ambulant sleep analysis. The preventive body guardian was used for monitoring heart rate and respiratory rate, via single-lead electrocardiogram recordings, together with physical activity. We measured data collection rates, compared device readouts with conventional measures, and monitored changes in HR measures during the amphetamine challenge. Completeness of data collection was good for the Actiwatch (96%) and lower for the BodyGuardian (80%). A good correlation was observed between the device and in-clinic measures for HR. Manual reviews of selected ECG strips corresponding to HR measures below, within and above the normal range were consistent with BodyGuardian measurements. The bodyguard's device detected clear HR responses after amphetamine administration. Wearable digital technology shows promise for monitoring human subjects for physiologic changes and pharmacologic responses, although fit for purpose evaluation and validation continues to be important before the wider deployment of these devices

**Index Terms** - sensors, digital technology, heart monitoring, respiration, wearable technology

## I. INTRODUCTION

In recent years, the possibility of using wearable monitoring devices as medical devices has been the subject of significant interest worldwide. This is mainly as a result of the potential they could have for early diagnosis of diseases and/or continuous assessment of an individual's health. Miniaturization of certain types of sensors and electronic interfaces, allows for these to be worn on the body without disturbing the wearer's daily routine activities. This consequently makes possible in principle to monitor certain physiological signals as well as physical activity, in some cases over extended periods of time. However, unlike the bulky medical equipment used in clinical settings, wearable electronic medical devices have to be small, light-weighted, low maintenance, easy to handle, and process the recorded data either in the device itself, or wirelessly transmit it to nearby base stations. From the maintenance perspective, the battery life is an important usability constraint, since it is not ideal from a user's point of view to have to change the batteries frequently. Because of this, the power budget specification of a wearable device is quite important. Cardiovascular diseases (CVDs) are the number one cause of deaths globally.

## II. EMBEDDED SYSTEM

The embedded system software is written to perform a

specific function. It is typically written in a high level format and then compiled down to provide code that can be lodged within a non-volatile memory within the hardware. An embedded system software is designed to keep in view of the three limits:

- Availability of system memory
- Availability of processor's speed
- When the system runs continuously, there is a need to limit power dissipation for events like stop, run and wake

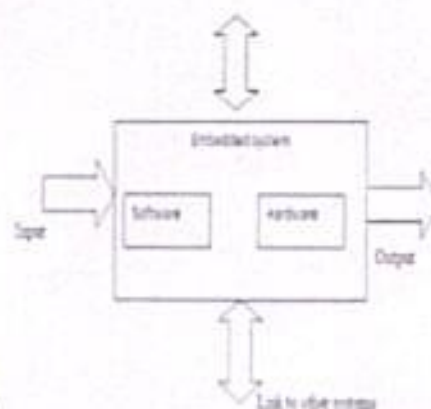


Fig 1: Overview of Embedded System

## IMAGE COMPRESSION USING DIFFERENTIAL EVOLUTION BASED MULTI LEVEL THRESHOLDING OF BINARY PLANE DIFFERENCE CODING

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### Abstract

Image coding is termed as one of the important factor in multimedia communication and storage systems. With the rapid growth in the usage of internet over mobiles there is huge demand for faster transmission that requires efficient and reliable image coding mechanisms. This paper presents a generalized image compression approach of differential evolution based multi level thresholding concept for lossy and lossless modes of binary plane difference coding of digital images. The approach is applied to both raw and medical images and observed that this method achieves higher performance than traditional JPEG approach and this method also applied for region based image compression of medical images making it a scope for hybrid compression technique.

**Keywords:** Image compression, Differential evolution, multi level thresholding, binary plane difference coding.

### 1. Introduction

Multimedia files like graphics, image, audio and video files require large storage capacity and large bandwidth for transmission. Despite of rapid progress in storage system, processor speed and transmission speed there is a huge demand for faster data transmission. Recent advancements in web technology and mobile communications has not only given the demand for new efficient ways of encoding the data but also made the image compression as a need for efficient, faster and reliable communication.

In recent times due to the wide spread of internet services new challenges and problems to handle the image data has occurred to transfer the image content with more at a faster rate. One of the solution for these faster mode of transportation is using high end transmission medium like fiber optics, advanced wireless medium can overcome this problem to some extent, however many of the researchers proclaimed that the high end hardware requirements are not enough for this faster transportation rather efficient coding techniques are required to handle the image data. When dealing with the medical applications, the main aim of any compression method is to minimize the size of the image without changing the properties in diagnosing process. It is always a challenging task to develop the efficient compression techniques especially in medical field, because while compressing the image any loss of fine details may misleads the diagnosis process.

Despite of many image compression algorithms available, this paper propose a binary plane difference (BPD) coding algorithm for lossy and lossless modes of image compression. Apply



# A Novel Security Schema for Computing Data

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**Abstract:** In transparent computing, the consumer terminals are as a substitute mild-weighted, whilst all of the sources (which include the operating structures, OSs for quick) are stored on far off servers, and brought on call for to clients in a streaming manner. In this paper, We advise a Multilevel Access Control Scheme in Transparent Computing (MACTC) to shield user information with exclusive protection degrees, and provide multilevel access manipulate and valid identification authentication. the proposed scheme is powerful in multilevel information security, flexible in legal aid sharing, and at ease in opposition to various malicious attacks. Experiment outcomes verify the feasibility of our scheme. The produced information has one of a kind safety stages and get right of entry to permissions. As an instance, the open files may be shared with anyone, but some sensitive tables can be discovered to precise users, and other private facts cannot be disclosed to all of us. Accordingly, in line with their sensitivity, users classify the facts into three categories: public facts, touchy data, private information. At the same time as users in obvious computing are imagined to reserve no storage area on their clients, all execution effects and data must be saved to the Transparent Servers (TSs).

## INTRODUCTION

Over the past years, computing paradigms have substantially advanced with the fastimprovement of pc network and records technologies. Obvious computing [1][2][3] is one of the rising technologies, which allows users to revel in user-controlled offerings by using extending the saved application concept within the von neumann architecture into the networking environmentsspatio-temporally. Obvious computing hundreds a ramification of heterogeneous OS's andprograms dynamically on unique device. this selection enables customers to cognizance on the tobe had software services without worrying approximately which bodily device can be used andwhat OS have to be run on it.The brand new mechanism comes with many blessings in statistics security component[4][5]. The centralized control at servers can deliver comfort to the protection of customers records,and decrease the risks of information leakage and statistics robbery. However, this area of expertisehas delivered new demanding situations in service reliability and security, for the reason that OS's,packages and data are centralized in servers, and they are shared by way of all customers intransparent computing machine. We envision one of



# Analysis of On-Demand Routing Protocols under multiple Black hole Nodes

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## ABSTRACT

Mobile Ad hoc Network (MANET) is an infrastructure less wireless network of one or more mobile nodes connected by wireless links. These networks do not rely on physical infrastructure so these are easy to deploy where establishment of infrastructure not possible. Rapid improvement in technology may affect the security concerns of the MANET. These networks are vulnerable to various attacks targeting all layers of the protocol stack. One of the major attacks targeting network layer is black hole attack. In this attack, the malicious nodes drop the data packets or forward the packets to the unknown addresses in the network. Many academicians and researchers analyzed the effect of this black hole attack and enhanced the existing protocols to avoid path through malicious nodes in the network. So it is a challenge for researchers in order to improve or enhance security mechanisms already developed or design new efficient security mechanism. In this work, we analysis the performance of on-demand routing protocols under the presence of multiple black hole nodes. We analyzed performance metrics Delay and Throughput. We used Network Simulator version 2(NS2) to carry out the implementations.

**Keywords :** Infrastructure less wireless network, DoS, Black hole attack, Routing Protocols, NS2, QoS metrics.

## I. INTRODUCTION

Mobile Ad-hoc Network (MANET) is a collection of dynamically connected and infrastructure less wireless mobile nodes. Because MANETS are mobile, they use wireless connections to connect to various nodes. This can be established using a cellular or Satellite transmission, Wi-Fi connection, or another medium. In these networks nodes are free to move arbitrarily. It takes part in discovery and maintain of routes to other nodes in the network. As it is highly dynamic environment it become critical task for stable routing, highly error prone and can go down frequently due to mobility of nodes.

Mobile Ad-hoc Network is highly dynamic in nature and no physical infrastructure available in this network. Due to this, many issues in designing Mobile Ad-hoc Networks are there such as [1]

i) Error-prone channel state, ii) Hidden terminal problem, iii) Exposed terminals, iv) Bandwidth - constrained, v) Energy-constrained operation and vi) Security Issues

MANETs are easily affected by various physical security attacks because of MANET features like open medium, no central monitoring, distributed nature, co-operative algorithms and so on.



# ACCESS CONTROL INTEGRITY CHECKING ON OUTSOURCED CLOUD STORAGE

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## ABSTRACT

Data access control is a difficult problem in public cloud storage systems encryption based policy attributes has been adopted as a promising technique to provide flexible data access control and ultimately secure cloud storage with honest but curious cloud servers. However, in existing ciphertext policy-Attribute based encryption (CP-ABE) schemes, the unique authority attribute must verify the legitimacy of users and the distribution of the secret key, which causes a bottleneck of a single point where a CP-ABE scheme is adopted in a large-scale cloud storage system. Users can stay in queues long to get their secret keys, resulting in low system efficiency. Although multi-authority access control schemes have been proposed, these systems can not yet overcome bottleneck disadvantages at one point and low efficiency because each authority still manages independently set disjointed attributes. In this paper, a new heterogeneous framework is proposed to eliminate the bottleneck problem in a single point and provide a more efficient access control scheme with a control mechanism. Our framework uses different attribute authorities to share the burden of verifying the legitimacy of users. Meanwhile, in our system, a central authority is introduced to generate secret keys for users whose legitimacy is verified. Unlike other multi-authorities to access control schemes, each of the authorities in our schema manages all attributes individually. To improve security, we also offer a control mechanism to detect that we attribute the authority incorrectly or intentionally to perform the legitimacy verification procedure. The analysis shows that our system not only guarantees safety requirements, but also greatly improves performance during key generation.

**Keywords:** CSP, Access Control Models, CP-ABE

## 1. INTRODUCTION

To allow secure write access to outsourced data, we consider that the data owner has outsourced its data to a malicious but conservative CSP. Now consider an authorized user to write in collusion with the CSP can edit his own writing outsourced data files until the next update, without being detected by the data owner. Editing a file here means modifying the contents of the file without creating a new version. This is a source of concern even if the user is a licensed writer. For example, in a cloud-based e-publishing system, articles are created by staff members and uploaded to a third-party archiving service provider. Once the articles are published, the CEO of the e-journal will not allow any changes to the published content. However, the published press article may contain unauthenticated content that could lead to legal action or embarrass the newspaper. In the meantime, let the writer's staff mingle with the service provider and update the content on the server to avoid legal



## Effectiveness of Particle Swarm Optimization for Early Software Reliability Prediction

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**Abstract:** Software testing is extremely expensive and laborious, and it has been estimated that about half of software development costs are allocated to testing. Test data generation is the process of producing a set of data for software testing, based on a given criterion. Particle Swarm Optimization (PSO) uses an iterative method to optimize a solution of the problem. Modeling the software testing process to obtain the predicted faults (failures) depends mainly on the relationship between execution time, and the failure count or accumulated faults. In this project, I have explored the preliminary idea of Particle Swarm Optimization (PSO) technique in solving the software reliability growth modeling problem. The proposed approach has been used to estimate the parameters of Goel-Okumoto, Musa-Okumoto, Delayed S-Shaped and Power reliability growth models. The estimated parameters further used for decision making, such as, remaining faults in the software, future testing time and time to market for software product.

**Keywords:** Software Testing, Particle Swarm Optimization (PSO), Software Reliability Growth Models, Software Reliability Prediction

### 1. Introduction

During software testing phase of Software Development Life Cycle (SDLC), attempts are made in the form of white box or black box testing is to find out as many faults as possible which can result in failure of software. The reliability of the software increases by fixing the faults.

The data collected, in the form of faults, through these testing make a fault database. The database consist of number of faults in a successive interval of time. These faults further used for estimation of current reliability and prediction of future development of the growth in reliability.

The objective of proposed approach is to find optimized parameters of software reliability growth models. This approach would be helpful in determining which model is to be used for a given software, developed under specified development environment.

The purpose of the research is to make a model, and validate it with the help of given fault databases and to demonstrate that it can accurately define past failures and predicts future failures.

The problem handled during the research is to find out parameters of different reliability growth models, which can perform well in the given data set and able to predict faults in the near future in the software. If these parameters are of accurate value, then they will able to predict future faults accurately, which can further solve the problem of delivery to market and cost of the software.



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## Mitigate Privacy Leakage of Query Statistical Properties Using Dual Cloud Interaction Protocols

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### Abstract:

Industries and people outsource database to comprehend handy and occasional-price programs and services. If you want to provide enough capability for square queries, many secure database schemes have been proposed. However, such schemes are liable to privacy leakage to cloud server. The main purpose is that database is hosted and processed in cloud server, which beyond the control of records proprietors. For the numerical range question (" $>$ ", " $<$ ", etc.), those schemes cannot offer enough privacy safety against sensible demanding situations, e.g., privacy leakage of statistical properties, access pattern. Moreover, improved variety of queries will unavoidably leak more information to the cloud server. In this paper, we advocate cloud architecture for relaxed database, with a series of intersection protocols that provide privacy preservation to numerous numeric-related range queries. Protection evaluation suggests that privacy of numerical facts is strongly protected in opposition to cloud companies in our proposed scheme.

### Introduction

The developing industry of cloud has offer a provider paradigm of garage/computation outsourcing allows to reduce users' burden of it infrastructure renovation, and decrease the value for both the organizations and character users. however, due to the privacy worries that the cloud provider is believed semi-consider (sincere-but curious.), it becomes a essential difficulty to place touchy provider into the cloud, so encryption or obfuscation are wished earlier than outsourcing sensitive records - along with database machine - to cloud.

The typical state of affairs for out sourced database is described in fig.1 as that during CryptDB[7]: a cloud consumer, such as an it enterprise, desires to outsource its database to the cloud, which contains valuable and touchy statistics (e.g. transaction information, account records, ailment records), and then get admission to the database (e.g. select, replace, and so forth.). Due to the belief that cloud provider is sincere-however-curious [13], [14], the cloud might try his/her excellent to gain non-public data for his/her personal benefits. Even worse, the cloud may want to ahead such touchy data to the enterprise competition for profit, which is an unacceptable running danger.

One truthful technique to mitigate the safety chance of privacy leakage is to encrypt the private facts and disguise the question/access patterns. Alas, as far as we recognize, few academia researches satisfy each homes up to now. Crypt DB [7] is the first try to provide a comfortable far off database utility, which ensures the basic confidentiality and privacy requirement, and provides numerous sq. queries over encrypted records as nicely. Crypt DB makes use of a chain of cryptographic gear to gain that protection functionality. In particular,





# ACHIEVING SECURE, UNIVERSAL, AND FINE-GRAINED QUERY RESULTS VERIFICATION FOR SECURE SEARCH SCHEME OVER ENCRYPTED CLOUD DATA

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### ABSTRACT:

Secure search techniques over encrypted cloud data allow an authorized user to query data files of interest by submitting encrypted query keywords to the cloud server in a privacy-preserving manner. However, in practice, the returned query results may be incorrect or incomplete in the dishonest cloud environment. For example, the cloud server may intentionally omit some qualified results to save computational resources and communication overhead. Thus, a well-functioning secure query system should provide a query results verification mechanism that allows the data user to verify results. In this paper, we design a secure, easily integrated, and fine-grained query results verification mechanism, by which, given an encrypted query results set, the query user not only can verify the correctness of each data file in the set but also can further check how many qualified data files are not returned

is incomplete before decryption. The verification scheme is loose-coupling to concrete secure search techniques and can be very easily integrated into any secure query scheme. We achieve the goal by constructing secure verification object for encrypted cloud data. Furthermore, a short signature technique with extremely small storage cost is proposed to guarantee the authenticity of verification object and a verification object request technique is presented to allow the query user to securely obtain the desired verification object. Performance evaluation shows that the proposed schemes are practical and efficient.

### INTRODUCTION:

One of the most attractive cloud services nowadays is data storage, where end users outsource large volumes of data to cloud servers to enjoy virtually unlimited hardware/software resources and efficient access, without investing a large amount of



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## IoT Using by Machine learning techniques

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May 29, 2018

### Abstract

Machine learning is a part of computer science that developed from the study of pattern recognition and computational learning concept in artificial intelligence. Machine learning determines the study and construction of algorithms that can absorb from and make guesses on data. The Internet of Things (IoT) is the network of physical objects or "things" rooted with electronics, software, sensors, and network connectivity, which allows these objects to collect and exchange data. Collections of devices will act as systems that can be enhanced in new ways, and systems of systems will share data and perform as anetwork of data and devices. Machine learning - a term that describes numerous methods to evolving meaning from data - will have to be part of the calculation, but so will outdated professional and data investigation techniques as organizations prepare for the Internet of Things (IoT). This paper will



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## Information Extraction Using by Big Data

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### Abstract

The promise of data-driven decision-making is now being recognized broadly, and there is growing enthusiasm for the notion of "Big Data. While the promise of Big Data is real for example, it is estimated that Google alone contributed 54 billion dollars to the US economy in 2009 - there is currently a wide gap between its potential and its realization.

Heterogeneity, scale, timeliness, complexity, and privacy problems with Big Data impede progress at all phases of the pipeline that can create value from data. The problems start right away during data acquisition, when the data tsunami requires us to make decisions, currently in an ad hoc manner, about what data to keep and what to discard, and how to store what we keep reliably with the right metadata. Much data today is not natively in structured format; for example, tweets and blogs are weakly structured pieces of text, while images and video are structured for storage and display, but not for semantic content and



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## SRAM Using by Memory Block

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August 16, 2018

### Abstract

ACMOS technology feature size and threshold voltage have been scaling down for decades for achieving high integration density and high performance. The continuing decrease in the aspect ratio and the corresponding increases in chip density and operating frequency have made power consumption a major concern in VLSI design. This paper provides the outline structures of Static Random Access Memory (SRAM) for low power dissipation with 6T AND 8T SRAM. The reason for attaining low power in the SRAM is by reducing the voltage at output node. The memory block of 4 BIT using 8T designed by 90nm technology with supply voltage of 1.2V. It is implemented by using synopsys tool using custom compiler.

**Key Words:** CMOS, SRAM, SENSE AMPLIFIER, DECODER



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# Clouds and IoT

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**Abstract:** - Machine learning is a part of computer science that developed from the study of pattern recognition and Computational learning concept in artificial intelligence. Machine learning determines the study and construction of algorithms that can absorb from and make guesses on data. The Internet of Things (IoT) is the network of physical objects or "things" rooted with electronics, software, sensors, and network connectivity, which allows these objects to collect and exchange data. Collections of devices will act as systems that can be enhanced in new ways, and systems of systems will share data and perform as a network of data and devices. Machine learning - a term that describes numerous methods to evolving meaning from data - will have to be part of the calculation, but so will outdated professional and data investigation techniques as organizations prepare for the Internet of Things (IoT). This paper will provide an overview of challenges and openings presented by this new model.

**Keywords:** Internet of Things, Cloud computing, Machine learning, Smart Environments.

## I. INTRODUCTION

The term Internet of Things was first coined by Kevin Ashton in 1999 in the context of supply chain management [1]. However, in the past decade, the definition has been more inclusive covering wide range of applications like healthcare, utilities, transport, etc[2]. Although the definition of 'Things' has changed as technology evolved, the main goal of making a computer sense information without the aid of human intervention remains the same. A radical evolution of the current Internet into a Network of interconnected objects that not only harvests information from the environment (sensing) and interacts with the physical world (actuation/command/control), but also uses existing Internet standards to provide services for information transfer, analytics, applications, and communications. Fueled by the prevalence of devices enabled by open wireless technology such as Bluetooth, radio frequency identification (RFID), Wi-Fi, and telephonic data services as well as embedded sensor and actuator nodes, IoT has stepped out of its infancy and is on the verge of transforming the current static Internet into a fully integrated Future Internet [3].

The goal of machine learning is to program computers to use example data or past experience to solve a given problem. Many successful applications of machine learning exist already, including systems that analyze past sales data to predict customer behavior, robot behavior so that a task can be completed with minimum resources, and extract knowledge

bioinformatics data [4]. In order to present a unified treatment of machine learning problems and solutions, it discusses many methods from different fields, including statistics, pattern recognition, neural networks, artificial intelligence, signal processing, control, and data mining. All learning algorithms are explained so that the student can easily move from the equations in the book to a computer program.

## II. UNDERSTANDING ANALYTICS AND MACHINE LEARNING

Data and functionality can be accessed from any location and through multiple devices. Specialized devices provide context in which the user accesses the data. A fitness bracelet can access data about the user's physical health via an iPhone or laptop in the specific context of exercise. In this case, the fitness bracelet acts as an IoT sensor as well as provides a means for accessing and consuming data. The device also subsumes other devices (such as a pedometer) through software functionality. The data provided by the device can offer additional insights about the consumer's usage and preferences, which can be leveraged when updating functionality and developing new features. If aggregated across a population of users and combined with other datasets, new insights can shed light on epidemiological data, activity levels across populations, lifestyles, and demographic data. This information has value to marketers, healthcare providers, insurance companies, and government agencies. Machine learning algorithms can be used to make predictions based on these data patterns. For example, in a Mayo Clinic study, activity data was correlated with recovery rates for cardiac



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## DIAGNOSIS CHILDRENS WITH DYSLEXIA USING MACHINE LEARNING TECHNIQUE

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### Abstract

Worldwide, around 10% of the population has dyslexia, a specific learning disorder. Most of previous eye tracking experiments with people with and without dyslexia have found differences between populations suggesting that eye movements reflect the difficulties of individuals with dyslexia. In this paper, we present the first statistical model to predict readers with and without dyslexia using eye tracking measures. The model is trained and evaluated in a 10-fold cross experiment with a dataset composed of 1,135 readings of people with and without dyslexia that were recorded with an eye tracker. Our model, based on a Support Vector Machine binary classifier, reaches 80.18% accuracy using the most informative features. To the best of our knowledge, this is the first time that eye tracking measures are used to predict automatically readers with



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## Quantum Attack Resistant Multistage Comprehensive Security Suite For Healthcare Cloudlets

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### Abstract

With the popularity of wearable devices, along with the development of clouds and cloudlet technology, there has been increasing need to provide better medical care. The processing chain of medical data mainly includes data collection, data storage and data sharing, etc. Traditional healthcare system often requires the delivery of medical data to the cloud, which involves users' sensitive information and causes communication energy consumption. Practically, medical data sharing is a critical and challenging issue. Thus in this paper, we build up a novel healthcare system by utilizing the flexibility of cloudlet. The functions of cloudlet include privacy protection, data sharing and intrusion detection. In the stage of data collection, we first utilize Number Theory Research Unit (NTRU) method to encrypt user's body data collected by wearable devices. Those data will be transmitted to nearby cloudlet in an energy efficient fashion. Secondly, we present a new trust model to help users to select trustable partners who want to share stored data in the cloudlet. The trust model also helps similar patients to communicate with each other about their diseases. Thirdly, we divide users' medical data stored in remote cloud of hospital into three parts, and give them proper protection. Finally, in order to protect the healthcare system from malicious attacks, we develop a novel collaborative intrusion detection system (IDS) method based on cloudlet mesh, which can effectively prevent the remote healthcare big data cloud from attacks. Our experiments demonstrate the effectiveness of the proposed scheme.

### Introduction

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third-party services. These services typically provide access to advanced software applications and high-end networks of server computers.

Cloud Computing comprises three different service models, namely Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS). The three service models or layer are completed by an end user layer that encapsulates the end user perspective on cloud services. The model is shown in figure below. If a user accesses services on the infrastructure layer, for instance, she can run her own applications on the resources of a cloud infrastructure and



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**Bandwidth and Energy Saving Encrypted Search for Data Privacy on Mobile Cloud**

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**Abstract**

Cloud Storage offers a handy, huge, and scalable storage at low cost, however statistics privacy is a first-rate challenge that forestalls customers from storing files at the cloud trustingly. One manner of improving privacy from records proprietor point of view is to encrypt the documents before outsourcing them onto the cloud and decrypt the files after downloading them. But, information encryption is a heavy overhead for the cellular gadgets, and information retrieval process incurs a complicated comm. Unique between the records person and cloud. generally With restrained bandwidth capacity and limited battery existence, those issues introduce heavy overhead to computing and communication in addition to a higher power consumption for mobile device customers, which makes the encrypted search over mobile cloud very tough. On this paper, we suggest TEES (Traffic and Electricity Saving Encrypted Search), a bandwidth and strength green encrypted seek architecture over cellular cloud. The proposed architecture offloads the computation from cellular devices to the cloud, and we in addition optimize the communication between the mobile customers and the cloud. It is confirmed that the statistics privacy does no longer degrade whilst the performance enhancement techniques are applied. Our experiments display that tees reduces the computation time through 23% to forty six% and shop the strength intake by way of 35% to 55% according to report retrieval, in the meantime the network traffics at some point of the record retrievals are also notably reduced.

**Introduction**

Cloud Storage is a service model wherein data are maintained, controlled and backedup remotely at the cloud side, and meanwhile information keeps to be had to the customers over a network. Mobile Cloud Storage (MCS) denotes a circle of relatives of an increasing number of popular on-line offerings, and even acts because the number one record storage for the mobile devices. MCS permits the mobile device users to shop and retrieve files or data at the cloud thru Wi-Fi verbal exchange, which improves the information availability and allows the file sharing technique with out draining the nearby mobile tool assets .

The records privateness issue is paramount in cloud garage machine, so the sensitive information is encrypted through the proprietor before outsourcing onto the cloud, and information users retrieve the fascinated information by way of encrypted seek scheme. In MCS, the contemporary mobile devices are faced with some of the equal security threats as desktops, and numerous traditional statistics encryption techniques are imported in MCS. but, cellular cloud storage system incurs new challenges over the traditional encrypted seek schemes, in attention of the limited computing and battery capacities of cell tool, as well as data sharing and gaining access to techniques thru wireless communication. Consequently, a suitable and efficient encrypted search scheme is vital for MCS.





## CLOUD ANNULMENT CONSULTANT IN IDENTITY-BASED ENCRYPTION FOR ITS APPLICATIONS

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### ABSTARCT:

Indistinguishable quality based Cryptography is an id based cryptography which relies upon the client identity, (IBE) is a world Key crypto association and takes out the need of public paint infrastructure (PKI) and authentication organization in regular public key setting. Because of the nonappearance of PKI, the revocation issue is a basic yield in IBE settings. A few revocable IBE plans have been proposed in regards to this issue. There are two issues of revocation in existing system initial one is a denying and calculation fiscal esteem is higher and second one is KU-CSP servers versatility, in light of the fact that KU-CSP need to keep a puzzle estimation of every client, for that reason system designed a Cloud Service Authority (CRA) utilized rather than KU-CSP Server to illuminate the weaknesses of the current system and taking care of a weight of the PKG server. In this CRA just need to hold systems mystery esteem. In this paper we proposed circulated cloud figuring by isolating CRA and

servers. Layered approach will be utilized on both the server

### INTRODUCTION:

Identity (ID) based public key system (ID-PKS) is an appealing option for public key cryptography. ID-PKS setting wipes out the requests of public key infrastructure (PKI) and testament organization in ordinary public key settings. An ID-PKS setting comprises of clients and a confided in outsider (i.e. private key generator, PKG). The PKG is capable to produce every client's private key by utilizing the related ID data (e.g. email address, name or government disability number). In this manner, no endorsement and PKI are required in the related cryptographic components under ID-PKS settings. In such a case, ID-based encryption (IBE) enables a sender to encode message straightforwardly by utilizing a beneficiary's ID without checking the approval of public key testament. In like manner, the collector utilizes the private key related with her/his



**EPESOS: An Enhanced Web Search Algorithm for Query Process****Akshitha Patil, Dr.N.Vadivelan, P.Ashwini**Department of Computer Science and Engineering, Teegala Krishna Reddy Engineering College,  
Meerpet, Hyderabad, Telangana, India**Abstract:**

Web search engines are composed through lots of question processing nodes, i.e., servers dedicated to manner consumer queries. Such many servers devour a sizable quantity of strength, mostly accountable to their CPU'S, but they may be important to make certain low latencies, considering the fact that customers anticipate sub-2d reaction times (e.g., 500 ms). however, users can hardly note reaction times which are faster than their expectancies. as a result, we propose the predictive electricity saving online scheduling set of rules (PESOS) to pick the most appropriate CPU frequency to method a query on a per-core foundation. PESOS ambitions at process queries through their time limits, and leverage high-level scheduling information to reduce the CPU power intake of a query processing node. PESOS bases its decision on query efficiency predictors, estimating the processing quantity and processing time of a query. we experimentally compare pesos up on the TREC CLUEWEB09B collection and the MSN2006 question log. outcomes display that pesos can reduce the CPU power consumption of a query processing node up to \_48% in comparison to a system running at most CPU middle frequency. pesos outperforms also the best modern day competitor with a \_20% strength saving, even as the competitor calls for a first-class parameter tuning and it may incurs in uncontrollable latency violations.

**Introduction**

Web search incessantly edge and index a large vary of sites to travel back clean and applicable outcomes to the customers' queries. users' queries square measure processed via question process nodes, i.e., bodily servers dedicated to the current project. net search square measure typically composed through uncountable these nodes, hosted in huge datacenters that to boot comprehend infrastructures for telecommunication, thermal cooling, fireplace suppression, strength provide, so on [1]. this advanced infrastructure is crucial to own low tail latencies (e.g., ninety five- th percentile) to ensure that most customers can acquire ends up in sub-2d instances (e.g., 500 ms), to keep with their expectations [2]. on identical time, such several servers consume a large amount of power, preventive the gain of the search engines like GOOGLE and YAHOO and raising environmental problems. in truth, datacenters will devour tens of megawatts of electrical strength [1] and therefore the associated expenditure will exceed the first investment price for a datacenter [3]. attributable to their power consumption, datacenters square measure accountable for the 14 July of the ICT space greenhouse emission emissions [4], which could be the first reason behind worldwide warming. for this reason, govts are measure promoting codes of conduct and nice practices [5], [6] to scale back the environmental result of datacenters. once you take into



## Geo Recommender System for Dynamic Decision in Social Media

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### Abstract

The evaluation of geo social information is extra involved research region in the subject of huge statistics packages. Geo social community is be part of in social existence. Each day it produce massive amount of facts so the analysis of this big quantity of facts could be very complicated. However the emergency need of real time choices to make alert of the real time gadget. To accelerate the decision making via the analysis geo social media statistics. On this studies work we introduced a singular disbursed method. In step with this we harvest large quantity of facts and evaluation the records and very helpful to make actual time decisions when herbal disaster occur. The proposed technique very beneficial to analyze the records and additionally beneficial discover the geo place catastrophe location. The novel allotted techniques also useful ship alert message to Geo social customers of unique area. The proposed technique is tested in different state of affairs and it given accurate consequences. We carried out higher consequences in finding places and alert the people. The proposed novel dispensed method is on the whole encouraged in actual time utility while herbal failures came about.

### Introduction

Social media is considerably advancing their function each day while making themselves from social networks to geo social networks. it empowers human beings to make their content material public a long side their geographical records. This has resulted in an increase within the use of geo social networks by supplying customers with the capability to voice evaluations, file events, and proportion views, anger, or love even as connecting with others, which became unthinkable within the pre-net age. the statistics shared in any media is geo social because: 1) The posts have giant content material that represents geographical statistics with unique locations which are either entered explicitly (by way of test-in) or brought implicitly (by means of earth coordinates, together with latitude or altitude), and 2) The perspectives shared on social media reveal social expertise and support dating and verbal exchange.

Advances in generation have allowed using GPS systems in smart phones, which made region statistics more dominant. The region of human beings posting, commenting, or importing images on social media is recorded. Accordingly, by using aggregating such type of location information from all network customers, social networks produce warehouses of geo social information. some other approach for producing geo social facts is via crowd sourcing whilst providing self-evolved applications intended for various functions or reasons. This takes geo social statistics from volunteers or paid users who provide information or information for that motive. For example, at some point of the Haiyan typhoon in the Philippines in 2013, a virtual community composed of a huge wide variety of reporters, volunteers, and it experts created on-line street maps for emergency creation. Such type of online facts accrued via crowd



*M. S. Srividya*

## REMOTE DATA INTEGRITY CHECKING BASED ON CLOUD STORAGE SYSTEM

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## ABSTARCT:

Safety in cloud computing is an area that needs most awareness in Current situation in IT Fields. Cloud computing storage provides the users to store and process their data in third-party data centres in cloud. In this paper, we are going to use the encrypt and decrypt the records or documents this is to be uploaded to the cloud. The Encryption process is presented with the novel property that publicly revealing an encryption key. But not reveal the corresponding decryption key to anyone. The Keys are entered separately and as a result the Data owner or User could be allowed to view the record or documents. This method could bring the better protection in the Cloud .This process may be carried out in the public cloud

## INTRODUCTION

Cloud Computing is the next-generation architecture of IT field and also IT enterprise, due to its long list of unprecedented advantages in the IT history: on-demand self-service, ubiquitous network access, location independent resource

pooling, rapid resource elasticity, usage-based pricing and transference of risk [1]. Cloud computing allows the users and enterprises with various computing capabilities to store and process the data either in a private-own cloud, or on a third-party server located in a data centres. As a basic service of Iaas model in cloud computing [2] cloud storage enables the data owner to store their file into the cloud and deletes the local copy of the data, which reduces the burden of maintenance and management of the data [3]. From the data owner perspective both individual and IT field storing the data remotely into a cloud in flexible on-demand manner brings appealing benefits, relief of the burden for Storage management, universal data access with location Independence and avoidance of capital expenditure on Hardware, software, and personnel maintenances, etc., [3]. While cloud computing makes these advantages more appealing than ever, it also brings new and challenging security threats toward users' outsourced data. Since cloud service providers (CSP) are separate



*Arreus*

## Discern Strain Build Interaction in Social Web Using Attributes

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Meerpet, Hyderabad, Telangana, India

### ABSTRACT

Psychological stress is threatening people's health. It is non-trivial to detect stress timely for proactive care. With the popularity of social media, people are used to sharing their daily activities and interacting with friends on social media platforms, making it feasible to leverage online social network data for stress detection. In this paper, we find that users stress state is closely related to that of his/her friends in social media, and we employ a large-scale dataset from real-world social platforms to systematically study the correlation of users' stress states and social interactions. We first define a set of stress-related textual, visual, and social attributes from various aspects, and then propose a novel hybrid model - a factor graph model combined with Convolutional Neural Network to leverage tweet content and social interaction information for stress detection. Experimental results show that the proposed model can improve the detection performance by 6-9% in F1-score. By further analyzing the social interaction data, we also discover several intriguing phenomena, i.e. the number of social structures of sparse connections (i.e. with no delta connections) of stressed users is around 14% higher than that of non-stressed users, indicating that the social structure of stressed users' friends tend to be less connected and less complicated than that of non-stressed users.

### Introduction

Generally, data mining (sometimes called data or knowledge discovery) is the process of analyzing data from different perspectives and summarizing it into useful information - information that can be used to increase revenue, cuts costs, or both. Data mining software is one of a number of analytical tools for analyzing data. It allows users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified. Technically, data mining is the process of finding correlations or patterns among dozens of fields in large relational databases.

- 1) It's one of the most effective services that are available today. With the help of data mining, one can discover precious information about the customers and their behavior for a specific set of products and evaluate and analyze, store, mine and load data related to them
- 2) An analytical CRM model and strategic business related decisions can be made with the help of data mining as it helps in providing a complete synopsis of customers
- 3) An endless number of organizations have installed data mining projects and it has helped them see their own companies make an unprecedented improvement in their marketing strategies (Campaigns)



## DESIGN OF SECURE ROUTING PROTOCOLS FOR MOBILE AD HOC NETWORKS

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### ABSTRACT

The characteristics of Mobile Ad hoc Network (MANET) allows to call it as self-governing system of nodes in mobility and such mobile nodes are connected by wireless links. The MANET comes under class of wireless networks, particularly under infrastructure-less category. In MANET, the node acts as a termination system, also as an intermediate node and packet being forwarded by such node popularly called as router. The MANET nodes are in mobility therefore they change their locations. The node are enough capable to organize within them in turn changes happen dynamically for the current topology in which the node are. The major concern with respect to MANET nodes is, forming an optimum level and ideally an efficient route between any two parties wish to participate in exchange packets. It is the principal worry of the protocols related to the routing mechanism in MANET.

**Key words:** authentication, security, encryption, proactive, reactive, on-demand, MANET, attacks, AODV, DSR.

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<http://www.iaeme.com/IJ CET/issues.asp?JType=IJCET&VType=9&IType=5>

### 1. INTRODUCTION

We are in the era of the information storage and retrieval in the context of exchanging messages among the node in the network. The information may intended for a single node or multiple node or broadcasting. In this context, the information is distributed across the nodes in distributed environment. The information needs to be provided a security from attacks. It is to ensure authentication, confidentiality, integrity and availability. The attacks may be in different layers and are identified and studied in research. An intruder or attacker observe

## REMOTE DATA INTEGRITY CHECKING BASED ON CLOUD STORAGE SYSTEM

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### ABSTARCT:

Safety in cloud computing is an area that needs most awareness in Current situation in IT Fields. Cloud computing storage provides the users to store and process their data in third-party data centres in cloud. In this paper, we are going to use the encrypt and decrypt the records or documents this is to be uploaded to the cloud. The Encryption process is presented with the novel property that publicly revealing an encryption key. But not reveal the corresponding decryption key to anyone. The Keys are entered separately and as a result the Data owner or User could be allowed to view the record or documents. This method could bring the better protection in the Cloud .This process may be carried out in the public cloud

### INTRODUCTION

Cloud Computing is the next-generation architecture of IT field and also IT enterprise, due to its long list of unprecedented advantages in the IT history: on-demand self-service, ubiquitous network access, location independent resource

pooling, rapid resource elasticity, usage-based pricing and transference of risk [1]. Cloud computing allows the users and enterprises with various computing capabilities to store and process the data either in a private-own cloud, or on a third-party server located in a data centres. As a basic service of IaaS model in cloud computing [2] cloud storage enables the data owner to store their file into the cloud and deletes the local copy of the data, which reduces the burden of maintenance and management of the data [3]. From the data owner perspective both individual and IT field storing the data remotely into a cloud in flexible on-demand manner brings appealing benefits, relief of the burden for Storage management, universal data access with location Independence and avoidance of capital expenditure on Hardware, software, and personnel maintenances, etc., [3]. While cloud computing makes these advantages more appealing than ever, it also brings new and challenging security threats toward users' outsourced data. Since cloud providers (CSP) are separate



## Mitigating Mobile Web Specific Attacks Using Machine Learning

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### ABSTRACT

Cell precise web pages differ notably from their laptop opposite numbers in content, format and capability. Thus, existing techniques to stumble on malicious web sites are unlikely to paintings for such web pages. On this paper, we layout and enforce kayo, a mechanism that distinguishes between malicious and benign mobile web pages.

Kayo makes this determination based on static features of a webpage ranging from the number of I frames to the presence of recognized fraudulent telephone numbers. First, we experimentally exhibit the need for cell precise strategies after which become aware of a selection of new static functions that relatively correlate with cell malicious web pages. We then practice kayo to a dataset of over 350,000 recognized benign and malicious cell web pages and demonstrate 90% accuracy in category. Moreover, we discover, characterize and report some of web pages overlooked through Google safe surfing and virus total, however detected with the aid of kayo.

Subsequently, we construct a browser extension the usage of kayo to guard customers from malicious cell web sites in actual-time. in doing so, we offer the first static analysis technique to stumble on malicious mobile web pages. Attritions with various features.

### Introduction

Commonly, facts mining (every now and then known as records or understanding discovery) is the technique of reading records from one of a kind perspectives and summarizing it into beneficial statistics - records that may be used to increase revenue, cuts charges, or both. Statistics mining software program is one of some of analytical tools for reading statistics. It permits users to investigate records from many exclusive dimensions or angles, categorize it, and summarize the relationships diagnosed. Technically, records mining is the method of finding correlations or patterns amongst dozens of fields in large relational databases.

1. Classes: Stored statistics is used to find information in predetermined organizations. As an instance, an eating place chain ought to mine patron purchase facts to decide when clients visit and what they usually order. These records could be used to growth traffic with the aid of having daily specials.
2. Clusters: Facts objects are grouped according to logical relationships or client choices. For instance, statistics may be mined to discover marketplace segments or client affinities.
3. Associations: records can be mined to perceive institutions. the beer-diaper instance is an example of associative mining.





## ACHIEVING SECURE, UNIVERSAL, AND FINE-GRAINED QUERY RESULTS VERIFICATION FOR SECURE SEARCH SCHEME OVER ENCRYPTED CLOUD DATA

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### ABSTRACT:

Secure search techniques over encrypted cloud data allow an authorized user to query data files of interest by submitting encrypted query keywords to the cloud server in a privacy-preserving manner. However, in practice, the returned query results may be incorrect or incomplete in the dishonest cloud environment. For example, the cloud server may intentionally omit some qualified results to save computational resources and communication overhead. Thus, a well-functioning secure query system should provide a query results verification mechanism that allows the data user to verify results. In this paper, we design a secure, easily integrated, and fine-grained query results verification mechanism, by which, given an encrypted query results set, the query user not only can verify the correctness of each data file in the set but also can further check how many or which qualified data files are not returned if the set

is incomplete before decryption. The verification scheme is loose-coupling to concrete secure search techniques and can be very easily integrated into any secure query scheme. We achieve the goal by constructing secure verification object for encrypted cloud data. Furthermore, a short signature technique with extremely small storage cost is proposed to guarantee the authenticity of verification object and a verification object request technique is presented to allow the query user to securely obtain the desired verification object. Performance evaluation shows that the proposed schemes are practical and efficient.

### INTRODUCTION:

One of the most attractive cloud services nowadays is data storage, where end users outsource large volumes of data to cloud servers to enjoy virtually unlimited hardware/software resources and efficient access, without investing a large amount of





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### Recital Augmentation of Cache Execution in Cluster Based Mobile Adhoc Network

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#### ABSTRACT

Storing is a standout amongst the best procedures used to enhance the information get to execution in remote systems. Getting to information from a remote server forces high idleness and power utilization through sending hubs that guide the solicitations to the server and send information back to the customers. What's more, getting to information might be problematic or even unimaginable because of mistaken remote links and every now and again detachments. Because of the way of MANET and its high regular topology changes, and additionally little store estimate and obliged control supply in versatile hubs, the administration of the reserve would be a challenge. To keep up the MANET's security and versatility, grouping is considered as a viable approach. In this paper a productive reserve administration technique is proposed for the Cluster Based Mobile Adhoc Arrange (C-B-MANET). The execution of the technique is assessed regarding bundle conveyance proportion, idleness and overhead measurements.

**Keywords:**— MANET, Cache Management, Cluster Based Caching System

#### I. INTRODUCTION

One of the key troubles in cell advert-hoc networks (MANETs) is cache control, which improves the transmission ability of the community. Moreover, perfect placement and manipulate of caching machine declines the electricity intake.

Two fundamental concerns in MANET's cache control are the way to keep balance, and the scalability of the cache device. One option to these issues is cluster based totally MANET as shown in figure 1. Cache control procedures consist of three phases [1 and 15] as shown in figure 2.

1. **Replacement:** this algorithm is liable for evicting much less crucial or expired statistics, with time to live (TTL) identical to 0, whilst the node cache is complete and a new records is to be fetched on a request from



# MAJORITY LOGIC IMPLEMENTATION OF MAC UNIT

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**Abstract:** In digital signal processing applications it involves many critical operations such as multiplication and accumulation, so multiply accumulate unit is always a key element to perform high speed operations. In this project, majority logic gates are used to implement the MAC unit. Majority logic gates are the key elements in the QCA technology. The project is simulated and synthesized using Xilinx ISE tool and Verilog HDL is used to describe the behavior or functionality of the MAC. The delay comparisons for various QCA based parallel prefix adders and the MAC unit for different multipliers and adders are given.

**IndexTerms**—CMOS, MAC, Majority Logic gate, QCA

## I. INTRODUCTION

Adder is the key element in most digital circuit designs including digital signal processors (DSP) and microprocessors data paths units. Therefore the performance of the digital system depends on the performance of the adders. In this project parallel prefix adders are implemented by using quantum cellular automata (QCA) logic for high speed of operations. The advantage of using the QCA technology, it is having the high density due to small size of dots and the other feature it is having high switching speed. Due to these advantages the high performance parallel prefix adders are implemented in the multiply accumulate unit to further increase the performance of the MAC unit.

The paper is organized as follows: section II describes about the QCA technology and majority logic gates and section III describes the parallel prefix adders using QCA and section IV describe about the MAC unit using QCA and then follows the simulation results and the comparison table for the delay and area utilization.

## II. QUANTUM CELLULAR AUTOMATA (QCA)

QCA have attracted a lot of attention as a result of its extremely small feature size (at the molecular or even atomic scale) and its ultra-low power consumption making it one candidate for replacing CMOS technology [1].

The logic unit in QCA is the QCA cell which is composed of 4 or 5 quantum dots. A quantum dot is a nanometer size structure that is capable of trapping electrons in three dimensions. The basic building blocks of QCA are majority logic gate and inverter gate.

### 2.1 Majority logic gate

The majority logic gate that implements the majority function and it is a device that outputs high when the majority of its inputs are high, otherwise it outputs low.

It can also be defined as returns true if and only if more than 50% of its inputs are true. Majority logic gate used in many applications of Boolean circuits and circuit complexity.

Majority logic gates can be of different types like three input majority gate and multi input majority gate. In this project three input majority logic gate is used and the logic diagram is shown in figure 1.

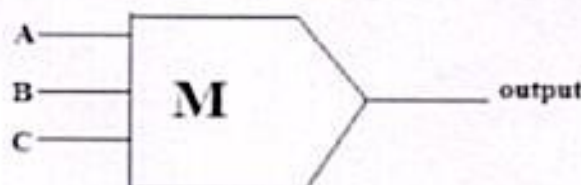


Fig: 1 Three Input Majority Logic Gate

The equation for the mg is given as follows:

$$M_g(A, B, C) = AB + BC + CA$$

The truth table for the majority logic gate is shown in table 1:



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# REVOLUTIONARY TECHNIQUES FOR TRADITIONAL FARMING TO CLOUD FARMING USING RASPBERRY PI

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<sup>1</sup>ECE Department,  
<sup>1</sup>TKR Engineering College, Hyderabad, India.

**Abstract:** Revolutionary techniques make use of wireless sensor nodes to monitor the agricultural environment. Arduino, Zigbee and Raspberry pi based agriculture monitoring system serves as a reliable and efficient method for monitoring agricultural parameters. Monitoring of field not only allows user to reduce the human power, but it also allows user to see accurate changes in it. This paper aims to describe about smart agriculture using IOT technologies.

**Index Terms–** Arduino, IOT, Solenoid valve, Raspberry Pi, Composite sensor pH and Moisture and Zigbee

## I. INTRODUCTION

Agriculture sector is the backbone for our country. The growing of population puts a more pressure and challenges on agricultural sector. To keep up the growing demands, latest technology achievements such as IOT, smart farming, cloud services. There are different kinds of sensors will detect the changes in the soil and crop conditions will do automatically, these available sensors are to determine when the plants may need water. Automation involves improving the speed of production, reduction of the cost, effective use of resources. [1]

## II. EXISTING SYSTEM

In the present agriculture system, the farmers are facing a lot of problems like, not availability of water, sometimes wasting the water and continuous monitoring needed to check the soil type and proper watering to the crop and more number of man power.

## III. PROPOSED SYSTEM:

Wireless sensor network is widely used in agricultural domain for efficient farming management. The application of the networking system for agricultural environment monitoring was successfully developed in this research. In this project, we are designing wireless sensor node using Arduino and zigbee wireless technology. The composite sensor we are using will identify the soil pH level and moisture level. Based on the pH level we will identify the soil nutrient content and the same information will update to the control panel with zigbee communication. The control unit will receive the information consisting of pH and soil moisture level from all different nodes and the data will be updated in the cloud. The Raspberry pi has inbuilt WIFI module. By using this WIFI, Raspberry pi will connect to the internet and update the data base frequently in the cloud (Website). Then according to the information from the cloud, water pump will be turned on or off. When the pump is ON the directions of the water flow will be controlled by the cloud data using solenoid valves. The entire system will work under IoT (Internet of Things).

### 3.1 BLOCK DIAGRAM:

#### 3.1.1 WIRELESS NODES:

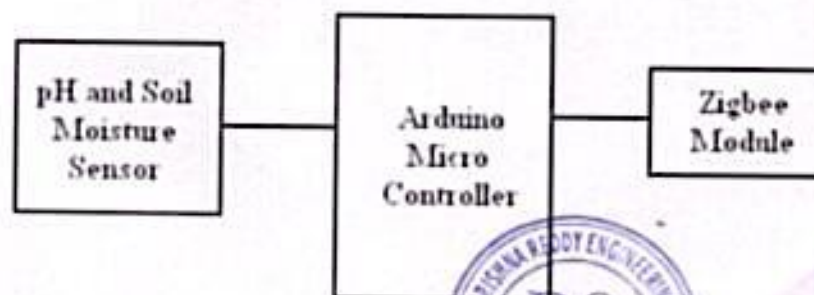


Fig 3.1.1: Block Diagram of Wireless Nodes

# High Speed Low Offset Low Kick Back Noise Dynamic Latch Comparator for ADC

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**Abstract:** This paper describes the implementation of 10 bit high speed low offset and low kickback noise dynamic latch comparator with preamplifier in 65nm CMOS technology. Dynamic latch comparator which uses a positive feedback mechanism to generate the analog input signal to a full scale digital level. Kick back noise and offset voltage are the parameter which effects its performance, these can be reduced by playing preamplifier before dynamic latch comparator. The simulations of preamplifier based dynamic latch comparator are performed at 6 GHZ maximum clock frequency, with power consumption of 3.24mw at 1.2v supply voltage and offset voltage is reduced to 1.4mv. Monte Carlo simulations are carried out with N no of runs (N=100) where standard deviation and mean values are obtained.

**IndexTerms – ADC, CMOS, Kick Back Noise, Offset Voltage**

## I. INTRODUCTION

Analog signal is a continuous wave that keeps on changing over a time period. To convert the analog signals like voltage, current, temperature, pressure into digital i.e binary signals, the most widely used electronic component is the analog to digital converter (ADC). In real time DSP applications high speed and low power consumption ADCs are used. According to the speed, different interfaces and degree of accuracy different types and classifications of ADCs are present. The most common types of ADCs are flash, successive approximation, and sigma-delta. The performance of the analog to digital converters with high speed of operation mostly depends on comparators. The basic operation in any analog to digital converter is comparison. This comparison operation is performed by comparators. A comparator consists of specialized high-gain differential amplifier. They are commonly used in devices that measure and digitize analog signals, such as analog-to-digital converters [1].

The paper is organized as follows: section II describes about the existing methods and section III describes about the proposed methodology and the architecture and then follows the simulation results and the comparison table.

## II. EXISTING METHOD

One of the architecture which is used to reduce kickback noise composed of dual differential amplifier in the input stage with current mirror load & output signals are mirrored to followed dynamic latch circuit even though it reduces the kickback noise to maximum extent but the offset voltage is not reduced and also this system is operating at frequency of 500 MHZ [2].

Another Existing kickback noise reduction technique which uses MOS switches that are opened during the regeneration phase and this performs a sampling function thereby isolating input nodes thus eliminating kickback noise during that phase. However input nodes are still disturbed when switches close. So these cannot completely solve problem [3].

Use of neutralization technique, Firstly kickback noise is generated when the large voltage variations in the regeneration nodes are coupled through the parasitic capacitances of the transistors to the input. We need to add capacitances to neutralize and to cancel kickback noise. But just neutralization technique cannot solve problem it should be combined with other techniques to get more effective [4].

A fully differential amplifier which is base on Lewis-Gray dynamic comparator reduces offset voltage without preamplifier but it operates at speed of 50 MHZ.

### 2.1 Kick Back Noise

Kick back noise is the large voltage variations in the internal nodes are coupled to the input and disturbing the input voltage. To reduce this kick back noise and the offset voltage in the dynamic latch comparator preamplifier is used in the proposed method. Kick back noise uses a positive feedback mechanism to regenerate the analog input signal into a full scale digital level.

### 2.2 Offset Voltage

The differential input voltage that must be applied to an operational amplifier to return the zero frequency output voltage to zero volts, due to the mismatching at the input stage.



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# Design of PLC Receiver Using Clock Gating for DFT

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**Abstract:** Smart Grids are becoming a reality all over the world. Nowadays, the research efforts for the introduction and deployment of these grids are mainly focused on the development of the field of Smart Metering. This emerging application requires the use of technologies to access the significant number of points of supply (PoS) existing in the grid, covering the Low Voltage (LV) segment with the lowest possible costs. Power Line Communications (PLC) have been extensively used in electricity grids for a variety of purposes and, of late, have been the focus of renewed interest. PLC are really well suited for quick and inexpensive pervasive deployments. However, no LV grid is the same in any electricity company (utility), and the particularities of each grid evolution, architecture, circumstances and materials, makes it a challenge to deploy Smart Metering networks with PLC technologies, with the Smart Grid as an ultimate goal. This paper covers the evolution of Smart Metering networks, together with the evolution of PLC technologies until both worlds have converged to project PLC-enabled Smart Metering networks towards Smart Grid. This paper develops guidelines over a set of strategic aspects of PLC Smart Metering network deployment based on the knowledge gathered on real field; and introduces the future challenges of these networks in their evolution towards the Smart Grid.

**Keywords—** Design-for-testability (DFT), PLC at ICs, PLC receiver, power line communications (PLCs).

## I. Introduction

The Smart Grid is recognized today as a revolutionary concept that, even with some of the problems associated to the lack of consensus over a unique and closed definition, is in the process of being implemented in many electricity grids all over the world. Within the aspects that may be highlighted as standing within the consensus of the utility community in the Smart Grid definition, we find the addition of recent advances of electronics, and information and communications technologies (ICTs) applied on the distribution grid electricity assets, to get a better energy supply based on remote monitoring and metering of the existing assets, a better adjustment between energy production and consumption, the optimization of operation reaction times, and the improvement in the grid technical losses. Smart Metering is the application that is experiencing greater support both from the industry and utilities, that find in the deployment of smart meters an opportunity to build the foundations for a larger scope Smart Grid, while obtaining some immediate advantages derived from the savings and commercial opportunities based on the real time access to customers' smart meters. PLC is a telecommunications technology with a long history and tradition in electricity companies, with a wide scope of applications, varieties and implementations. The confluence of the Smart Metering and PLC technologies has been highlighted from the very first conception of PLC systems, and increasingly in the last decades. The projection of PLC into the Smart Grid is a matter



# A NOVEL ARCHITECTURE OF CELLULAR NEURAL NETWORK USING DSP CORE

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*Abstract: Emulations of cellular nonlinear networks on digital reconfigurable hardware are renowned for an efficient computation of massive data, exceeding the accuracy and flexibility of full-custom designs. In this contribution, a digital implementation with polynomial coupling weight functions is proposed for the first time, establishing novel fields of application, e.g., in the medical signal processing and in the solution of partial differential equations. We present an architecture that is capable of processing large-scale networks with a high degree of parallelism, implemented on state-of-the-art field-programmable gate arrays.*

*Index Terms— Cellular neural networks, field-programmable gate arrays (FPGAs), image processing, partial differential equations (PDEs), system-on-chip.*

## I. INTRODUCTION

CELLULAR neural networks (CNN) are nonlinear, continuous computing-array structures well suited for nonlinear signal processing. Due to their structural simplicity, CNNs are ideal for VLSI (very large scale integration) implementation. The CNN Universal Machine architecture transforms the CNN array into a stored-program computer. The first CNUM (Cellular Neural network Universal machine) chip has 32 x 32 cells in standard CMOS technology, and its performance is close to logarithmic operations per second. Solving simulating partial differential equations (PDE's) and systems of locally interconnected ordinary differential equations (ODE's) are two new challenging areas of application for CNN.

The cellular nonlinear networks (CNNs) have proved to be suitable for the image processing, medical signal processing, robot control, and solution of partial differential equations (PDEs), among others. Analog and mixed-signal implementations of the CNN universal machine provide the exceptional computational performance of thousands of processing units on a single chip. However, the precision of analog implementations is usually not sufficient for numerically sophisticated applications.

Thus, the emulation of CNNs on reconfigurable digital devices, especially on field-programmable gate arrays (FPGAs), becomes attractive for prototyping and applications where flexibility and/or higher precision is required. It has been shown that networks with nonlinear couplings are inevitable for numerous biologically motivated applications and especially for solving PDEs.

### Polynomial cellular neural networks

Cellular Neural Networks (CNNs) are complex nonlinear dynamical systems. CNN is simply an analogue dynamic processor array, made of cells, which contain linear capacitors, linear resistors, linear and nonlinear controlled sources. Let us consider a two-dimensional grid with 3 x 3 neighborhood system as it is shown on Fig. 1.



# Architecture for 5G Networks for Security

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**Abstract** - 5G systems will give chances to the making of new administrations, for new plans of action, and for new players to enter the versatile market. The systems will foster efficient and financially savvy dispatch of a huge number of administrations, customized for various vertical markets having changing administration and security prerequisites, and including countless. Key innovation ideas are organize cutting and system softwarezation, including system work virtualization and programming defined organizing. The exhibited security engineering expands upon ideas from the 3G and 4G security models however stretches out and upgrades them to cover the new 5G condition. It includes a tool stash for security important demonstrating of the frameworks, a lot of security plan standards, and a lot of security capacities and instruments to actualize the security controls expected to accomplish expressed security goals. In a brilliant city use case setting, we represent its utility; we look at the abnormal state security view points originating from the arrangement of an expansive number of IoT gadgets and system softwarezation.

**Keywords**— Telecommunication networks, 5G, security, architecture.

## 1 INTRODUCTION

Correspondence is a fundamental piece of our general public. As of now today, the vast majority of our correspondence is computerized and incorporates human-to-machine and machine-to-machine correspondence. Over the earlier decades, we have likewise encountered a drastic increment in correspondence traffic carried on standard business media communications systems. These patterns are required to proceed and the approaching age of media transmission systems, to be specific 5G systems, expect to accommodate this expansion. 5G systems should likewise offer answers for efficient and financially savvy dispatch of a huge number of new administrations, customized for various vertical markets having shifting administration prerequisites, and including countless. Specifically, an imperative point is to help basic administrations that have strict necessities on security and accessibility, for example, arrange benefits in India-attempt and eHealth. Secure and dependable system administrations are additionally an essential for help of secure computerized markets.

5G systems will use softwarezation and virtualization to accomplish the administration destinations on exhibit, can gurability, and adaptability. Specifically, key structure ideas of 5G systems will be organize cutting (i.e., committing logical systems for detached applications), versatile edge computing (MEC), arrange work virtualization (NFV), and programming defined organizing (SDN). The vision, is that a 5G system will give a pervasive flexible and extensible foundation for a wide range correspondence use industries over which dynamic administration and business environment can develop.

The security of 5G systems and their correspondence use industries will be of indispensable significance. Nonetheless, there are various difficulties to be tended to which are essentially because of the systems dynamic condition and the way that the security necessities will be considerably more stringent than in past system ages since the differing system administrations from verticals will be inclusion basic.

5G will permit the foundation of new plans of action with new performers in the versatile market. This will offer ascent to a need to consider new sorts of trust relations between standard on-screen characters in the security plan; whom is to be trusted, in which regard, and to what degree. Besides, the utilization of new innovations like system virtualization (i.e., decoupling coherent systems from systems administration equipment) and SDN will bring new trust issues; for this situation trust between application proprietors and register and capacity asset suppliers. In both these cases, the trust relations will show themselves in hard security prerequisites to authorize required administration level assertions and to ensure data trade between performing artists.

A foundation in creating secure frameworks is to apply a security engineering. A security design gives an abnormal state outline of the distinctive elements included, their relations and communications. Such an abnormal state review is essential for investigating the security of the created framework all in all or parts of it, seeing how certain substances sway the framework's security, recognizing dangers, and structuring and conveying successful security controls.

The security structures for past system ages (i.e., 3G and 4G) miss the mark for 5G systems. Specifically, they don't catch different security issues that begin from the innovations utilized in 5G and the new use cases coming from the new business condition offered by 5G. For example, existing security models were not intended for multi-occupancy musical drama action (e.g., shared physical framework utilized by various suppliers) and can't separate trust relations between the distinctive occupants. Besides, support for system virtualization and system cutting (i.e., devoting consistent systems for confined applications) is something that was not part of their necessities. Subsequently, these current security structures should be refreshed and reached out to incorporate help for such functionalities and advances in 5G systems.

The commitment of this paper is a security architecture for 5G systems which, to the best of our knowledge, is the first of its caring that catches the issues achieved by the utilization of system virtualization and new use cases originating from the dynamic condition offered by 5G. Our





# Biometric Authentication process by using Software As a Service in Cloud Computing

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**Abstract**— Now a day's cloud clients are confronting the serious issue of phony signing in and information burglary. So it is required to confirm the cloud client that demands access to a record for giving protection and security. Present days distributed computing is turning into a hot pattern in IT ventures. A large portion of the endeavors are utilizing cloud for putting away and keeping up their colossal information on cloud servers. In bygone day's security is given by passwords and pins. So Hackers can split these passwords, so the information isn't anchor until we have a safe component to shield the information from interlopers and programmers. So we are utilizing the idea of Biometric Authentication alongside information pressure and information encryption. The procedures of biometric confirmation in cloud face execution issues like existence complexities. For the security purposes Advanced Encryption Standards calculation is utilized. As of late, biometrics and PC innovation have consolidated so as to enhance the security in regular exercises, for example, get to control, money terminals, open transport, web, savvy card perusers. With biometric based security frameworks there is never again any one have to recollect countless and Passwords, so the authentic biometric attributes of each individual assume the job of individual character code before the world. This paper proposes to enhance the security of producing the biometric key from unique finger impression biometrics with its component extraction utilizing Advanced Minutiae Base Algorithm (AMBA). The mystery extrem is scrambled with biometric key utilizing symmetric Advanced Encryption Standard (AES) Algorithm.

**KeyWords:** Biometric Authentication, Finger Recognition, Cloud Authentication, Data Encryption, Data Protection, AES.

## I. INTRODUCTION

use passwords continually, to login to various online administrations each and every day. What's more, similarly as the quantity of online administrations, the individual buys in to Increases, the measure of passwords that individual needs to call up is more. A normal individual needs to get back to around 19 passwords, from online administrations to neighborhood machines. In addition, the online specialist organizations to enhance the security frequently ask the people for alphanumeric blends, while likewise being commanded to change passwords on time to time premise. As this procedure ends up disappointing and complex for the people, verifying people at a quicker rate and safely remembering the ease of use angle is basic to all ventures. The elective that exits for passwords are one time passwords, where a five or six digit code tend to the client's gadget by a SMS and the client utilize this code alongside secret key to validate activity. This procedure is normally named as screen understanding for the client. The issues with this one-time password is that on the off chance that the client changes his portable number, he has

reregister everything once more, the client might be notable get the SMS as a result of some system issues, he will most likely be unable to get where the one time password on his gadget is going and so on. So there are a bunches of convenience issues with this methodology. Also this password, despite the fact that they are offered for just a brief timeframe still they are phish-capable. Clients request a harmony among security and straightforwardness. This is the place the job of biometrics comes into the image by offering faster, less demanding and progressively hearty verification in a consistent way. As biometrics will be connected for online verification, measure of biometric information created by it will increment at an extremely fast pace. To process and dissect such sort of consistent constant biometric information and beaten it quick enough to get an aggressive edge is required.

One of the best difficulties of sending biometric frameworks has been the expense. A coordinated effort of different convoluted sensors, exorbitant gadgets or cameras is required so as to send the biometric innovation; this biometric equipment has recently been evaluated high. In any case, with the progression in figuring over a year, such biometric innovation has moved toward becoming in question, to be sure, presently a days each cell phone is as of now outfitted without any difficulty the procedure of biometric confirmation. The cell phone is today an imperative sidekick in the two individuals' private and expert lives. Individuals like to utilize their cell phone to net saving money, pay charges, exchange reserves, and so forth. Along these lines to utilize biometric to confirm a client on the web, the cell phone applications, will exploit the numerous inbuilt portable sensors accessible on cell phones, open plausibility for breaking down and preparing new kinds of created information, and have an effect on practically all exercises of societal and business life, and incorporate, however are not constrained to, versatile advertising, interpersonal organizations, keen urban communities, wellbeing upkeep, and business forms.

Till now, the biometric information are simply utilized for ID and confirmation of an individual. The conventional biometric information preparing conditions are intensely situated toward clump activities with very high latencies, single-purpose of disappointment and were inconceivably expensive. Moreover, to investigate this biometric information conventional methodology requires all the Biometric Cloud Computing is turning into a hot pattern in IT ventures. The vast majority of the undertakings are utilizing cloud for putting away and keeping up their tremendous information on cloud servers. In any case, the security of basic information over the cloud has turned into a worry for both cloud clients and suppliers. Conventional validation



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# A Review on Human Thinking in Artificial Intelligence

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**Abstract**— Research in AI has based upon the instruments and strategies of a wide range of controls, including formal rationale, probability hypothesis, choice hypothesis, the board science, etymology and logic. Notwithstanding, the use of these disciplines in AI has required the advancement of numerous enhancements and augmentations. Among the most dominant of these are the strategies for computational rationale. I will contend that computational rationale, inserted in an operator cycle, joins and enhances both conventional rationale and traditional choice hypothesis. I will likewise contend that a considerable lot of its strategies can be utilized, in AI, as well as in normal life, to enable individuals to enhance their very own human intelligence without the help of PCs.

**Keywords**—ALP, Operational Semantics, LOT.

## I. INTRODUCTION

Computational rationale, as different sorts of rationale, comes in numerous structures. In this paper, I will concentrate on the adductive rationale programming (ALP) type of computational rationale. I will contend that the ALP specialist demonstrate, which installs ALP in an operator cycle, is an incredible model of both descriptive and regulating considering. As an unmistakable model, it includes generation frameworks as an exceptional case; and as a normative model, it incorporates established rationale and is good with traditional choice hypothesis.

These clear and regularizing properties of the ALP specialist display make it a double procedure hypothesis, which joins both natural and deliberative reasoning. Like most speculations, double process hypotheses likewise come in numerous structures. In any case, in one shape, as Kahneman and Frederick [2002] put it, instinctive reasoning "rapidly proposes natural responses to judgment issues as they emerge", while deliberative reasoning "monitors the nature of these recommendations, which it might underwrite, right, or supersede".

In this paper, I will be concerned fundamentally with the normative highlights of the ALP operator demonstrate, and on manners by which it can assist us with improving our own human reasoning and behavior. I will center, specifically, on ways it help us both to convey all the more adequately to other individuals and to settle on better choices in our lives. I will contend that it accedes a hypothesis supporting both for such rules on the composition style as [Williams, 1990, 1995], and for such exhortation on better basic leadership [Hammond et al., 1999]. This paper depends on [Kowalski, 2011], which contains the specialized underpinnings of the ALP operator display, just as references to related work.



Figure 1. The basic ALP agent cycle

## II. INTRODUCTION OF ALP AGENTS

The ALP specialist model can be seen as a variation of the BDI demonstrate, in which operators utilize their convictions to fulfill their desires by creating aims, which are chosen designs of activities. In ALP operators, convictions and wants (or objectives) are both spoken to as conditionals in the clausal type of rationale. Convictions are spoken to as rationale programming conditions, and objectives are spoken to as progressively broad provisions, with the expressive intensity of full first-arrange rationale (FOL). For instance, the primary sentence beneath communicates an objective, and the other four sentences express convictions.

In the event that there is a crisis at that point I manage it myself or I get help or I escape.

There is a crisis if there is a fire.  
I get help on the off chance that I am on a train  
Furthermore, I alert the driver of the train.  
I alert the driver of the train on the off chance that I am on a train and  
I press the caution catch.  
I am on a train.

In this paper, objectives are composed conditions first, since, similar to generation rules, they are commonly used to reason advances. Convictions are composed end first, since, similar to taboos or programs, they are normally used to reason in reverse. In any case, convictions are at times composed conditions first, in light of the fact that in some cases they can be utilized to reason in reverse or in forward. In the semantics, it doesn't make a difference whether conditionals of any sort are utilized to reason advances or in reverse.

**A. Model-theoretic and Operational Semantics**  
Casually, in the semantics of ALP specialists, convictions portray the world through the eyes, and objectives depict the world as the operator might want it to be. In deductive information bases



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## Construction of private methodical query services in the cloud with RASP data commotion

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### ABSTRACT

As Digital technology is fast evolving and becoming an essential tool for businesses, the concept of Cloud is evolved. The Phenomenon of the cloud is described in terms of private and public. The proposed approach is based on the public cloud domain, which consists, numerous nodes with distributed computing resources in many different geographic locations. This approach leads the public cloud domain into several cloud partitions. The approach of distributed computing in the cloud simplifies the load balancing and allows database indexes to build over an encryption table. Many times, data into the cloud is stored by maintaining confidentiality, query privacy, efficient query processing at low cost (CPEL Criteria). However, the data owners always desire to submit their queries after realizing the privacy assurance of the cloud. In this aspect, researchers have introduced few techniques such as RASP (Random Space Perturbation), k-NN (k-Nearest Neighbor) Algorithm etc. The main problem across RASP technique is, generating the encryption key which is too large and its implementation makes the time and space overhead. The existing RASP data perturbation technique along with k-NN algorithm is exploited to furnish privacy to the cloud. Wherein, issues such as categorical data and leaked query in the model are identified and addressed, by holding a change in designing the k-NN-R algorithm.

**Keywords:** Algorithm, k Nearest Neighbor distance, Privacy, Confidentiality, and Range Query.

### 1. INTRODUCTION

With the wide deployment of public cloud computing infrastructures, using clouds to host data query services has become an attractive solution for the advantages on scalability and cost-saving. [XX] The service owners can conveniently scale up or down the service and only pay for the useable hours with the help of cloud infrastructures. [1]

The data confidentiality and query privacy could be preserved by using the efficiency of query services and the benefits of clouds. The aim of using cloud resource is to maintain the CPEL criteria i.e. data confidentiality, query privacy and efficient query processing at low cost. The complexity of constructing query services in the cloud dramatically increases to fulfill the above requirements. However, they not address all of these aspects satisfactorily. For example, the crypto-index and order-preserving encryption (OPE) are vulnerable to the attacks. The enhanced crypto approach puts heavy burden on the in-house infrastructure to improve the security and privacy. Hence the approach of random space perturbation (RASP) was proposed to construct practical range query and k-nearest-neighbor (k-NN) query services in the cloud. Also, the approach addresses all the

four aspects of the CPEL criteria and aim to achieve a commensurable balance on them. The k-NN-R query service uses the RASP range query to process k-NN queries. [4]

The RASP perturbation technique is a unique combination of OPE (Order Preserving Encryption), dimensionality expansion, random noise injection, and random projection, wherein the aim is to provide strong confidentiality guarantee. Authors have carefully evaluated the current approach with synthetic and real data sets whose results maintain the CPEL criteria. The RASP method provides confidentiality of data and this approach is mainly used to protect the multidimensional range of queries in secure manner, with indexing and efficient query processing. The range query is used in database for retrieving the stored data's the database where it can denote some value between and lower boundary. The k-NN query identifies k-Nearest Neighbor query where K is the positive integer and this query are used to find the value of nearest neighbor to k. The RASP perturbation embeds the multidimensional data in secret higher dimensional space, encrypted with random addition to protect it.



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## Job Shifting Prediction and Analysis Using Machine Learning

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**Abstract** - In today's volatile employment structure, the employees tend to shift the job in an unexpected manner. In that case the company may face issues regarding scarcity of the workforce and find problem to reemploy quickly. Thus to overcome this problem we have designed a predictive model to anticipate the chances of an employee leaving the job. In this project the train and the test datasets are taken from Analytics Vidhya site where in the algorithm used to do the prediction are Random Forest, XGBoost, CatBoost, LightGBM out of which CatBoost has performed the best and ended up giving the most accurate prediction. The datasets provided by Analytics Vidhya were structured in nature but incomplete in observance thus to fill the missing values imputation procedure had to be performed and then the data was fed to the algorithm for prediction. Knowing the employees approach towards job shift prior would actually help the company to plan out the workforce efficiently. CatBoost is a gradient boosting technique on decision trees library made available as open source by Yandex. It is universally applied across a wide range of areas and to a variety of problems.

Considering accuracy, robustness, usability, extensibility catboost as an upper hand over the other models.

**Key Words:** Logistic Regression, SGD Classifier, Decision Trees, Naive Bayes, Random Forest, AdaBoost, Gradient Boosting, XGBoost, Target, Experience, Last New Job, Size of Company.

### 1. INTRODUCTION

**1.1** In the present day IT rush, the competition between many multinational companies is at a whole new level and these companies want their best employees to stay with them to sustain in the market. For this they have to know whether their employees are happy with their work and pay or are they willing to shift to a new company.

**1.2** This made us to go for a research about how the above given problem could be solved. Through many documentation and cases, it worked out that data science and machine learning can make the work less requesting and faster.

**1.3** using the features present in the dataset. The dataset for this is removed

**1.4** from the Analytics Vidhya site. With machine learning algorithms, using python as core we

can predict the chances whether an employee will stay in the company or will shift to a new company.

**1.5** The aim of the project would be to train a model for prediction. The model is trained on train data set which will be validated on test data. The different other algorithms are used for prediction. Exploratory analysis of data is done to analyze the dependency of the target variable on

