

2025 International Conference on Next Generation Communication & Information Processing (INCIP 2025)

**Bangalore, India
23-24 January 2025**

Pages 1-529



**IEEE Catalog Number: CFP25ZZ1-POD
ISBN: 979-8-3315-2815-7**

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

| | |
|-------------------------|-------------------|
| IEEE Catalog Number: | CFP25ZZ1-POD |
| ISBN (Print-On-Demand): | 979-8-3315-2815-7 |
| ISBN (Online): | 979-8-3315-2814-0 |

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

| | |
|---|---------|
|  Preface | iii |
|  Messages from the Dignitaries | iv-xiv |
|  Committees | xv-xvii |

| | |
|---|----|
| 1. Balancing the Imbalanced Datasets for Machine Learning Classification Problems <i>Rishi Kumar, J. Praveen Gujjar, M.S. Guru Prasad, Raghavendra M. Devadas, Preethi, Utsav Kumar</i> | 1 |
| 2. AI-Enhanced Analysis of Transformational Leadership’s Impact on CSR Participation <i>Sabeel Ahmad Ata, Madhav J. Salunkhe, Shekhar Asiwai, Mukesh Kumar Gupta, Sarang Maruti Patil, Dipak Shankar Raskar, Trilok Kumar Jain</i> | 5 |
| 3. Identification and Categorization of Fruit’s Leaf Disease Using Deep Learning <i>Amit Juyal, Banipreet Kaur, Chetan Pandey, Aditya Harbola, Aditya Joshi, Rashmi Verma</i> | 10 |
| 4. Advanced Image CIPHERING: 1-D Group Cellular Automata and S-Box Strategies <i>Biswarup Yogi, Satyabrata Roy, Umashankar Rawat, Shweta Redkar</i> | 15 |
| 5. Design of Small UAV Autopilot Systems Using Adaptive Controllers, PID Controllers, and AI <i>V. Revathi, Yagateela Pandu Rangaiah, Amit Dutt, Ali Abdulhussein Hameed, Rallabandi Venkata Santoshi Saraswati Swetha Nagini, Dinesh Kumar Yadav</i> | 20 |
| 6. Block Chain Technology to Secure Data Management in Cloud Computing <i>R. Gowtham Raj, P. Aswini, Ali Abdulhussein Hameed, H. Pal Thethi, Gudapalli Karuna, Deepika Arora</i> | 26 |
| 7. Deep Learning Based Anchor Model Used to Classify the Fruit by Using the Digital Image <i>G. Veeresh, N. Sreevani, Sorabh Lakhanpal, Ashish Parmar, Pideka Kundil Abhilash, Ahmed Sabah Abed AL-Zahra Jabbar</i> | 33 |
| 8. Deployment of AI Model to Analyze the Automation Process of HR <i>Vijilius Helena Raj, N. Sreevani, H. Pal Thethi, Neeraj Chahuan, Errabelli Annapoorna, Sajjad Ziara</i> | 37 |
| 9. Development of an Adaptive Neuro-Fuzzy System to Navigate the AGV’s <i>B.S. Smitha, Anitha Gatla, Sorabh Lakhanpal, Ankam Sreejyothsna, Abhishek Kaushik, Sajjad Ziara</i> | 43 |
| 10. Health Data Modeling Using Machine Learning Approaches <i>Gopal Kaliyaperumal, Pendyala Shamili Srimani, Manish Gupta, Taqi Mohammed Khattab Al-Rubaye, Arelli Madhavi, Ankit Meheta</i> | 49 |
| 11. Integrating Artificial Intelligence in Project Management Challenges and Opportunities <i>Uma Reddy, Yagateela Pandu Rangaiah, Amandeep Nagpal, Ankit Meheta, Gotlur Karuna, K. Adnan</i> | 56 |
| 12. PLS-SEM and ANN Model for Risk Management Effects on Re-Engineering Capabilities Small-Medium Enterprises <i>Uma Reddy, Yagateela Pandu Rangaiah, Amandeep Nagpal, K. Adnan, Gotlur Karuna, Ankit Meheta</i> | 61 |

| | |
|---|-----|
| 13. ML Models and Big Data Analytics to Predict the Cricket Match <i>V. Asha, S. Sreekanth, Boddu Rajasekhar, Ginni Nijhawan, Tamam Ali Abd Ulabbas Abedi, Ashish Parmar</i> | 67 |
| 14. Securing Banking Transactions from Cyberattacks <i>V. Asha, Yagateela Pandu Rangaiah, Ginni Nijhawan, Ali Albawi, Yalla Jeevan Nagendra Kumar, Abhishek Kaushik</i> | 72 |
| 15. Twin Analysis of Drill Hole Quality by Computer Vision and Monitoring Wear and Operational Activities <i>M.K. Srinath, N. Lakshmi Deepthi, Ginni Nijhawan, Nadimpalli Venkata Ganapathi Raju, Taqi Mohammed Khattab Al-Rubaye, Neeraj Chahuan</i> | 78 |
| 16. Industrial Image Processing-IoT and Big Data Sensor Value Analysis <i>Muthuswamy Jayanthi, Sajja Suneel, Manish Gupta, Ali Albawi, Banoth Ramesh, Dinesh Kumar Yadav</i> | 84 |
| 17. Development of Datasets to Detect and Classify the Waste by Using Deep Learning <i>Yagateela Pandu Rangaiah, Hanamant Yaragudri, Akila Venkatraman, Navdeep Singh, Dinesh Kumar Yadav, Ahmed Sabah Abed AL-Zahra Jabbar</i> | 89 |
| 18. Assessment of Enterobacteriaceae Bacteria and Antibiotic Resistance in Spring Water of Sikkim Using OPTICS Clustering Algorithm <i>Shobha, Prabha Niranjan</i> | 96 |
| 19. Unmanned Aerial Vehicles (UAVs) and Robots in Warfare <i>Neha Dutta, Parveen Badoni, Parvinder Kumar, Manoj Wadhwa, Vijay Mohan Shrimal</i> | 102 |
| 20. Advanced Channel Characterization and Performance Forecasting for Hybrid mmWave and LTE-A Networks in Metropolitan Environments <i>R. Gowtham Raj, P. Aswini, H. Pal Thethi, Deepika Arora, Taqi Mohammed Khattab Al-Rubaye</i> | 107 |
| 21. Scalable and Adaptive Intrusion Detection in Cloud Environments Using Machine Learning with CIML-IDS <i>Uma Reddy, Yagateela Pandu Rangaiah, Amandeep Nagpal, Abhishek Kaushik, Mustafa Abdulhussein Al-Allak</i> | 113 |
| 22. Enhanced Microstrip Antenna Performance through Adaptive Genetic Algorithm and Neural Network Integration <i>Muthuswamy Jayanthi, Pendyala Shamili Srimani, Manish Gupta, Ankit Meheta, Tamam Ali Abd Ulabbas Abedi</i> | 120 |
| 23. Enhancing Antenna Array Fault Detection Using Regularized Logistic Regression Techniques <i>Muthuswamy Jayanthi, Sajja Suneel, Manish Gupta, Dinesh Kumar Yadav, Mohammed Wael Mohammed</i> | 127 |
| 24. Adaptive Neural Mode Selection for Optimized D2D Communication in LTE-Advanced Networks <i>V. Asha, S. Sreekanth, Ginni Nijhawan, Abhishek Kaushik, Mohammed Wael Mohammed</i> | 134 |
| 25. Optimizing Wireless Communication with Deep Learning in Pilot-Free Systems <i>V. Asha, Yagateela Pandu Rangaiah, Ginni Nijhawan, Abhishek Kaushik, Mustafa Abdulhussein Al-Allak</i> | 141 |
| 26. Adaptive Whale Optimization Algorithm for Enhanced mm-Wave Antenna Design in 5G Networks <i>V. Asha, S. Sreekanth, Ginni Nijhawan, Ashish Parmar, Ali Abdulhussein Hameed</i> | 147 |

| | |
|---|-----|
| 27. Machine Learning-Enhanced eICIC Framework for Mitigating Inter-Cell Interference in Multi-Layer LTE-A Networks | |
| <i>Rakesh Chandrashekar, Kirana Kumar, Sorabh Lakhanpal, Neeraj Chahuan, Ali Albawi</i> | 153 |
| 28. Enhancing Optical Communication Networks with Advanced Soft Computing and Machine Learning Techniques | |
| <i>Gopal Kaliyaperumal, P. Aswini, H. Pal Thethi, Ashish Parmar, Mustafa Abdulhussein Al-Allak</i> | 160 |
| 29. Enhancing Wireless Communication Efficiency Through Advanced Frequency Band and Path Loss Prediction with Random Forest Algorithms | |
| <i>V. Revathi, Yagateela Pandu Rangaiah, Amit Dutt, Dinesh Kumar Yadav, Tamam Ali Abd Ulabbas Abedi</i> | 167 |
| 30. Proactive Traffic Management in Optical Networks Using Advanced Ensemble Learning Techniques | |
| <i>V.S. Anusuya Devi, N. Sreevani, Amandeep Nagpal, Ankit Meheta, Mustafa Abdulhussein Al-Allak</i> | 174 |
| 31. Robust MIMO-OFDM Channel Estimation for 5G Networks Using Conditional Self-Attention GANs | |
| <i>K. Aravinda, Tejaswini Rangaraju, Atul Singla, Ashish Parmar, Ali Abdulhussein Hameed</i> | 181 |
| 32. Optimizing Open Resonant Cavity Antenna Design with Machine Learning and Metaheuristic Techniques | |
| <i>B. Santosh Kumar, Yagateela Pandu Rangaiah, Navdeep Singh, Dinesh Kumar Yadav, Mohammed Wael Mohammed</i> | 187 |
| 33. Optimizing Grid Equipment Maintenance Through Robust Machine Learning | |
| <i>Sachin Kumar, Ayush Panchal, Umashankar Rawat, Pronaya Bhattacharya, Krishna Kumar</i> | 194 |
| 34. Data-Centric Approach for Leather Quality Control Using Advanced Vision Transformer Models | |
| <i>Rezaul Haque, Mahbub Khan, Md Nuruzzaman Pranto, Md Ariful Islam, Md Babul Islam, Umashankar Rawat, Pronaya Bhattacharya, Mahesh Jangid</i> | 200 |
| 35. Efficient Web-Based Automated Poultry Disease Detection Using Transfer Learning Models | |
| <i>Md. Redwan Ahmed, Md Ariful Islam, Anamul Sakib, Md Nuruzzaman Pranto, Md Alamin, Umashankar Rawat, Pronaya Bhattacharya, Ravinder Kumar</i> | 206 |
| 36. Bandwidth Improvement of Microstrip Antenna Using Defected Ground Structure | |
| <i>Vaibhav Singh, Pramod Kumar, Punith Bekal, M. Pallavi, Pallavi R. Mane, Preethi Naik</i> | 212 |
| 37. Design and Performance Measurement of Microstrip Slot Antenna | |
| <i>Vaibhav Singh, Pramod Kumar, Punith Bekal, M. Pallavi, Pallavi R. Mane, Preethi Naik</i> | 217 |
| 38. Enhancing Data Compression Techniques for Optimization: A Novel Integration of Burrows-Wheeler Transform, Lempel-Ziv-Welch, Run-Length Encoding and Huffman Coding | |
| <i>S. Sharmiladevi, Sairudra More, Hritam Bose</i> | 222 |
| 39. Combined Effort Estimation Framework for Heterogeneous Projects Using Machine Learning: A Comparative Analysis | |
| <i>Amrita Sharma, Neha Chaudhary, Anand Sharma</i> | 228 |

| | |
|--|-----|
| 40. Designing Low-Power Hardware Merge Sorters Using Clock Gating for IoT Applications | |
| <i>Preethi, Mohammed Mujeer Ulla, R. Sapna, Raghavendra M. Devadas, N. Pavithra, C.M. Manasa</i> | 234 |
| 41. Hybrid Deep Learning for Brain Tumor Detection Using Transfer Learning Models | |
| <i>T. Boopathy, M. Kavitha</i> | 239 |
| 42. A Depth Analysis of Cryptocurrency’s Role and Risks in Modern Finance: In Respective of Security Aspects | |
| <i>Pooja Devi, Himanshu Nain, Jaiprakash, Vinod Kumar</i> | 243 |
| 43. CAPLC: Cellular Automata-Powered Lightweight Cipher-Unveiling Secure Communication in Resource-Constrained Environments Using Cellular Automata and Henon Map | |
| <i>Biswarup Yogi, Satyabrata Roy, Umashankar Rawat, Shweta Redkar, Utsav Upadhyay</i> | 249 |
| 44. Next-Gen Smart Energy Solutions: Meta-Principles for Building Sustainable, Smart, and Healthy Cities | |
| <i>V. Revathi, Yagateela Pandu Rangaiah, Amit Dutt, Dinesh Kumar Yadav, Taqi Mohammed Khattab Al-Rubaye, Babu Naik Gugulothu</i> | 255 |
| 45. Navigating the Bio-Digital Revolution: AI’s Role in Achieving Sustainable Development Goals | |
| <i>K. Aravinda, Tejaswini Rangaraju, Atul Singla, Ashish Parmar, Sajjad Ziara, Devisingh</i> | 262 |
| 46. A Robust BMS Framework for DC Fast Charging in Smart Grid-Integrated EVs | |
| <i>S.P. Sreeja, D. Sreenivasulu, Alok Jain, Neeraj Chahuan, Fatimah Dhari Jabbar, Babu Naik Gugulothu</i> | 268 |
| 47. AI and ML Strategies for Robust Beam Management in 5G Systems | |
| <i>V. Asha, Yagateela Pandu Rangaiah, Ginni Nijhawan, Abhishek Kaushik, Ali Albawi, Devisingh</i> | 274 |
| 48. A Compact Fan Shaped Antenna for Wearable Applications | |
| <i>V.N. Koteswara Rao Devana, K. Vara Prasad, D. Rajendra Prasad, N. Khadar Basha, D. Mamatha, V.L.N. Phani Ponnappalli, Ch. V. Ravi Sankar, Vishnu Vardhana Reddy Karna, C. Kumara Narayana Swamy</i> | 281 |
| 49. Parallelizing Exponential Search Algorithms with MPI and CUDA for High-Performance Computing | |
| <i>Vedant Shreeyansh, Abhay S. Gad, B. Ashwath Rao, N. Gopalakrishna Kini</i> | 285 |
| 50. CSRR Coupled Dual Patch Dual Band Antenna for ‘S’ and ‘C’ Band Applications | |
| <i>Utsab Banerjee, Joydeep Maity, Sanjukta Mandal, Soumya Sundar Pattanayak, Ujjal Dhabal</i> | 289 |
| 51. Empirical Analysis of Sigmoid Calibration on Gaussian Naïve Bayes Performance for Guitar Chords Classification | |
| <i>K. Rafeeq Ahmed, Anu Malhan, P.S. Prasad, Swati Sharma, M. Vanitha Lakshmi, Nipun Sharma</i> | 293 |
| 52. A Study of Stock Market Dynamic: Exploring the Impact of High Speed Algorithms and AI Technologies on High Frequency Trading in India | |
| <i>Pooja Devi, Ranit Kishore, Simon Giri, Satyam Prakash Srivastava, Aditi Vishnoi, Priti Sharma, Aarushi Balyan</i> | 298 |
| 53. Optimizing V2V Communication in 5G/6G Networks with Enhanced Deep Cooperative Q-Learning | |
| <i>Priyameet Kaur Keer, N. Lakshmi Deepthi, Ginni Nijhawan, Neeraj Chahuan, Ali Albawi, Madhu Palati</i> | 304 |

| | |
|--|-----|
| 54. Offline Handwritten Signature Verification Using Deep Learning | |
| <i>Allen Joseph, S. Dilakesh, S. Mohammed Farook</i> | N/A |
| 55. Advancing Road Safety: A YOLOV8-Based Approach to Automated Traffic Violation Detection and Enforcement | |
| <i>B.M. Nandini, B.S. Sharmila, S.S. Kavitha, Kondam Akshay Reddy, T.V. Rajeswara Reddy, T. Rakshitha</i> | 315 |
| 56. Quantum Artificial Intelligence: Unlocking the Future of Technology | |
| <i>G. Ignisha Rajathi, L.R. Priya, A. Vegi Fernando, R. Vedhapriyavadhana, S. Sasindharan, J. Mohanalin</i> | 321 |
| 57. Revolutionizing Transistor Modeling: ANN-Based Compact Models for Emerging Technologies | |
| <i>V.S. Anusuya Devi, N. Sreevani, Amandeep Nagpal, Ankit Meheta, Sajjad Ziara Madhu Palati</i> | 327 |
| 58. Leveraging Reinforcement Learning and AlphaGo Algorithms for Enhanced Cancer Detection: A Novel Approach in Medical AI | |
| <i>Pawan Whig, Iti Batra, Seema Nath Jain, Pronaya Bhattacharya, Shweta Redkar, Satyabrata Roy</i> | 333 |
| 59. Edge Computing and Federated Learning: Enhancing Privacy and Efficiency in Cloud-Based Machine Learning Systems | |
| <i>Sana Pavan Kumar Reddy, M. Mounika, Umarani Nagavelli</i> | 339 |
| 60. Framework for MR-iFLY Autonomous UAS Navigation and Collision Avoidance | |
| <i>B. Santosh Kumar, Yagateela Pandu Rangaiah, Navdeep Singh, Dinesh Kumar Yadav, Taqi Mohammed Khattab Al-Rubaye, Madhu Palati</i> | 346 |
| 61. Exploring the Thermal Runaway Mechanism in High-Energy Lithium-Ion Batteries | |
| <i>Muthuswamy Jayanthi, Pendyala Shamili Srimani, Manish Gupta, Ankit Meheta, Hazim Y. Saeed, Babu Naik Gugulothu</i> | 352 |
| 62. Quantum Shor’s Algorithm vs. Classical General Number Field Sieve (GNFS) Approach for Large Integer Factorization | |
| <i>S.S. Kavitha, Narasimha Kaulgud, B.S. Sharmila, B.M. Nandini, R. Rishwanth Ram, Deepit Petkar</i> | 357 |
| 63. Enhanced Coconut Tree Disease Classification Using ResNet50, EfficientNetB0, and DenseNet-201 with Comparative Analysis of Activation Functions | |
| <i>M. Muthulakshmi, Desai Varun Prasad, Murarisetty V. Sai Kartheek, Narayanam Sai Bhagawan</i> | 363 |
| 64. Optimizing 5G Network Performance Through Comprehensive Microwave and mmWave Channel Modeling and Analysis | |
| <i>Asha V., S. Sreekanth, Ginni Nijhawan, Ashish Parmar, Mohammed Wael Mohammed, G. Shilpa</i> | 368 |
| 65. ML-Based Modeling and Prediction of RF-EMF Exposure in mmWave 5G Networks for Enhanced Urban Deployment | |
| <i>Vijilius Helena Raj, N. Sreevani, H. Pal Thethi, Neeraj Chahuan, Sajjad Ziara, G. Shilpa</i> | 375 |
| 66. Optimizing Big Data Processing: An Analysis of Hadoop’s Master-Slave Architecture and the Emergence of Serverless Solutions | |
| <i>Risshab Srinivas Ramesh, D. Pradeep Kumar</i> | 381 |
| 67. Metamaterial Inspired Antenna Using Artificial Neural Network for Sub 6 GHz 5G Applications | |
| <i>Soumya Sundar Pattanayak, Shweta Singh, M. Shwetha, Ashim Biswas, Utsab Banerjee, Shaleen Bhatnagar</i> | 387 |

| | | |
|------------|--|-----|
| 68. | A Survey on Privacy-Preserving Federated Learning in Internet of Things (IoT) <i>S. Raghav, B. Vamsi Krishna, Vanipriya Ch.</i> | 392 |
| 69. | Prevention Techniques for DDoS Attacks in Cloud Computing <i>Shirin Bhambhani, Esparsh Raj Gaur</i> | 397 |
| 70. | Distributed Ledger Voting System Using Blockchain <i>J. John Shiny, K. Penyameen, R. Durga Shree, M. Hannah Nissi, J.S. Harilakshmi</i> | 402 |
| 71. | Advancing Hybrid Electric Vehicles Energy Management System with Integrated Fuel Cells, Batteries and Ultracapacitors <i>Sundeep Siddula, Gundi Ice, Shanigarapu Sanjay, Thatikonda Jayakrishna</i> | 408 |
| 72. | Optimized BI-GRU Models for Enhanced Heart Disease Prediction Through Data Mining Techniques <i>A. Periya Nayaki, N. Chakkaravarthi, R. Venkatesh Prabu</i> | 413 |
| 73. | Predicting Software Defects with an Intelligent Ensemble-Based Engine <i>R. Tamilkodi, P. Saroja Rani, Mungi Durga Sirisha, G. Lakshmi Divya, K. Sagar, A. Raghuvamsi</i> | 419 |
| 74. | A Practical Approach to Smart City Service Integration Using SOA and 6G Technologies <i>G. Veeresh, N. Sreevani, Sorabh Lakhanpal, Ashish Parmar, Hazim Y. Saeed, Ozwin Dominic Dsouza</i> | 425 |
| 75. | Development of an Arduino-Powered Firefighting Robot for Accurate Fire Detection, Suppression, and Metal Detection <i>J. Chinna Babu, Ch. Nagaraju, Shaminder Kaur, Shilpi Birla, Sandhya Sharma</i> | 430 |
| 76. | Mapping Research Trends in Deep Learning for Brain Tumor Classification: A Bibliometric Analysis <i>Ambuj Kathuria, Deepali Gupta, Mudita Uppal</i> | 436 |
| 77. | IoT Based Smart Safety System for Women's Protection <i>P. Sumalatha, Rekha Radhakrishnan, D. Beula, Madhu Palati</i> | 441 |
| 78. | Deep Q Network-Driven Intelligent Systems: Advancing the Dynamics of Student-Alumni Networking and Professional Mentorship <i>Neepa Kundu, Gourab Mandal, Anirban Bhandari, Udit Bhaskar, Apurba Nandi</i> | 445 |
| 79. | A Digital Solution for Coordinating Blood Donations and Transfusions <i>Anitha Premkumar</i> | 451 |
| 80. | Smart Cradle: A Wi-Fi-Enabled Solution for Automated Infant Care <i>Desai Varun Prasad, Murarisetty V. Sai Kartheek, K. Venkatasubramanian</i> | 456 |
| 81. | ML-Powered Fake Account Detection <i>Vansh Yelekar, Abhinav Shimpi, Rudra Shete, Ajinkya Shelke, Riddhi Mirajkar, Suruchi Dedgaonkar</i> | 461 |
| 82. | Switched and Fixed Relay Selection Strategies for Dynamic Wireless MIMO Networks <i>K. Ashok, T. Sudha, Monika Gupta, B. Rajalakshmi, B.V. Santhosh Krishna</i> | 467 |
| 83. | Automatic Identification of Medicinal Plants with Transfer Learning <i>Mayuri Phad, Vasundhara Gadakh, Sakshi Dhere, Kaivallya Titame, Mahesh Bhandari, Kishor Pathak</i> | 473 |
| 84. | Harnessing ECU Data for Real-Time Fuel Consumption Forecasting <i>P. Kranthi Kumari, V. Sravani Kumari, M. Varshini, B. Hari Krishna, B. Prem Kumar, V. Srinivas</i> | 478 |

| | | |
|-------------|--|-----|
| 85. | A Cloud Intrusion Detection System Design by SMOTE Integration <i>K.V.K. Sasikanth, T. Sri Haripriya, K. Siva Rama Raju, J. Govind Raju, M. Praveen Kumar</i> | 483 |
| 86. | Achieving High QoS in Smart Grids Through Priority-Based Data Transmission <i>Tarunika Sharma, Anitha Gatla, Sorabh Lakhanpal, Abhishek Kaushik, Rusul Najm, Ozwin Dominic Dsouza</i> | 489 |
| 87. | Standardized Method for Designing PMLDC Motors and Performance Analysis in FLUX Software <i>A. Pradeep Yadav, A. Manjula, B. Linganna, M. Ugendar Reddy</i> | 495 |
| 88. | Cloudguard: Secure Textual Data Deduplication <i>Shaik Yacoob, V. Ajay Kumar, Jansi Karri, M. Dhilleswar Rao, Abhishek Bathula, Vignesh Kommu</i> | 501 |
| 89. | Handheld Device for Medical Plant Identification by Using Deep Learning Integrated with IoT <i>Yarlagadda Kushal, Nimmagadda Vishnu Datta, K. Venkatasubramanian</i> | 507 |
| 90. | Comparative Analysis of YOLO Models for Real-Time Safety Helmet Detection to Enhance Construction Site Safety Using Raspberry Pi <i>Sriharinadha Savaram, Ketham Goutham, K. Venkatasubramanian</i> | 513 |
| 91. | Application for Medical Diagnosis Powered by Neural Network <i>R.G. Tarun, K. Ashwini</i> | 519 |
| 92. | Enhancing Dysarthric Speech with Short-Time Fourier Transform and Fully Connected Neural Networks <i>Bandaru Sai Kiran, K. Ashwini, Bontala Abhiram</i> | 524 |
| 93. | Accurate Prediction of Calories Burn Using Deep Learning Approach <i>Divya Beebireddy, K. Laxmi Harika, K. Adithya</i> | 530 |
| 94. | Create Coding Challenges and Activities that Foster the Development of Computational Thinking <i>Sakshi Gojaria, Vedika Kolambkar, Aditi Pandey, Pratibha Sajwan</i> | 535 |
| 95. | Machine Learning Based Smart Aquaponics System with Integrated Fish and Plant Monitoring <i>S. Sivasankari, S.G. Rahul, Logeswari Panneerselvam, Talari Sofiya Rheema, Chavala Jahnvi, P. Kalpana Devi</i> | 539 |
| 96. | Predictive Analysis Development Using Machine Learning for Industrial Equipments <i>P. Saraswathi, B. Bavithra, P. Harshana Shruthi, V.P. Ilakkiya Jothi, P.R. Jeevasri, Z. Syrin Sulthana</i> | 544 |
| 97. | Enhancing Agricultural Advisory Services with Multilingual LLaMA and RAG <i>G. Bharathi Mohan, C.M. Jayanth Adhitya, A. Mithilesh</i> | 550 |
| 98. | Air Quality Beacon Using Internet of Things <i>Bhaskar Gugulothu, Kristamsetty Nikhil Kumar, Konda Kushal Reddy, Nalamasa Rahul</i> | 557 |
| 99. | Recommendation and Real-Time Monitoring System for Precision Agriculture <i>Shreyash Nalawade, Adinath Shelke, Sairaj Rajput, Bhagyashree Tekade, Shalini Wankhade</i> | 561 |
| 100. | Design and Analysis of a Finfet Bootstrapped Driver Circuit for Low-Power Application Using Cadence <i>Ch. Rajendra Prasad, N. Archana, K.N. Sriram, M. Mahalaxmi</i> | 566 |

| | |
|--|-----|
| 101. Cost-Effective Way of Making Piped Drinking Water Distribution Sustainable in Rural Areas | |
| <i>Devareddy Pradeep Reddy, Chinthakuntla Meghan Sai, K. Venkatasubramanian, N. Aishwarya</i> | 570 |
| 102. Real-Time Activity Classification Using Wearable Sensors: A Deep Learning Approach for Gait Analysis | |
| <i>N. Govardhanan, Karthickeien Elangovan, K. Venkatasubramanian</i> | 576 |
| 103. Intelligent Traffic Management System Using Real-Time Vehicle Detection and Dynamic Signal Control with Client-Server Architecture | |
| <i>S.K. Lokeshwaran, N.S. Lohith, K. Venkatasubramanian</i> | 582 |
| 104. LSTM & MACD Approach: Prediction and Analysis of Stock Market | |
| <i>L. Jerart Julius, S.N. Syed Naweed, D. Aadhavan, S. Sudhakara Sankar, R.S. Rampriya, T. Kavitha</i> | 587 |
| 105. Analyzing RSA, AES, and ECC Across 13 Critical Factors in the Healthcare Domain | |
| <i>Shreya Girish Savadatti, Sakshi Kuldeep Dhariwal, Shruthi Krishnamoorthy, Radhakrishnan Delhibabu</i> | 593 |
| 106. A Review on Deep Learning Techniques for Detecting Plant Leaf Diseases | |
| <i>Saba Begum, E. Naresh, N.N. Srinidhi</i> | 599 |
| 107. Real-Time Stock Price Prediction and Visualization Using LSTM and Matplotlib | |
| <i>James J. Koduppanapolackal, Ahamed, Akash Suresh, U.A. Adwaith, P. Gouthaman</i> | 605 |
| 108. Decentralized Vehicle Legitimacy Verification for Toll Gate Using Blockchain | |
| <i>D.R. Deekshith, Prabhava Vishwananda Murthy Pulipaka, Sai Praneeth Yadav Madda, G. Loka Raghavendra, P. Gouthaman</i> | 610 |
| 109. Leveraging Directed Acyclic Graphs for Advanced Ensemble Learning in Predictive Maintenance for Industry 4.0 | |
| <i>Milton Samadder, Anup Kumar Barman, Shiladitya Munshi, Utpal Madhu</i> | 616 |
| 110. A Deep Learning Framework by Leveraging CNN and LSTM Hybridization for Effective DDoS Attack Detection in IoT Environments | |
| <i>S. Sathiya Devi, K. Lalitha</i> | 622 |
| 111. Performance Analysis of Machine and Deep Learning Techniques for Pomegranate Fruit Disease Detection and Classification | |
| <i>Dasari Varshith Narayana, B. Pakruddin, Y. Vikranth Reddy, Anant Chikmurge, R. Mayur, T. Lokesh</i> | 628 |
| 112. Memory Sampling Position-based Platooning Control for Autonomous Vehicles with Actuator Saturation | |
| <i>Binay Kushwaha, Palanisamy Selvaraj</i> | 634 |
| 113. Systematic Implementation of ECC Curve 25519 for Enhancing the Finger-Print Security | |
| <i>K.N. Sreenivasulu, N.A. Vinay, M. Shwetha</i> | 639 |
| 114. Encryption and Decryption Based on Combination of Logistic and Henon Map for Medical Images | |
| <i>C.S. Anitha, S. Rohith</i> | 645 |
| 115. Interdigitated Comb Slot Substrate Integrated Waveguide for Millimeter Wave Communication | |
| <i>K. Pritha Gayathri, T. Shanmuganantham</i> | 650 |
| 116. Analysis of Different Shapes of Dielectric Resonator Antenna with Novel Waxing Moon Structured Patch as Feed | |
| <i>A. Safana Amala Yazhini, T. Shanmuganantham</i> | 655 |

| | |
|---|-----|
| 117. Power Management Scheme Based on Haversine Formula for D2D Communication in 5G mm-Wave Network | |
| <i>Rudransh Nawani, Kanishkaa Priyadarshi, Kumar Harsh, Subhra Sankha Sarma</i> | 661 |
| 118. Enhancing Cloud Security: An Ontology-Based NIDS with Semantic Technologies for VM Attack Detection | |
| <i>Chandana Dongre, Somanshu Bhattacharyya, Clara Kanmani</i> | 666 |
| 119. Super-Resolution Generative Adversarial Networks: A Comprehensive Study on Image Upscaling | |
| <i>Ahad Malik, B. Pakruddin, Y.A. Abdul Parveez, Mohamed Shakeeb, Mohammed Mazin Ahmed</i> | 672 |
| 120. High-Performance MIMO Antenna Design for Next-Generation Wireless Applications | |
| <i>L. David William Raj, M. Thilagaraj, Biswaranjan Barik, Utsab Banerjee, Soumya Sundar Pattanayak</i> | 676 |
| 121. An Intelligent Educational and Communication Tool for Students with Visual and Auditory Impairments | |
| <i>I. Samu Idhayan, Getzi Jeba Leelipushpam Paulraj, Immanuel Johnraja Jebadurai</i> | 680 |
| 122. Real-Time Detection of Fake News Articles Using Deep Learning Techniques | |
| <i>K. Praveen Nandan, B. Pakruddin, Syed Afridi, Shailesh K.R., Shubam V. Patil</i> | 687 |
| 123. Decoding Water Hyacinth Growth Stages with Deep Learning | |
| <i>Maheswari L. Patil, Vidhan Mehta, Sumith Sigtia, Gyanendra Pandey, Shivani Kumari</i> | 692 |
| 124. Improved Deep Learning Models for Early Detection and Classification of Lung Cancer Using Computerized Tomography – A Systematic Review | |
| <i>K. Muthulakshmi, T. Gopalakrishnan</i> | 697 |
| 125. Optimizing Gated Recurrent Units with Gerbil Inspired Techniques (GGRU) for Superior Data Classification and Clustering | |
| <i>Prativa Mishra, T. Gopalakrishnan, T. Parameswaran</i> | 702 |
| 126. Real-Time Speech-to-Braille Conversion Tablet for the Visually Impaired | |
| <i>Sudhakiran Ponnuru, M. Chandana, M. Ravikumar, K. Rakesh, Kriti S. Devatha, M. Sanjay Balaji</i> | 708 |
| 127. AI-Driven Personalized Budget Planner | |
| <i>Sanskriti Anil Avhale, Isha Deepak Deshmane, Kshitij Habbu, Priyanka Subhash Jadhav, Suruchi Dedgaonkar, Pravin Futane</i> | 713 |
| 128. Automated Categorization and Analysis of Kannada News Content Using Transformers | |
| <i>Dhanusha, Yathish Poojary, B. Ashwath Rao, Musica Supriya, V.G. Narendra, Dipti Mishra Sharma, L. Sobha</i> | 719 |
| 129. Study of Strain Engineering on Optical Properties of K_2ScAgI_6 for Solar Cell | |
| <i>Nidhi Choudhary, Amit Soni, Jagrati Sahariya, Kishor Kumar</i> | 723 |
| 130. Enhancing the Stadam SLA Trust Model with Machine Learning for Improved Anomaly Detection | |
| <i>Kunjur Raghavendra Shreesha, S. Anjana, Bhukya Padma</i> | 727 |
| 131. Exploring Machine Learning Techniques for Real Time Malicious URL Detection | |
| <i>Medha S, Ujjwal</i> | 732 |
| 132. Detection of Abdominal and Mediastinal Lymph Nodes in Computed Tomography Images Using Transformer Based Deep Learning Approach | |
| <i>Thirandasu Bhargava Giri Parimi, Nayeeni Kaushik Reddy, Hitesh Tekchandani, Madhu Oruganti, Praveen Kumar Shukla, Pallavi Joshi</i> | 737 |

| | |
|--|-----|
| 133. Quantitative Modeling of the Exciton Recombination in Different Structural Compositions of Core-Shell Quantum Dots | |
| <i>Sweta Rani, Shuvajit Roy, Shweta Singh</i> | 742 |
| 134. Circularly Polarized Ultra Wide Band Log Periodic Planar Antenna for Breast Cancer Detection | |
| <i>Tapan Nahar, Achyut Sharma, Vinod Kumar Sharma, Vishal Das, Pallav Rawal, Sanyog Rawat</i> | 745 |
| 135. Fractal Forest: A Novel Approach to Synthetic Data Classification with Enhanced Feature Engineering and Performance Metrics | |
| <i>R. Sapna, Preethi, Raghavendra M. Devadas, Vani Hiremani, N. Pavithra, C.M. Manasa</i> | 751 |
| 136. Implementation of DRAM Sense Amplifier Using 45nm Technology | |
| <i>Bhaskar Gugulothu, Nandaram Chandu Yadav, Rathod Jaydev, Naveen Kumar</i> | 755 |
| 137. Advancements in Coffee Bean Quality Assessment Using Computer Vision and Deep Learning Techniques | |
| <i>Achhanala Lavanya, Megha Arakeri, B.J. Ambika</i> | 758 |
| 138. Identifying Mango Leaf Diseases with Advanced Deep Learning Approaches and Convolutional Neural Networks | |
| <i>Tanishta, Vishesh Goyal, Megha Arakeri</i> | 764 |
| 139. The Role of Generative AI in Optimizing Business Operations and Facilitating Effective Decision-Making | |
| <i>Lorna C. Ildefonso, Jessica M. Ligayi, Jaysa Marie T. Galasinao, Marvin D. Mayormente, I. Infant Raj</i> | 769 |
| 140. Efficient Human Detection in Real-Time Using Vision Transformers: Balancing Performance and Latency for Security and Autonomous Applications | |
| <i>Jeremiah Ocheni, Immanuel Johnraja Jebadurai, Getzi Jeba Leelipushpam Paulraj, Difference Finbarrs</i> | 774 |
| 141. Comparative Study of Transistor Logic Families in Half Adder Circuit Design | |
| <i>Dheeraj Anandan, K.M. Rashmi, Likhith Siva Kashyap Challa</i> | 780 |
| 142. Leveraging Fine-Tuned ResNet50 v1 for Accurate Weather Classification Across Diverse Condition | |
| <i>Ruchika Bhuria</i> | 784 |
| 143. Eco-Centric Cyber Protection by Harnessing CNNs for Anomaly Detection in Green Networks | |
| <i>Arman Kalra, Kanwarpartap Singh Gill, Gotte Ranjith Kumar</i> | 790 |
| 144. Enhanced Instruction Detection System by Leveraging Machine Learning and Deep Learning Techniques | |
| <i>Ritu Rani, Kanwarpartap Singh Gill</i> | 794 |
| 145. Enhancing Agricultural Sustainability: Machine Learning-Based Diagnosis of Sugarcane Diseases | |
| <i>Tanishq Soni</i> | 797 |
| 146. Deep Learning-Based Alzheimer's Disease Classification Using MRI Images and DenseNet201 Architecture | |
| <i>Seerat Singla, Rupesh Gupta</i> | 801 |
| 147. Smart Diagnosis: Transforming Nail Disease Identification with Deep Learning | |
| <i>Arpanpreet Kaur, Neelima Gurrapu</i> | 807 |
| 148. On Outage Minimization in SWIPT Based Two-way Communications | |
| <i>Shubham Acharya, Sutanu Ghosh, Soham Sarkar, Malay Gangopadhyaya</i> | 813 |

| | |
|---|-----|
| 149. Improved Dynamic Range Signal Processors for Direct-RF Radar <i>Shashi Ranjan Kumar, Malwinder Singh, Bhukya Soumya Mishra, Anurag Singh</i> | 818 |
| 150. Comparative Analysis of Logistic Regression, Random Forest, Support Vector Machine, and LSTM Model for Ground Vibration Detection <i>Pratibha Sajwan, Lochan Jolly, Sujata Alegavi, Arpit Rawankar</i> | 823 |
| 151. Evaluating Models for Stock Price Prediction: A Comparative Study to Enhance Financial Decision-Making <i>Pallavi Jain, Vikram Singh, Pradeep Singh Rawat, Kumari Muskan, Deepak Kumar</i> | 829 |
| 152. A Minituarized Dual Band Rectangular Stripped Design of Microstrip Patch Antenna <i>Sonam Gour, Geetika Mathur, Amit Rathi</i> | 834 |
| 153. An Analytical Review of Microstrip Patch Antenna for Different Type of Sensors Designs and on Different Minituarization Techniques <i>Sonam Gour, Amit Rathi, Ghanshyam Singh</i> | 838 |
| 154. Optimized Task Processing in Cloud Computing Based Frameworks <i>Amit Kumar Singh, Shikha Singh, Vandana Dubey, Priti Kumari, Brahma Hazela, Vineet Singh</i> | 843 |
| 155. Enhancing Skin Cancer Detection: Lightweight Ensemble Model for Real-Time Dermoscopy Image Classification <i>S. Navaneethan, K. Shilpa, S. Priyadharshani</i> | 850 |
| 156. Pupil Detection Using SegNet with Mask R-CNN for Glaucoma Screening <i>D. Gokulavani, J. Mohana</i> | 856 |
| 157. Precision Seeding Robots Revolutionizing Planting Accuracy and Crop Density Control in Row Crops <i>K.P. Senthilkumar, K.P. Rama Prabha, Aruna Kolukulapalli, S. Prem Knowles, Vinay Kumar, R. Lavanya</i> | 862 |
| 158. AI for Disaster Response: Developing Intelligent Systems for Real-Time Emergency Management <i>T.K. Lakshmi, Naresh Kumar Mangalapu, Mary Fathima Anuja Joseph Swaminathan, S. Chandravadhana, R. Pari, T. Ranjana</i> | 868 |
| 159. Investigations on Novel Extreme-Boost DC-AC Converter <i>Vadhya Jagan, Gudala Sainath, Mamudala Navyasri, Adapala Shiva, Kalagotla Chenchireddy, Pentaboina Giri</i> | 875 |
| 160. Performance Analysis of Very Boost Inverter Topology <i>Vadhya Jagan, Mamudala Navyasri, Gudala Sainath, Adapala Shiva, Karike Swathi, Gujja Sandeep Rao</i> | 881 |
| 161. A Modular H-Bridge Current Source Inverter with Switched Inductor and Capacitor Structure <i>Vadhya Jagan, Kutikanti Swetha, Kalagotla Chenchireddy, Kottha Aruna, Neelima Kalahasthi, Shabbier Ahmed Sydu</i> | 886 |
| 162. Brain Tumor Detection and Classification Using Attention Based Residual Learning <i>Khushi Sharma, Vivan Jaiswal, Tapan Kumar Dey, Shishir Singh Chauhan, Aditya Narayan Hati, Mahesh Jangid</i> | 892 |
| 163. A Method to Identify the Location of L-G Fault in Grid Connected PV System by Analyzing the Length of P-V Curve <i>Udugula Malavya, Namani Rakesh, M.A. Asha Rani</i> | 898 |

| | |
|---|-----|
| 164. Deep Learning Approach for Performance Analysis of Secure SDN-Industrial Networks <i>H. Anwar Basha, Sudeshna Chakraborty, Kavita Rani, Tanu Sharma, Sweety Rana, Pramod Kumar</i> | 902 |
| 165. Transforming Placement Workflow: Springboot Approach To Campus Recruitment Management <i>Divya Dixit Saxena, Dharmesh J. Shah, Vikash Kumar Singh, Himanshu Yadav, Vivek Kumar Singh</i> | 909 |
| 166. Hybrid Recommendation on Collaborative Filtering for Book Recommendation <i>Keshav Gupta, Sudeshna Chakraborty, Kalyani Singh, Dewan Imdadul Islam, Himanshu Agrawal, Shams Alam</i> | 914 |
| 167. Jaya Algorithm Paralleled with Genetic Algorithm for Two Benchmark Function <i>Swati Sharma, Bhukya Padma, Mahipal Bukya</i> | 919 |
| 168. A Systematic Literature Review on Machine Learning Techniques for Heart Disease Prediction <i>S.N. Netra, N.N. Srinidhi, E. Naresh</i> | 925 |
| 169. A Deep Learning Approach Using Vision Transformer (ViT) for Alzheimer Detection in MRI Images <i>Dhriti Chandan, R. Rashmi, Sumaiya Pathan</i> | 931 |
| 170. Weather Prediction based on the Cloud Images using Machine and Deep Learning Algorithms <i>Rohil P. Utture, Alan K. Biju, Y.V. Srinivasa Murthy, Linga Reddy Cenkeramaddi, Nancy Kumari</i> | 937 |
| 171. Fuzzy Logic Driven Intelligent Energy Optimization for Hybrid Electric Vehicles <i>Sundeepp Siddula, Venkataramarao Kota</i> | 943 |
| 172. Multiclass Classification of Abnormal Endocrine Gland States Using CNNs and Transformers <i>D.K. Thara, Y.V. Srinivasa Murthy</i> | 948 |
| 173. A Comparative Study of Efficient Healthcare Applications Addressing Scalability Challenges in Cloud Computing <i>Amreen Ayesha</i> | 956 |
| 174. Early Detection of Pediatric Developmental Disorders Using Dual-Channel Inception Convolutional Transformer Neural Network with Dung Beetle Optimization Algorithm <i>Sankara Reddy Thamma, Bharath Reddy Devalampeta, Mukheswara Reddy Jangareddy</i> | 961 |
| 175. Smart Class on Android: A Handy Classroom Scheduling Solution <i>Vishnuraja Palanisamy, M. Thiyagarajan, R. Bhavani, Arun Anthonisamy, K. Manivannan, S. Vaishnavi</i> | 967 |
| 176. Comprehensive Analysis of Radar Systems Antennas—Far Field Pattern Design <i>Suganthi Santhanam, Gunasekaran Thangavel, C. Malarvizhi, PL. Natchiammai, G. Pavithra, S. Vaishnavi</i> | 973 |
| 177. Intelligent Fake News Identification Strategy for Improved Information Authenticity on Online Platforms Using Modern ML and NLP Methods <i>Muthuswamy Jayanthi, Sajja Suneel, Manish Gupta, Dinesh Kumar Yadav, Mohammed Wael Mohammed, Anas Bilal</i> | 979 |
| 178. Enhancing mmWave MIMO Efficiency for 5G Networks Through Advanced Hybrid Beamforming and Low-Power RF Technologies <i>Rakesh Chandrashekar, Kirana Kumar, Sorabh Lakhanpal, Abhishek Kaushik, Taqi Mohammed Khattab Al-Rubaye, F. Naderian</i> | 985 |

| | |
|---|------|
| 179. A Comparative Analysis of ESP32 and ESP8266 for AI-Powered Applications | |
| <i>Eshita Gupta, Vinay Gupta</i> | 992 |
| 180. Insulation Detection of Electric Vehicle Using Least Mean Square Algorithm | |
| <i>Mahipal Bukya, Bhukya Padma, Rajesh Kumar, Akhilesh Mathur</i> | 997 |
| 181. Enhanced Handover Methods in LTE-Enhanced Architecture | |
| <i>Uma Reddy, Yagateela Pandu Rangaiah, Amandeep Nagpal, Ankit Meheta, Sajjad Ziara, F. Naderian</i> | 1002 |
| 182. Real-Time Control of an Industrial Collaborative Robot UR5e Using ROS: An Experimental | |
| <i>Ashok Kumar Kumawat</i> | 1008 |
| 183. Price-based Optimization Model for Charging and Discharging of Electric Vertical Take-off and Landing Scheduling in Microgrids | |
| <i>Swati Sharma, Adithya Garimella, Mahipal Bukya, N. Gowtham</i> | 1012 |
| 184. Optimized Intrusion Detection in Edge Computing Using Random Forest and Nature Inspired Algorithms | |
| <i>Varsha Sathasivam Banumathi, Swathi Sivakumar, Subasri Annadurai, Nithya Jayakumar, Ramya Jayakumar</i> | 1018 |
| 185. A Comparative Evaluation of Machine Learning Algorithms for Diabetes Prediction | |
| <i>Ashish Sharma, Mahipal Bukya, Adithya Garimella</i> | 1024 |
| 186. Efficient and Robust Deep Learning for Real Time Plant Disease Detection Using CNN | |
| <i>Saba Tahseen, Kyle Lewis, Lokesh V. Rajsree</i> | 1029 |
| 187. SLAM-Enabled Autonomous Blimp for UAV Applications | |
| <i>Donthabhaktuni Chaitanya, Manapati Niteesh Reddy, Vaisakh Melaveetil Shaju, P. Jathin Bharadwaz, Balaji Sai Jayanth, Mahipal Bukya</i> | 1034 |
| 188. Electronic Circuit Design for an Autonomous Blimp Using Raspberry Pi Zero 2W | |
| <i>P. Jathin Bharadwaz, Vaisakh Melaveetil Shaju, Balaji Sai Jayanth, Donthabhaktuni Chaitanya, Manapati Niteesh Reddy, Mahipal Bukya</i> | 1040 |
| 189. An Overview: Differential Logic Full Adder Design, Merits and Demerits | |
| <i>Likhith Siva Kashyap Challa, K.M. Rashmi, Dheeraj Anandan</i> | 1044 |
| 190. Blockchain-Enabled Secure Transactions in V2G Networks | |
| <i>Amit Dua, Hari Om Bansal</i> | 1048 |

AUTHOR INDEX