

2025 International Conference on Future Technologies (ICFT 2025)

**Sangli, India
7-8 November 2025**

Pages 1–702

IEEE Catalog Number: CFP251C0-POD
ISBN: 979-8-3315-6816-0



Copyright © 2025, IEEE

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:	CFP251C0-POD
ISBN (Print-On-Demand):	979-8-3315-6816-0
ISBN (Online):	979-8-3315-6815-3

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

TABLE OF CONTENTS

Distinguishing Reality from Fabrication: A Review of Deepfake Detection Methods and Comparative Analysis	1
<i>Abhijeet Cholke, Puja Cholke, Mandar Mokashi, Sheetal Aher, Shrikant Shinde, Arun Ghandat</i>	
Geo-IQ: Prompt Based Natural Language Retrieval for Geo-Spatial Data	9
<i>Sneha Yadav, Raunak Joshi, Neha Raut, Kshitija Gharat</i>	
Spatiotemporal and Machine Learning Analysis of Battlefield Equipment Losses: A Forecasting and Classification Approach	15
<i>Samrat Ashok Babar, Pallavi Dnyandeo Patil</i>	
Designing Intelligent Drones and Robots for Medical and Rescue Operations in Indian Terrains	23
<i>D. Vikram, B. Durga Devi, Hema P, Selvam Amalraj. M, Saurabh Chandra, S. P. Santhoshkumar</i>	
Enhanced NSGA-II Performance Evaluation on Multi-Modal Benchmark Functions	29
<i>Vishal T. Metkari, H. T. Jadhav</i>	
Ram Mandir in the Metaverse: Bridging Devotion and Digital Innovation	36
<i>Prithviraj S. Shahapure, Om R. Khade, Atharva R. Dhokare, Rohit B. Bharwade, Tanvi R. Patil</i> <i>Siddheshwar V. Patil</i>	
IoT Based Pearl Farm Health Regulator	42
<i>Jayashree Kharat, Swaroop Bharat Thikane, Atharav Ramchandra Todakar, Savita Sidram Totad</i> <i>Vaishnavi Raju Pawar, Vedant Vishwanath Joshi</i>	
AI for Climate Change Mitigation: Predictive Modeling, Remote Sensing, and Sustainable Policy Decisions	48
<i>Dattatray Raghunath Kale, Suruchi Deshmukh, Nilesh N. Thorat, Manisha Shitole, Pradip Krishnadeo patil</i> <i>Mukesh More</i>	
Detecting DDoS Attacks in Real-Time with Minimal Infrastructure: A Node.js Approach	54
<i>Kirti Wanjale, Saurabh Anil Shah, Chaitanya Kharole, Shashank Kakad, Isha Yadav, Rohit Wakade</i>	
Text-to-Video Synthesis Through Context-Aware Fine-Tuning and Frame Interpolation	62
<i>Atharv Salian, Hiya Jain, Aryann Tated, Kriti Srivastava</i>	
Industrial Machine Maintenance and Monitoring System	70
<i>Atharva Patil, Haniya Akhtar, Hrishikesh Kharkar, Kuheli Das, Nishat Khan, Christina D'Cruz</i>	
Multimodal Intelligence in Oncology: A Systematic Review of Deep Learning and Attention-Based Fusion Strategies for Breast Cancer	75
<i>Aliza Rana, Javed Ahmad, Shelia Sharma</i>	
Comparative Analysis of Hybrid Energy Storage System Topologies for Electric Vehicles: Integrating Batteries and Supercapacitors	82
<i>Amit Dilip Nikam, Gopinath S.</i>	
Review of Machine Learning Techniques for MANET QoS and Security Enhancements	90
<i>Gayatri Bendale, Shailendra Singh</i>	
Trends, Patterns and Classification of Urban Air Quality: A Case Study of Chennai, Tamil Nadu	98
<i>Nikhil Vilasrao Deshmukh, S. Barani, N.Kishore Chandra Dev, S. Poornapushpakala, M. Subramoniam</i>	

Machine Learning and Deep Learning for Network Anomaly Detection	104
<i>Harshada Aghav, Himangi Pande</i>	
An Integrated Hypergraph Convolution Attention Neural Netork for Multi-Task News Classification and Detection	111
<i>Alpana Arun Borse, Gajanan K. Kharate, Nmarata G. Kharate</i>	
Tuberculosis Chest X-ray Segmentation Using V-Net Deep Learning Algorithm	119
<i>Sulakshana Malwade, Mohd Junedul Haque, Pawan Bhaladhare</i>	
Numerical Investigation of Fluid Sloshing in Automotive Tanks Using Different Baffles configurations	125
<i>Rajgonda Patil, Vivek Kulkarni</i>	
Smart Wearable Technologies for Chronic Disease Monitoring and Management	132
<i>Poonam B. Kulkarni, Mayuri H. Molawade, Bharat P. Kulkarni, Reena Lokare</i>	
Security in Healthcare (Blood Bank) Using Blockchain	138
<i>Aman Kumar, Avinash Chauhan, Mamta Narwaria, Renu Mishra</i>	
Review on Fresh Water Fish Disease Detection using Image Processing	144
<i>Raghava M S, Mohammed Amaan H, Jyoti K, Syed Majid Sohail, Madhu N</i>	
Reviews and Ratings-Based Recommender System to Alleviate Single and Cross-Domain Data Sparsity	150
<i>Shwetel Suresh Raipure, Balaji A</i>	
AI Attorney Chatbot for Legal Assistance	158
<i>Mahalakshmi G, Rishidevrath Shetty, Soumya S Benur, Supreeth M, Swara</i>	
Finite Element Analysis and Material Optimization of Automotive Radiator Grille	164
<i>V. A. Kamble</i>	
An Efficient Hand Gesture Recognitions System for Indian Sign Language Using Machine Learning	171
<i>Aruna P. Phatale, Sachin M. Karmuse, M. A. Mulay, V. A. Kulkarni, Saurabh R Prasad, Neeraj R Prasad</i>	
AI-Based Exam Timetable Generator	177
<i>Rakhi Bharadwaj, Abhijeet Budhwant, Shreyas Basaragi, Shashank Akhade, Krushna Chandre</i>	
From Static Platforms to Intelligent Assistants: Reviewing LMS Challenges and the Role of Retrieval Augmented Generation	185
<i>Tarun Sirohi, Anshu Geetanjali, Rosey Chauhan</i>	
Enhanced Deep Learning Based Hybrid Framework for the Identification of Brain Tumors	193
<i>Prachiti Pimple, Yawalkar Prashant Madhukar</i>	
Multilingual Minutes of Meeting Generator for Offline Meetings	201
<i>Swapnil Oza, Ronak Rajput, Priyank Naik, Sweedle Machado, Stevina Correia, Priyanca Gonsalves</i>	
Beyond Algorithms: GenAI Philosopher	209
<i>Sana Mujawar, Pranali Patil, Rushikesh Sutar, Siddheshwar V. Patil, Tanvi R. Patil, Priti P. Shirgaonkar</i>	
Combining Federated and Transfer Learning with Explainable AI for Diabetic Retinopathy Detection	215
<i>Tejas. P. Zende, Shefali. P. Sonavane</i>	
Urban Land Use Classification and Spatial Pattern Analysis for Sustainable Development	222
<i>Tushar. S. Satpute, Sadhana. S. Malgave</i>	

The Emergence of Artificial Intelligence as a Communicative Investigator in Digital Forensics and Cybercrime Investigation	229
<i>Prapti Shah, Aayursha Raut, Atharva Desai, Rudra Raut, Om Kanojiya, Shilpa Jaiswal</i>	
Water Surface Algae Cleaning Machine for Ponds and Lake	236
<i>Vikas Nandeshwar, Ayaan Mulla, Subodh Muthal, Arpita Masuti, Shriyog Mule, Gayatri Narwade</i>	
Emerging Approaches in Computing Education: AI-Powered Heutagogy for Sustainable and Self-Directed Learning	243
<i>Ganesh Rathod, Suresh D. Mane, Abhijit M. Mane</i>	
SCENTRA: An IoT-Enabled Smart Perfume Dispensing System	251
<i>Sanskriti Sathe, Umesh Shinde, Jayashree Tamkhade</i>	
SafePulse: Inactivity Monitoring System	259
<i>Umesh Shinde, Sanskriti Sathe</i>	
Image-Based Big Data and Spatial Object Detection: A Bibliometric Review	267
<i>Juveriya Mujawar, Ravindra Rathod</i>	
AI-Driven Framework for Trust and Security in Social IoT: Leveraging CNN-GAN and Homophily-Aware Graph Autoencoders	274
<i>Ganesh Rathod, Vanashri Shinde, Shailaja Panhalkar, Rucha Gurav</i>	
SmartBinGo: Real- Time Waste Monitoring and Optimization for Smart Cities	282
<i>Mithil Devkar, Anjali Raikar, Bhagyashri Patil, Adnan Hajwani, Gaurav Pawar</i>	
Real Time Stress Detection Using Infrared Thermal Imaging and Machine Learning	289
<i>Geetanjali Vaidya, Madhav Bokare, Anagha Joshi, Amol Suryawanshi, Pritam Patil, Pranav Joshi</i>	
Cognitive RAG: Emotionally Intelligent Chatbot with Retrieval and Feedback Adaptation	295
<i>Sahil Nadaf, Umesh B. Chavan</i>	
A Survey on AI-Driven Techniques for Automated Medical Diagnosis and Consultation System	302
<i>Ankit Kumar, Sarthak Gupta, Aditya Birwatkar, Sarvesh Mokul, Bhagyashri Patil</i>	
Improved Lung Cancer Detection with a CNN-SMOTE Approach	310
<i>Saurabh R Prasad, Sandeep J Patil, Vinod B Kumbhar, Anil P Athane, Sachin M. Karmuse, Neerai R Prasad</i>	
Decentralized Human-Readable Wallet Address System (DHRWAS): A Decentralized Approach to Simplifying Blockchain Wallet Addressing	316
<i>Felix Sikukutu Hausiku, Mohd Saim, Seema Shukla</i>	
Trends and Techniques in Medical Image Encryption: A Multi-Dimensional Analytical Framework	324
<i>Arati Nishandar, Sameer Nagtilak</i>	
Fuzzy Logic Based Power Management for Electric Vehicle Infrastructure In DC Microgrid	330
<i>Manali S. Jugale, Chandrakant L. Bhattar, Rajnikant A. Metri</i>	
Automated Mental Health Screening Using a Random Forest Classifier on PHQ-9 Questionnaire Data	336
<i>Rashmi R Adatkar, Anand Bhaskar</i>	
Thermal Imaging based Defect Detection in Pomegranate with Background Removal Technique	342
<i>Ashvini Gaikwad, Manoj Deshpande, Varsha Bhole</i>	

Study of Fundus Image Analysis Methods for Multiple Eye Disease Detection	348
<i>Dhanashri D. Dhobale, Deepika Patil</i>	
Survey on Signal Processing and Machine Learning Approaches for Transmission Line Fault Detection	354
<i>Shubhangi Patil, Vinod Patil</i>	
SmartShield: IoT-Based Safety System with Emergency Alerts	360
<i>Ranjeetsingh Suryawanshi, Miss. Sneha Katole, Mast. Kunal Thakare, Mast. Soham Tawari</i> <i>Mast. Rahul Solanke, Miss. Kanchan Swami</i>	
JANI – Just in Time Assistant for Necessary Insights: A Comprehensive AI-Based Personal Assistant	366
<i>Shivaprasad Ashok Chikop, B M Somashekar, Shreyas H S, Raghavendra Prasad G Shetti, Anjan S S</i>	
Design of a Compact and Efficient 3.5W SMPS for Space-Constrained IoT Applications	372
<i>K. G. Pise</i>	
Survey on API Recommendation and Query Assistant Optimizer	378
<i>Pranjal Kumar, Rishav Anand, Sahil Raj, Tejas V, Shivaprasad Ashok Chikop</i>	
Design and Implementation of IoT-Based Electrical Installation Using Common Bus Communication	385
<i>Yogesh Vilas Mahadik, Ganesh Shinde, Chhaya Bandgar, Aishwarya Madke, Sridhar Kale, Rajnish Pise</i>	
Mitigation of Voltage Sag and Swell with PV Based Electric Spring	391
<i>Chetan Devgonda Patil, Prafullchandra Madhukar Meshram, Asif Liyakat Jamadar</i>	
Secure LoRa Wireless Communication Device with Advanced Encryption	397
<i>Ranjeetsingh Suryawanshi, Samarth Swami, Sudhakar Shinde, Soham Pardeshi, Soham Pawar</i>	
A Hybrid SNN Model for Detection of Face-Swap Deep Fake Videos	404
<i>Blessy Kavuturu, Arpita Umesh Patil, Meet Movaliya, Padmavathy T</i>	
Pranayama for Stress Relief: A Comprehensive Review of Techniques, Mechanisms, and Future Directions	411
<i>Preeti Jain</i>	
GenAI-Driven Smart Hiring Platform	418
<i>Veera Venkata Raghunath Indugu, Lahari Putty, Saurabh Chandra, M. Sasikumar, S. P. Santhoshkumar</i> <i>R. M. Dilip Charaan</i>	
Cost Effective Solution for Energy Meter Calibration	424
<i>Santosh Madiwal, Prasad Kulkarni, Kiran Keshyagol, Deepak Jagtap, Aishwarya Dandekar, Disha Ved</i>	
Multimodal Bio-Emotional Intelligence System for Real-Time Stress Detection	430
<i>B. Adithya, Swapna Kasarla, T. Karpagam, J. Ranjith, D. Amu, G. Rajesh</i>	
Multi Source Prior Guided ALBERT for Headline and Claim Misinformation Detection	436
<i>K. Priyanka, B. Adithya, G. Rajesh, B. Sangeetha, J. Ranjith, Chaitrika Biswal</i>	
Dynamic Knowledge Graph Embedding's for Real Time Adaptation and Transparent Reasoning	442
<i>P. Rajendra Prasad, B. Adithya, J. Ranjith, N.Bhargav Krishna, Chaitrika Biswal</i>	
Federated Edge Intelligence for Secure Data Collaboration in Smart Healthcare Ecosystems	448
<i>Nishant Singh, Mhaske Varsha Dattatraya, M Nagabhushana Rao, Chinnam Yuvaraju, U D Prasan</i> <i>Katari Tejaw</i>	

Bio-Inspired Neuromorphic Circuits for Energy-Efficient Edge AI Deployment	455
<i>Nishant Singh, Chinnam Yuvaraju, Selvakumar P, P. Deepa, Mandeep Narang, Avinash Bhetalam</i>	
“Automated Malaria Detection in Blood Smears Using GoogleNet Convolutional Neural Networks: A Deep Learning Approach”: Enhanced Diagnostic Accuracy and Real-Time Processing for Resource-Limited Healthcare Settings	462
<i>Katkar Suneja Chandrashekhar, Shikalgar Shabanam K.</i>	
A Review on AI-Based Fruit Monitoring Systems for Ripeness, Quality, and Shelf-Life Detection	470
<i>Shubhankar. V. Kulkarni, Sharwari. S. Solapure</i>	
Quantum-Assisted Metaheuristics for Adaptive Resource Allocation in 6G Networks	477
<i>M Nagabhushana Rao, M Sudha Paulin, Juvitha Varghese, Rekha N, Rekha D M, Saikiran Gogineni</i>	
Hybrid Solutions for Grid Resilience: Integrating Batteries with Solar PV Systems	484
<i>Rajani S. Khobragade, Prema Daigavane, Shradha Umathe</i>	
Optimized Rotary Transformer Design for Self-Excited Synchronous Traction Motors in EVs	490
<i>Hayatullah NORRY, Kivanc DOGAN, Ahmet ORHAN, Serhat AKSUN</i>	
A Review on Multimodal Learning-Integrated Feature Extraction Framework for Identifying Phishing Website URLs	497
<i>Amol Jadhav, Reena Gunjan</i>	
Design and Implementation of a Strategic Project Management Framework for Optimizing Project Performance in the Indian Manufacturing Industries	504
<i>Ajay Deshmukh, S. N. Teli, Sandhya Jadhav, Sandip Kanase</i>	
Integrating Robotics Into Pharmacies: Enhancing Impact of Automated Systems on Healthcare, Medication Management and Patient Safety	510
<i>Rameshwari R. Amble, Shabanam Shikalgar</i>	
Enhancing Fault Diagnosis in Telemetry Data Sets through Advanced Visualization Techniques	517
<i>Dhanraj Vikas Katkar</i>	
Saliency-Guided LIME: Enhancing Local Explanations with Adaptive Saliency Thresholding	524
<i>Kartikey Sapkal, Sahil Karne, Siddhesh Kotwal, Vidhisha Deshmukh, Pranali Lokhande</i>	
Converting Natural Language to SQL Queries for Data Retrieval Using Database Metadata and LLaMA 3.2	530
<i>Kartikey Sapkal, Arhant Nitnaware, Yash Gunjal, Dipti Ghusse, Sunita Barve</i>	
AI-Driven Festival Popularity Forecasting Using Social Media Trends and Historical Attendance Patterns	538
<i>Annam Rupa, V. A. Prem Kumar, Palla Chamundeswari, B. Adithya, J. Ranjith, D. Amu</i>	
Comparative Analysis of Methodologies for Grape Disease Detection and Future Direction for Enhanced Accuracy	544
<i>Jayashri D. Palkar, Anuradha S. Deshpande</i>	
Synthesis and Characterization of Jasad Bhasma- ZnO Nanomaterial with traditional Indian Ayurveda method and their Applications in Mechanical Engineering	550
<i>Neeraj R Prasad, Saurabh R Prasad, Anil A Powar, Adik Takale, Rutikesh P Gurav, Amar Bhandari</i>	

Artificial Intelligence for Cyber-Security: A Deceive to Defend Concept	556
<i>Tarushi Jain, Saniya Zahoor, Shabir Ahmad Sofi</i>	
Electric Vehicle (EV) Modelling Using Simulink	562
<i>Aniketh Mehta, Sushma Parihar</i>	
Civic Dock: A Smart, Multilingual, Voice-Text-Image Enabled Platform for Effective Civic Complaint Routing and Tracking	568
<i>Rehan Khan, Sanskruti Sathe, Ritika Rambhad, Umesh Shinde</i>	
GANs, CNNs, and Transformers for Microscopy: Methods and Metrics	576
<i>Snehal R. Watharkar, Sanjay Ramchandra Patil</i>	
FPGA Implementation of a Resource-Optimized 8-Bit Microcontroller for Processor Architecture Education	582
<i>Aditya Mane, Aniket Tarate, Charudatta Aundhe, Shreyas Kore, Sunil Tamankar, Navnee Babar</i>	
Evolution of Flood Prediction Methods: Hydrological, Statistical, Machine Learning and Deep Learning Approaches (2020–2025)	588
<i>Prateek Mahesh Rasalkar, Anil Ramchandra Surve</i>	
A Secure and Intelligent Blockchain-Based E-Voting System Using Multimodal Voter Authentication and Smart Contract Optimization	594
<i>Pravin R Pachorkar, Sivaram Ponnusamy, Ankita Karale</i>	
Machine Learning Applications in Composite Material Synthesis and Property Prediction	601
<i>Dodla S. Rao, Mudra Narasimharao, Bashir N. Jamadar, Anil A. Powar, Balasaheb. B. Vhankhande Anantkumar J. Umbarkar</i>	
PSO Based Mho and Impedance Relay Reach Estimation under LL and LG Fault Condition	607
<i>Manish Bharat, Jaya Krishna, Ritesh Dash, Bhabasis Mohapatra</i>	
A Survey on Machine Learning Techniques in Sentiment Mining and Toxic Language Identification	613
<i>Vipin K. Wani, Swati Pandey</i>	
Deep Neural Sound Recognition for ATM Security Using Spectrogram-Based YOLOv8	619
<i>Aniruddha Prakash Kshirsagar, N. Kannaiya Raja</i>	
A Review on Automatic Student Attendance System Based on Video Surveillance	626
<i>Shweta Vijay Chinchane, Bashirahamad Momin</i>	
A Review on Adaptive Machine Learning Framework for Credit Card Fraud Detection Using Improved TrAdaBoost and Advanced Oversampling Techniques	632
<i>Prajakta Jadhav, Bharti Shetty</i>	
RailNivaran+ : A Efficient Complaint Management System	640
<i>Prathamesh S. Patil, Sharvari. S. Solapure, Kartikey M. Lodhe, Abhishek V. Karatagi</i>	
An Integrated Dehazing Pipeline: From Dark Channel Estimation to Perceptual Clarity	647
<i>Pradnya Ravindra Narvekar, Manasi R. Dixit</i>	
Network Intrusion Detection System Using Hybrid Boosting and Machine Learning Technique	654
<i>Ayesha Sayed, Payel Thakur</i>	

Optimized Prediction of High-Risk Pregnancy Using Machine Learning	662
<i>Gopal B Deshmukh, Satyajit Pangaonkar, Parikshit N Mahalle, Surendra Rahamatkar, Dattatray G Takale</i>	
Artificial Intelligence Powered IoT for Real-Time Inventory Control and Hyper-Personalized Retail Experiences	668
<i>P Ashok, S Lakshmi Sridevi, V Kanagaraj, K Murali Krishna, Sarala Patchala, Suryansh Jaiswal</i>	
Integrating NMS, OSS/BSS, and Middleware in Modern Virtualized Telecom Environments	675
<i>P Ashok, Giri Hallur</i>	
The Shifting Landscape of Consumer Electronics Driven by Telecom and Connectivity	682
<i>P Ashok, Giri Hallur</i>	
Architecting Agile 5G Networks Through the Fusion of SDN and Virtualization	689
<i>P Ashok, Giri Hallur</i>	
Biodegradable and Non-Biodegradable Waste Classification for Smart Waste Management	696
<i>Aditi Anil Pawde, Suyash Vasantrao Yadav, Parshwa Pravinkumar Herwade, Purva Rajendra Markam</i>	
Intelligent Symptom Conversations: New Frontiers in AI-Powered Preliminary Healthcare Diagnosis	703
<i>Kambam Sai Charan, Budda Dhanushya Surya Manikanta, Velayudham Sathiya Suntharam</i> <i>Bolla Manoj Sai</i>	
Design of an IoT-Enabled Piezoelectric Energy Harvester for Efficient Power Management	711
<i>Varad Potdar, Bashirahamad Momin</i>	
Machine Learning-Based Classification of Microscopic Organisms Using Morphological Features	717
<i>Ruhina Quazi, R. Kesavan, Rahil Khan, Summera Rafiq, SK. Jasmine Shahina, Jose Anand A.</i>	
Adaptive Federated Learning for Resource-Constrained Edge Devices: Enhancing Convergence, Communication Efficiency, and Privacy-Utility Trade-Offs	724
<i>Pushpendra Kumar Sikarwal, Mukesh Kumar Gupta, Adama Gupta, Mukesh Bhardwaj, Amit Tiwari</i> <i>Himanshu Vasnani</i>	
Adaptable Transfer Learning for Personalized Insulin Dosing for Type-1 Diabetic Patients	730
<i>Deshmukh Sushant Diwakar, Dhappadhule Manoj Suresh, Rasure Bhagyashree Bhimashankar</i> <i>Birajdar Priti Subhash</i>	
A Review on Deep Learning Techniques for Diabetic Foot Ulcer Classification	736
<i>Sharvali S. Sarnaik, Ajit S. Patil</i>	
Bridging Financial NLP and Decision-Making: An AI-Powered SEC 10-K Report Analysis System	743
<i>Khushi Arora, Kashika Singh, Khushin Vyas, Aniket K. Shahade, Mayur Gaikwad, Shruti Patil</i>	
Blockchain-Driven Framework for Secure and Transparent Customer Relationship Management	749
<i>Chidambar Dixit, Swati Shirke-Deshmukh, Rahul Ganpatrao Sonkamble, Sudeep D. Thepade</i> <i>Dattatray Raghunath Kale</i>	
IoT Based Automatic Damaged Streetlight Fault Detection Management System	755
<i>Rupali Chavan, Vijaykumar Biradar, Farooque Halli, Ajinkya Hangargekar, Archana Metkari</i> <i>Mrunali Bansode</i>	
AI Driven Nanotechnology- Advances in Imaging, Materials Design, and Nanomedicine	760
<i>Neeraj R Prasad, Slok S. Sapkal, Anil A Powar, Saurabh R Prasad, Rutikesh P Gurav, Avinash D Harale</i>	

A Secure Online Examination Platform: Integrating AI-Based Proctoring and Full Stack Architecture for Enhanced Academic Integrity	768
<i>Saksham Pokhrel, Saurab Gurung, Renuka Chaudhary, Sushant Jhingran</i>	
Quantum Machine Learning Models for Enhancing Big Data Analytics	776
<i>P. Prasant, Hariharan R, Sudha E, Subramania Bala Jeshurun, Vedapradha R</i> <i>Paindla Vamshi Vardhan Reddy</i>	
Advancing Deep Learning-Driven Medical Image Reconstruction: Multimodal Integration and Explainable AI for Efficient Cervical Cancer Detection	783
<i>Khandu Dhondiram Shinde, Anita Mukund Pujar</i>	
Scalable Quantum Computing Approaches for Next-Generation Edge and IoT Devices	789
<i>P. Prasant, M Nagabhushana Rao, Chinnam Yuvaraju, Subramania Bala Jeshurun, Perumalraja Rengaraju</i> <i>Mekala Guru Sravani</i>	
Periodic Review on Decentralized Framework in Edge Computing	796
<i>Harshal S. Shirke, Nitin L. Gavankar</i>	
Exploring Machine Learning Strategies for Classifying Online Toxicity	804
<i>Piyusha Urunkar, Bhushan Yelure, Sanjeev Wagh, Priyanka Shinde</i>	
Securely Sharing of Patient Healthcare Records Using Decentralized Blockchain Approach	810
<i>Nilima S. Dandge, Sangram S. Dandge, Noopur M. Yawale, Komal R. Hole</i>	
Multimodal Deep Learning for Robust Cyberbullying Detection on Online Platforms: An Overview	817
<i>A.M. Chavan, R. J. Deshmukh</i>	
Energy Management in Hybrid Energy System Based EV Charging Station for Cost Optimization	825
<i>Kiran Maruti Nathgosavi, Vaiju N. Kalkhambkar</i>	
Optimal Allocation and Scheduling of Battery Swapping and Charging Stations for Urban City	831
<i>Sachin Shivaji Kumbhar, Vaiju N. Kalkhambkar, Atul Jaysing Patil</i>	
IoT-Based Smart Parking and Wireless EV Charging System	838
<i>Ranjeetsingh Suryawanshi, Vansh Abrol, Prabhakar Uparkar, Anjali Waghmare, Maithili Wagh</i> <i>Vijay Ughade</i>	
Study of an Impact of Urbanization on Agricultural Land Using RS and GIS	846
<i>Aman V. Rathod, Sonali S. Rokade, Nitin L. Gavankar</i>	
Analyzing unique feature for Early Diagnosis of Alzheimer Disease by Using Machine Learning	854
<i>Dhanshree Sanjay Madnaik, V.V. Kheradkar, S. S. Sangewar</i>	
Design of an Improved Model for Liver Fibrosis Detection using Random Forest, Gradient Boosting Machines, and Transformer-Based CNN	860
<i>Nikesh T. Gadare, Sandeep V. Rode</i>	
Real-Time Biogas Monitoring System Using Wireless Sensor Network and IoT	866
<i>Rashmi S. Gaikwad, Sunil G. Tamhankar, Om A. Shinde, Uzma M. Khatib, Shweta U. Patil</i> <i>Navnee S. Babar</i>	
AI-Based Handwritten Signature Verification System: A Review	872
<i>Uzma M. Khatib, S. G. Tamhankar</i>	

A systematic review of LULC, LST and Urban Sprawl	878
<i>Sahil S. Mahamune, Nitin L. Gavankar</i>	
Quantum Computing Meets Medical Imaging: Advances in QML for MRI Classification	886
<i>Dhirajkumar B Sabale, Manish B Narnaware</i>	
Modeling and Analysis of a Bidirectional DC-DC Converter for Battery-DC Bus Interface used in Electric Vehicles	894
<i>Prasad Kulkarni, Lakshmanrao S. Paragond, Shivashankar Hiremath</i>	
PyTorch Ecosystem for Graph Neural Networks: A Comprehensive Review	900
<i>Devesh S Talegaonkar, Dinesh B Kulkarni</i>	
Design and Development of a Modern Security System Using Arduino and GSM Module	908
<i>P. D. Upadhye, J. A. Gurav, S. D. Dharme, D. S. Yeole, Pritam More, G. H. Patil</i>	
Smart Voltaic Keys of Keyboard for Energy Generation	914
<i>Rupali Tornekar, Shreyas Phansalkar, Pushpa, Sampada Sanap, Samrudhi Dahiwelkar, Ashwini Pulujkar</i>	
Balancing Performance and Sustainability: A Review of Energy-Aware Scheduling in HPC	920
<i>Rajvardhan N. Mane, Medha A. Shah</i>	
Evolution of Job Scheduling in HPC Systems (2015—2025): Algorithms, Metrics, and Future Directions	927
<i>Pratik Omprasad Daund, Medha A. Shah</i>	
A Review of Shared Aperture Antenna Designs for Dual-Band Satellite Communication: Techniques, Trends and Challenges	935
<i>Anant Ajitkumar Vadgave, S.D. Ruikar</i>	
A Comprehensive Survey on Machine and Deep Learning Techniques for Genre Prediction in Folk Songs	942
<i>Nitin S. Ujgare, Roshni Bhamare, Apurwa Patil, Yogeshwari Rajput, Pranjal Patil, Pravin Pachorkar</i>	
Advancements in Fake News Detection: A Review of Machine Learning and Deep Learning Approaches	948
<i>Sagar Madival Sajjan, Manik Kishan Chavan</i>	
Data Privacy in Voice Search Advertising: A Blockchain-Based Consent Model	956
<i>Mohd Arif Hussain, Vivek Verma, Karthik Kovuri, Aishwarya Pratap, Vivek Shrivastava Prasenjeet Samanta</i>	
Role of AI in Developing Green Competencies Among Employees	962
<i>Rimpi Upadhyay, Siddiqui Lubna Javed Hasan, Ayushi Ahluwalia, Pushpa Kataria, Bipin Chandra Kandpal Prasenjeet Samanta</i>	
Sentiment Analysis of Code-Mixed Language	968
<i>Pawan Hete, Ameen Khan, Pradyumn Waghmare, Pratik K. Agrawal, Shreyas Rajendra Hole</i>	
Smart Hybrid Solar Dryer with Real-Time Monitoring and Adaptive Control for Enhanced Drying Efficiency	977
<i>Sachin P Jadhav, Datta S Chavan, Digvijay Kanase, Rajesh Bulbule, Swapnil D. Patil</i>	

FileLedger: Blockchain-Based System for File Authenticity and Tamper Detection	983
<i>Dhilipanraj Kumar, Setu Sai Ram Yarlagadda, N.Veera Venkata Naga Sai, J. Somanadh Chowdary K.Venkata Hitesh Kumar Chowdary</i>	
Enhancing Healthcare Prediction and Anomaly Detection in Cloud Environments with Distilbert, Tinybert, And Adversarial Autoencoders	989
<i>Yashwant Kumar Kolli, Karthik Kushala, Vijai Anand Ramar, Priyadarshini Radhakrishnan Venkataramesh Induru, S K Pravin Kumar</i>	
Legacy Sync Asset Distribution Framework	996
<i>T.Dhilipan Rajkumar, Setu Sai Ram Yarlagadda, N.Veera Venkata Naga Sai, J.Somanadh Chowdary K.Venkata Hitesh Kumar Chowdary</i>	
A Hybrid PyramidalNet-Swin Transformer Architecture for Transparent Object Detection	1002
<i>Kalpana Bhure, Nita Thakare</i>	
A Hybrid Shadow-Aware Network for Transparent Object Detection and Transparency Estimation	1010
<i>Chandu Vaidya, Sahil Budhe, Utkarsh Paighan, Samruddhi Joge, Rutuj Ghungrud, Sarang Singh</i>	
Effective Particle Swarm Optimization Algorithm for Job Shop Scheduling Problem	1018
<i>Mahesh S. Shinge, Sagar U. Sapkal</i>	
Enhancing Robotic Arm Efficiency in Automated Welding Systems	1024
<i>Kiran Ingale, Srushti Sapkal, Sarvesh Nandanwar, Vaidehi Shirurkar, Prashik Wankar, Sagar Mangulkar Ashwini Barbadekar</i>	
Parametric Optimization of FDM 3D Printing Using Multi-Criteria Decision Making for Industry 4.0 Applications	1031
<i>Sagar U. Sapkal, Aniket C. Patil, Harshwardhan A. Patil</i>	
Technical and Manufacturing Challenges in Scaling Supercapacitor Technologies from Lab to Industry	1039
<i>Gayatri K Palnitkar, S B Abrish Aaditya, V.S. Jape, P.B. Karandikar</i>	
A Single EfficientNet-B0 Model for Multi-Feature MRI-Based Prediction of Alzheimer's and Parkinson's Diseases	1047
<i>R. Raja Sekar, Bala Rajesh Kunapareddy, Megha Shyam Reddy Pathakota, Manjunath Reddy Pandipati Anil Reddy Kanchamreddy</i>	
Energy-Aware and Performance Enhanced Mobile Computing	1054
<i>Manasi Patil</i>	
AgriSense: A Monitoring System for Agriculture and Alert System	1060
<i>Suhas Bhise, Vaishali J abade, Anup Barde, Nilay Bijamwar, Pratik Bhakare</i>	
Enhancing Accessibility Through Machine Learning-Based Sign Language to Speech Translation	1066
<i>Abdur Rahman N, Deepasree S Kumar, Suman Tenali, K. A. Jyotsna, N. Ramajayam, S.P. Santhoshkumar</i>	
Enhancing Disease Management Through Machine Learning: Accurate Prediction and Early Detection for Improved Patient Outcomes	1072
<i>Ashish A. Mahindre, Sarika A. Kondekar</i>	
MetaLens: A Web-Based Tool for Multi-Format Metadata Exploration	1079
<i>Shreeyash Dongarkar, Om Kulkarni, Aditya Aparadh, Meeth Panjwani, Tanmay Shingde</i>	

DropBridge-A-WebRTC-Based-P2P-File-Transfer-Tool	1085
<i>Rizawan N Shaikh, Advith Poojary, Suraj, Shashank Bhandary, Sumanth</i>	
A Comprehensive Survey of Blockchain Applications in Event Ticketing, Crowd Management, and Intelligent Transportation Systems for Large-Scale Religious Gatherings	1091
<i>Pravin R. Pachorkar, Vaishnavi B. Ghuge, Rati R. Antapurkar, Vedika S. Gaikwad, Vedika L. Bhusari Nitin Ujgare</i>	
Dashride: An Innovative Ride-Hailing System with ML-Driven Dynamic Fare Bidding and Enhanced Security	1097
<i>Pooja Mundada, Shreya Sharma, Shreya Desai, Shruti Lakade</i>	
Enhancing the Prediction Capability of Parkinson's Disease Using XGBoost, Deep Belief Network and Random Forest	1103
<i>M Sheela Mano Balin, Pavithra. B, C. Prema, Monica G K, M. Revathi, Annabel Shimi S P</i>	
Smart Diet Planner:An AI-Powered Web Application for Personalized Nutrition Management	1109
<i>Shobana S, Subitsha P, R Priscilla, J Gold Beulah Patturose</i>	
Temporal Graph Neural Networks for Industrial Systems Predictive Maintenance	1114
<i>Annsi Jerolin E, Harini T, J Gold Beulah Patturose, R Priscilla</i>	
Digital Marketing and Social Media in Tourism: A Review of Past Development and Current Trends	1121
<i>Rupal More, Supriya Pachore, Sanjana More, Shweta Prasad, Aditya Kavade, Pravin Pachorkar</i>	
AI-Augmented Leadership Framework for Enhancing Employee Engagement and Well-Being in Knowledge-Driven Industries	1127
<i>R. Anitha, Sudarshana V, Thirukumaran D, Vignesh A, Yadav KN, Saru Shine S</i>	
Predictive Analytics and Machine Learning for Real-Time Emotion Detection and Employee Well-Being Optimization	1133
<i>Kanimozhi T, Ayyappan A, Bavana J, Dhanalakshmi S, Ariharan A, Anupriya L</i>	
IoT and AI Integration for Real-Time Monitoring of Safety Standards in the Paint Manufacturing Industry	1140
<i>J.Niruba Rani, Sharon Samuel, Receka K, Sowmya S, Surya B, Harish R</i>	
IoT-Enabled Smart Leather Factories for Real-Time Production Monitoring	1146
<i>K. Bakiyaraj, Sherly Anish A, Soundarya G, Gandhi Raj M, Sathish Kumar M, Sibiram V S</i>	
Deep Learning-Based Cognitive Load Management in Aerospace Manufacturing Units	1153
<i>T. Ramesh, Sruthisree B, Sridhar K, Srinithi K, Siva Prakash S, Sreepathi R</i>	
Consumer Behaviour Insights Using Data Mining Techniques for Improved Product Strategy and Innovation	1159
<i>S.S. Ramya, Sumathi S, S. Kamalakannan, S. Saikrishnan, S. Archana, S. Tamilmani</i>	
AI-Powered Decision Making Models to Strengthen Strategic Management in Rapidly Evolving Business Scenarios	1165
<i>Mahesh Manohar Bhanushali, Madhura Raghava Reddy, Pranjali Madhur, Revati Ramrao Rautrao G. Manikandan, R. Sirisha</i>	
Bandwidth Optimization of Sub-6 GHz 5G Microstrip Patch Antennas Using Integrated DGS U-Slot Geometry and Genetic Algorithm	1171
<i>Pravin Ghewari, Vinod Patil, Shruti Oza, Pritam Nikam</i>	

Reinforcement Learning for Robotic Singulation: Policy Space Impact on Interactive Manipulation	1179
<i>Raghab Singh</i>	
Implementing Edge-Cloud Computing to Enable Real-Time, Responsive Urban Infrastructure Services: Establishing Resources Dynamically for Smart Cities	1185
<i>M. Sukanya, V.Samuthira Pandi, P Kumari Deepika, Khaled Tawfiq Al-Assaf, Amit Dutt, M. Dinesh</i>	
Active Attendance Monitoring via Eye and Facial Expression Recognition	1191
<i>Manish Narnaware, Arth Rai, Afnan Sayyad, Sumit Phalke Computer, Dhirajkumar Sabale Sadhana Malgave</i>	
Integrating Machine Learning and the Internet of Things to Secure Smart Manufacturing: Preserving Cyberattacks to Industrial Systems	1199
<i>Paddabai Chowdari Karanam, P. Deepalakshmi</i>	
Efficient Decision-Making with Real-Time Equipment Health Forecasting: Machine Learning-Based Condition Monitoring in IIoT	1205
<i>N.V.S. Natteshan, Mohammad Kanan, K Vani, S. Naveen Kumar, M. Dinesh, R. Balasubramaniyan</i>	
GPU-Powered Sentiment Classification with VGG19 and RF+XGB for Improved Product Recommendations	1212
<i>S Ramanjaneyulu, Sudharshan Tumkunta, P. Latha, Rudraraju Anusha, S Kaliappan, V. Venkataraman</i>	
A Review on Hybrid AI Approaches for Early Detection and Diagnosis of Thyroid Disorders and Polycystic Ovary Syndrome (PCOS)	1218
<i>Bhosale Amarja Hanumant, Awati Chetan J.</i>	
Implementation of Blockchain Technology for Autonomous and Cooperative Vehicle: The Framework of Secure Communication for Embedded Systems	1226
<i>B. Anandan, Ahmad Abdelhafiz Ali Samhan, V. Samuthira Pandi, Shobana D, Bhukya Balakrishna G. Karthikeyan</i>	
Advances Smart Quality Assessment in Jaggery Powder Production Using IoT and Machine Learning- A Review	1232
<i>Kiran Ingawale, Shivaani Kalle, Veera Raval, Chhayadevi Khambalkar, Gajanan Kadam</i>	
Integrate the Vehicle-to-Grid (V2G) Technology and Intelligent BMS: Real-Time Control Approaches for Bidirectional Power Flow in Electric Vehicle Systems	1240
<i>V.Samuthira Pandi, Kovarthanaselvi R S, P Kumari Deepika, Maram Y. Al-Safarini, P. Nishitha G. Karthikeyan</i>	
Establishment of Formal Verification Methods to Find Vulnerabilities in Industrial and Automotive Control Systems via Cybersecurity Threat Modeling for Embedded Devices	1246
<i>Perumalsamy Devaraj, Sathiyandrakumar Srinivasan</i>	
Deep Learning and Real-Time Cyber Threat Intelligence Correlation-Based AI-Powered Intrusion Detection Systems for Cloud Computing Platforms	1252
<i>Abhilash Narayanan, Sathiyandrakumar Srinivasan</i>	
Improve Secure Communication with Entanglement-Based Encryption Methods: Cybersecurity for Quantum Key Distribution	1258
<i>Karthikeyan Gurunathan, Sandhya Murali Parthasarathy, Sathiyandrakumar Srinivasan</i>	

A Novel Beagle Inspired Metaheuristic for the Travelling Salesman Problem: Application to Indian Cities	1264
<i>Samindar Vibhute, Chetan Arage</i>	
Create the AI-Powered Anomaly Detection to Stop Intrusions in SCADA and Critical Infrastructure Networks.: Industrial Internet of Things Through Cybersecurity	1270
<i>Arvind Narsing, Sathiyandrakumar Srinivasan</i>	
Innovative Deep Learning Approaches in Smart Cities: Spatiotemporal Convolutional Networks for Identifying Multisensory Urban Activities	1276
<i>V. Samuthira Pandi, Ahmad Al-qerem, Shobana D, D. Rajeshwari, S. Ravi, M. Shanmuganathan</i>	
Design and Development of IoT Based Smart Energy Meter	1282
<i>Ramesh S, Bhavyapriya Pulavara, Veera Venkata Naga Satyanarayana Puramsetti, Prudhvi Venkat Namala</i>	
Enhanced Reactive Power Control in STATCOM using Advanced PWM	1289
<i>Bhagyashree Bobdey, Karuna Chaudhari, Supriya Thakur, Badal Kumar, Alok Kumar, Vinayak Gaikwad</i>	
FinGuard — AI-Powered Credit Risk Assessment for the Underbanked using Machine Learning	1295
<i>P. Chinnasamy, Abdul Razak Shaik, A. Akhila, Y. Tejasri, D. Vaishnavi, Divya Priya Degala</i>	
SmartCRM-AI: A Novel Deep Intelligence Framework for Customer Relationship Optimization in E-Commerce Ecosystems	1301
<i>S. Sharmila, Anju Mohan</i>	
An Innovative Use of Deep Learning in Cybersecurity: Implement Sequential Pattern Recognition and Autoencoders for Real-Time Intrusion Detection	1308
<i>A. Jaya Mabel Rani, A. Rajalingam, Oormila L, T Sanjeeva Rao, R. Shalinirajan, V. Samuthira Pandi</i>	
Applications of Augmented Reality (AR) Immersion IoT Dashboards: Immediate Industrial Equipment Status Monitoring and Forecasting Maintenance Approaches	1315
<i>A. Jaya Mabel Rani, Mahesh Chandrashekar, V. Samuthira Pandi, Jagadeeswari. S, T. Pandiselvi Shobana D</i>	
YOLOv8-TSA: Real-Time Video Object Detection via Temporal-Spatial Attention	1321
<i>K Srisanjana, JS Roshaan, D Madhumitha, R.S. Shivanandham, R. Subha, S. Ananthi</i>	
Comprehensive Review of Machine Learning Techniques for Imbalanced Driving Behaviour Detection and Crash Risk Prediction	1329
<i>Ganesh Bhagwanrao Patil, Nandini M. Chaudhari</i>	
STAR-Net: Advancing Conversational AI through Semantic Correlation and Contextual Response Optimization	1335
<i>Satyawan Patil, Prabhanjan More, Atul Kadam, Suhas Kibile, Anil Desai, Samindar Vibhute</i>	
Generative AI in Cybersecurity: Threats, Vulnerabilities, and Protective Measures	1342
<i>Shrikumar Pramod Ugale, Anupa Sinha</i>	
AI-Assisted Interior Design Recommendation: A Comparative Analysis	1350
<i>Nm Shreya, Padmalaya Nayak, Ravichander Janapati, Veena Trivedi, I Varsha, Siva Naga Jyothi</i>	
Enhancing Facial Emotion Recognition with Vision Transformers, EfficientNet, and Domain Adaptation for Robust and Interpretable Models	1356
<i>Manisha Babanrao Thombare, Shyamrao V. Gumaste</i>	

Automation of Rockwell Hardness Testing Machine	1362
<i>Swati A. Joshi, Ojas Manchanda, Khushi Padole, Jash Oswal, Shiva Pachade, Rudrapratap Paghal</i>	
Smart Multimodal Human Computer Interface (HCI) Framework for Dynamic Mode Switching in Users with Complex Motor Impairments	1368
<i>Nikhil Kumar, Yash Jain, Padmavathy T</i>	
Real Time Threat Detection in Public Places Using Dual CNN Models for Violence and Weapon Detection	1375
<i>Akshat Mahajan, Bhakti More, Shashank Shenoy, Abhijeet Urunkar, Nandinee Mudegol</i>	
Multi Agent Approach for Climate Resilient Fertilizer Recommendations	1382
<i>Varun P. Kale, Jyothi M. Rao</i>	
Blockchain Crowdfunding Systems: Challenges, Innovations, and Future Directions	1390
<i>Amrit Raut, Harsh Kumar, Simran Kumari, Manju Verma, Sheenam Naaz</i>	
N-BEATS and IIoT-Enabled Edge AI for Integrated Water Demand Prediction and Quality Assurance	1398
<i>Jeni Gracia R C, G Michael</i>	