

2025 5th International Conference on Mobile Networks and Wireless Communications (ICMNBC 2025)

**Tumkur, India
10-11 December 2025**

Pages 1–615

IEEE Catalog Number: CFP25AF9-POD
ISBN: 979-8-3315-5665-5



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:	CFP25AF9-POD
ISBN (Print-On-Demand):	979-8-3315-5665-5
ISBN (Online):	979-8-3315-5664-8

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

Low Complexity CNN Model for Acoustic Scene Classification in Hearing Aid Applications	1
<i>V Gnanaprakash, Manu Raju, R Sarasu, D Preethi, N Saranya, Yeswanth Hanumanthu</i>	
Sentiment Analysis of Pension Reform Tweets: Evaluating Machine Learning Models and Preprocessing Strategies	7
<i>M. Menagadevi, Srinivasan Kuppusamy, K. Venkatesh Babu, D Ramya, S. Kamatchi, M. Sumithra</i>	
Design of 16x1 Multiplexer using CMOS Technology for High Speed Communication Switch	14
<i>Sweta Chander, Sanjeet Kumar</i>	
Neuro-Symbolic Computing Architectures for Trustworthy AGI Systems	21
<i>Jagjit Singh Dhatteerwal, Sandeep Kumar, Shilpa Choudhary</i>	
Quantum-Inspired Reinforcement Learning for Edge-Driven Cyber-Physical Systems	26
<i>Jagjit Singh Dhatteerwal, Sandeep Kumar, Shilpa Choudhary</i>	
Comparative Analysis of a KNN-based Base Station Switching Mechanism for Energy Consumption Reduction in Different 5G RAN Deployment Scenarios	32
<i>Bhuvaneshwar Doorgakant, Tulsi Pawan Fowdur</i>	
Adaptive Waste Collection in Smart Cities Using IoT and MOAHA: A Multi-Objective Optimization Approach for Energy and Route Efficiency	40
<i>K N Pallavi, K N Rashmishree, S Bhaskar</i>	
ESA-DBNN: A Dual Attentional Deep Learning Model for Idiopathic Pulmonary Fibrosis Detection using Computed Tomography Images	46
<i>Pallavi Patil, S. Supreeth, Kiran Kumari Patil</i>	
Adaptive Edge Intelligence for Efficient Task Offloading in Dynamic Networks	54
<i>Rishabh Singh</i>	
Deep Learning-Based Paradigms for Ayurvedic Plant Identification with Therapeutic Recommendations Chatbot	61
<i>Venkata Sandeep Edara, Chandni Rao, Anushrini Pedapati, Karthik Kolamuri, Poojitha Kottu</i>	
Enhanced Passive Radar DOA Estimation Using Wigner-Ville Distribution and MUSIC Algorithm in Noisy Environments	68
<i>Purushottama TI, KeshavaMurthy T G, Vishwesh J, BenakaSanthosha S, Ashwini P, YathirajG R</i>	
Design and Implementation of Textile-Based Broadband Antenna for 5G Wearable Applications	74
<i>Nisha. S L, Ganesh Raga, Kumar Shivam, Sarika Sunilraj Raga</i>	
Decentralized Smart Classroom Monitoring Using YOLOv8, Agglomerative Behavior Clustering with Blockchain Integration	80
<i>M Maheshkumar, M Parshanth Imanol, S Lakshmi</i>	
Analyzing Student Performance and Learning in Blended Environment using Machine Learning Model	86
<i>Abhinav Pathak, M. Sujithra, Yazhini Karthik</i>	
Spectral-Kernel SVM: A Customized Kernel-Based Machine Learning Model for Drone IoT Intrusion Detection	93
<i>Rajeswary. K, D. Santhakumar</i>	

Improved Performance of Radiation-Induced Communication Link for Deep Space Applications	100
<i>Mahima M. Hebbar, K. U. Dikshitha, N Neha, Shadakshari, S Bindu, P Rekha</i>	
Optimization Driven Convolutional Framework for Underwater Image Processing with FPGA Acceleration	106
<i>V. Gnanatheja Rakesh, Chaitali Koley</i>	
Hybrid Graph-Spectral Anomaly Detection: A Lightweight Graph-Signal Processing Framework for Intrusion Detection in WSNs	112
<i>D. Santhakumar</i>	
The Efficacy of Augmented and Virtual Reality Exposure in Reducing Diverse Phobias: A Comparative Study	119
<i>Adah Aggarwal, K Amrutha, C Smera</i>	
A Robust Muti-Feature Framework Combining Lexical and Emoji Cues for Sarcasm Detection	124
<i>M. Amanullah</i>	
Edge-Based Hazardous Gas Classification using Multimodal Sensor Fusion and Hybrid Machine Learning	132
<i>U Pavan Krishna, N Janarthanan, J B Shajilin Loret</i>	
Data-Driven Models to Forecast the Health and Charging States of Batteries	140
<i>Sushmeeta S. Basaragi, Shrinivas Sonkanadagi, Md. Shaizan Aga, Mohammad Sami Koytewale Rakhee Kallimani</i>	
Low-Profile Metasurface-Integrated Ultra-Wideband Antenna with Enhanced Gain	146
<i>Deepa Negi, Aarti Bansal, Naveen Kumar</i>	
Metamaterial Integrated Patch Antenna Design with Enhanced Gain for WLAN and WIMAX Applications	151
<i>Deepa Negi, Aarti Bansal, Naveen Kumar</i>	
Causality-Informed XGBoost Framework for Attribution of Temperature Extremes in Remote Maritime Climates using Climate Oscillation Patterns in Australia	156
<i>Md. Jisan Mashrafi, Hasan Ahamed Alif, Radhika Tajrin, Vaskor Debnath, Zaid Bin Sajid Ridwan Noor Tasin</i>	
A Wideband Proximity Coupled Millimeter Wave Microstrip Franklin Antenna for 5G Wi-Fi Applications	163
<i>Harini. V, Pramod Kumar, Sairam. M V S</i>	
High Performance Sub-6 GHz Patch Antenna with Circular Crescent DGS for 5G Applications	168
<i>Vinay P. Bhavi, Preetham. H, Pratik Ukey, Divya. T M, Venkatesha Muniswamy, Shashikumar. D</i>	
EEG based Seizure Detection using Machine Learning & Deep Learning Algorithms	173
<i>S. Leeladithya, Siri Ganesh, K Asha, Akshaya Ramesh, Diya Ghorpade, Ananya Gupta</i>	
Seizure Detection using Hybrid Feature Fusion of Deep Learning Models	179
<i>Akshaya Ramesh, Siri Ganesh, S. Leeladithya, Asha. K</i>	
Design and Analysis of 8-bit Radix-2 Booth Multiplier using RCA, CSA, and CSEL Adders	186
<i>E. Vijaya Babu, K. V. Balaramakrishna, B. Himanth Kumar, C. Shruthi, J. Sai Manideep</i>	

Low-Power 8-Bit ALU Design using Adaptive Clock Gating Technique	193
<i>K. L. V. Ramana Kumari, L. Dharma Teja, Sk. Harshad Pasha</i>	
Impact of Dielectric and Metallic Refractive Indices on Far Field and DFT Characteristics of Opal Photonic Crystal Lattice Structures	199
<i>D Sheela, N P G Bhavani</i>	
AI Guided Design of Frequency-Tunable Microstrip Patch Antennas	207
<i>Sanath Kumar, M N Shreyas, S Bindu, M K Prashanth, P Rekha</i>	
Efficient Signature Forgery Detection System using CLAHE-Enhanced VGG16 Model	213
<i>Sushmitha. K M, Sneha Bharti, Vani Harave, Lakshmi. K, Ch. Vanipriya</i>	
Adaptive Scheduled OFDMA with Micro-Windows Airtime Slicing (ASOAS) for Congestion Control and QoS Enhancement in Wi-Fi 6 Networks	219
<i>A Sowmia, G. S. R. Emil Selvan, M. P. Ramkumar</i>	
Edge-Optimized Multi-Modal Deep Learning for Real-Time Object Recognition and Threat Prioritization in Drone Systems	226
<i>Rajeswary. K, Santhakumar. D</i>	
Agentic AI for Conversational Flight Reservation Systems	233
<i>Su. Rishwanth, L Yashwanth, R M Shiny</i>	
Investigation of the Impact of TF/SF Boundary Placement on RCS Prediction Accuracy	238
<i>D Sheela, N P G Bhavani</i>	
Design and Implementation of Dual-Mode Digital Frequency Converter for SDR on FPGA	244
<i>P. Kishore, Abhigyna Thota, Sindhu Sangani, S. Rajendra Prasad</i>	
Low Light Image Enhancement: An Innovative Approach for Uneven Illumination Correction	251
<i>Chinthakindi Kiran Kumar, Gaurav Sethi, Srinivas Talasila, Veggalam Shivaraj Kumar, E. Mahender Reddy D. Santhosh Kumar</i>	
EfficientNet and Vision Transformer Fusion for High-Precision Deepfake Image Identification	257
<i>Srinivas Talasila, Vijaya Kumar Gurralla, Varshini Matta, Madhuri Musthyala, Siva Sai Balla</i>	
Verbofix - A Deep Convolutional Framework for Real - Time Stammering Detection and Inclusive Speech Recognition	264
<i>S Gayathri, C. N. S. Vinoth Kumar, K Lalitha, S Kamal Raj, G Arun, S Vasanth</i>	
ARL-BCS: A Lightweight Distributed Blockchain Storage Architecture with Adaptive Redundancy for Internet of Things Big Data Systems	270
<i>M. Nareshchoudary, Prateeksha N. Siddhanti, D. Balamurugan, S. Nagaraj, Mukesh Soni</i>	
Human Activity Recognition in Wireless Environments using a Lightweight Temporal Attention Fusion Network	276
<i>P. Sreekanth Reddy, Ladly Patel, A. Prithiviraj, Anandan. R, Mukesh Soni</i>	
A Blockchain-Based Academic Credential Equivalency Verification Framework using LEConvBERT and IPFS	283
<i>Sumathy Krishnan, R Surendran, Vasujadevi Midasala, Sundara Rajulu Navaneethakrishnan</i>	

Optimized Machine Learning-Based Multi-Pumped Storage Scheduling for Renewable Grids Using Synthetic Data and Duck Curve Mitigation	289
<i>K Hemachandra Reddy, H Pushparaj, G Balagopal Reddy, S. Chandra Sekhar, G. Sreeramulu Mahesh G. Dilli Babu</i>	
Adaptive Hierarchical Reinforcement Planning for Autonomous System Repair in Intelligent CPS	296
<i>M. Amanullah</i>	
AttentionFusionNet: Residual Attention CNN for Multi-Disease Leaf Recognition Across Diverse Environments	304
<i>Mohan Raju. S K, D. Santhakumar</i>	
Deep Learning Models for Plant Leaf Disease Detection: A Comprehensive Analysis of CNN, Lightweight, and Explainable Architectures	312
<i>Mohan Raju. S K, Santhakumar. D</i>	
Proactive Defense: A Feature-Driven Framework for Identifying SQL Injection Attacks	318
<i>Shegin Savio Ss, Sivaganesh K, Saranya D</i>	
GAN-RIOT: A Lightweight Generative Adversarial Framework for Perceptual Image Reconstruction in Internet of Things based Surveillance Cameras	323
<i>G. Aparna, Sunil Kumar. V, Ch. Rajendra Prasad, Nagesh B. Mapari, Ensteih Silvia</i>	
Construction of Multi-Scale Biostatistical Analysis Framework and its Application in Biomedical Signal Feature Recognition and Classification	330
<i>Pengwei Zhu</i>	
HerbalVerse: Virtual Platform to Explore, Learn and Heal with Medicinal Plants	337
<i>G P Kavya, Vani Harave, Sneha Bharti, Sneha Bharti</i>	
E-LPRNet: An Internet of Things-Integrated Edge Vision Framework for Robust Vehicle License Plate Recognition	344
<i>S. Sreeja, Aniruddha Banerjee, K. Saranya, K J Sahana Devi, P J Arul Oli</i>	
Deep CNN–Stacked LSTM Model with Connectionist Temporal Classification for Automatic Chinese Spoken Language Evaluation	350
<i>Yong Zhang, Junwei Sun</i>	
LAGNet: A Lightweight Attention-Driven Graph Framework with Knowledge Distillation for Image Processing Technology	355
<i>Yue Yang</i>	
MEMS-Integrated Smart Diagnostic Patch for Real Time Cardiovascular Health Monitoring	362
<i>R. Nataraja, R. Sundaraguru</i>	
Design of a Centralized Control Platform for Live-Line Operation Robots in Distribution Networks Combined with 5G Technology	369
<i>Jinwei Lin, Tao Ji</i>	
CAESAR-IoT: Context-Aware Energy and Smart Adaptation for Real-Time IoT-Based Smart Building Management	374
<i>B. Priyavardhini, Sayarnil Banerjee, D. Balamurugan, Srinivasan, R Nishanth</i>	

LH-IDS: A Lightweight Hybrid Intrusion Detection Framework for Efficient and Adaptive Network Security Monitoring	380
<i>Liehua Peng</i>	
A Robust Angle-Uncertain Hybrid Beamforming and Quantized Reconfigurable Intelligent Surfaces Refinement Method for Massive Multiple-Input Multiple-Output Systems	385
<i>M. Satish Kumar, S. Srikanth, S. Vijayashaarathi, Suma Srinath, G. Satish</i>	
Smart Irrigation System With Automatic Watering for plants based on sensor readings using IoT and ML	392
<i>S. Kanimozhi, G. Aruna, R. Aruna, Dharzhitha Thiyagaraj, M. Manosika</i>	
AI-Driven Choroidal Biomarker Discovery and Drug Target Prediction in Retinopathy of Prematurity: An Integrative OCT-B Scan Framework	396
<i>K. R. N. Aswini, Chin-Shiuh Shieh, N. R. Shanker</i>	
Privacy-Preserving Machine Learning Framework for Secure Healthcare Applications	404
<i>Swathi Darla, Kiran Purushotham, G Pranathi, D. N Navya</i>	
Performance Evaluation of 1-Bit RIS Unit Cell with different Ground Plane structure for V2V Communication	411
<i>Snehit Kamatgekar, Vijay Rayar, Vinayak Dalavi, Prabhakar Manage</i>	
LADFFNet: A Lightweight Adaptive Deep Feature Fusion Network for Robust RF Signal Identification in Cognitive Radios	419
<i>D. Latha, Singireddy Anusha, K. Manju, Sujatha Joshi, N. Thivya Priya</i>	
Research on Adaptive Multi-Agent Reinforcement Learning-Based Particle Swarm Optimization	425
<i>Ying Li</i>	
Graph Attention Network with Multi-Objective Weighted Ranking based Personalized Recommendation System for Ideological and Political Teaching Resources in Vocational Colleges	431
<i>Xue Peng, Aini He</i>	
Co-Adaptive End-to-End Synergistic AI for Real-Time Traffic Prediction and Load Balancing in Mobile Networks	436
<i>Ashitha V. Naik, Mohan Manindranadh Areti, D. Balamurugan, N. Jaya Saranya, A. Gowri</i>	
Research on Smart Education System based on Distributed Architecture and Cloud Services	442
<i>Meimei Han</i>	
Image Denoising Network Design Combining Convolutional Neural Network and Transformer	448
<i>Cunxin Xie</i>	
Design and Analysis of Fractal Antennas for Multiband Wireless Communication	454
<i>S. V. Vikas, B V Srinivas, Kshitij Satish, S Bindu, P Rekha</i>	
Low-Cost Prosthetic Arm and Wearable Assistive System for Individuals with Paralysis and Incapacitated	460
<i>G Rajesh, Mamta B. Savadatti, R. Lakshman, R Thanu Shree, Rolly Krishnan, Asmitha Narayana</i>	
Adaptive Hybrid Fusion Framework for Multimodal Signal Integration in Biomedical IoT Monitoring Systems	466
<i>M V Raghunathareddy, Samanthula Pavani Priya, Akanksha, Nagesh B. Mapari, S Mukesh</i>	

Multi-Scale Cross-Attention Vision Transformer-based Remote Sensing using Synthetic Aperture Radar and Multispectral Imagery Data	473
<i>G Shivaprakash, A. Kanakaiah, M S Priyanka, G. Satish, A N Ramyashree</i>	
Hybrid Fused Deep Learning Framework using EfficientNetV2-S, MobileNetV3-S and ResNet50 for Skin Cancer Classification	479
<i>Bharath Venkatagiri, H Likhitha, Ramya G S, G Pradeep</i>	
Integrating LLMs into Smart Home Architecture: Design, Implementation, and Experimental Insights	486
<i>Boobalakrishnan Sadasivam, Kavitha Rajamohan</i>	
Spatial Analysis of Received Power and Interference in Building-Obstructed Wireless Networks	494
<i>Shamanth Vasishta, Sharan Sheshadri, B R Suhaas, P Rekha, S Bindu</i>	
Design of a High Speed and Area Efficient Posit Multiplier	500
<i>P. Kishore, Moturi Srilekha, Koduri Vyshnavi, Reddi Dakshayini, S. Rajendra Prasad</i>	
Food Freshness and Expiry Detection using Deep Learning	507
<i>M Muthusamy, R Ramya, D Dhilip Balaji, G Vishnu Priya, A Kavitha</i>	
Next-Generation Integrated 16-Bit Carry Select Adder for Ultra-Low Latency FPGA Arithmetic Units	514
<i>C Saravanakumar, M Brinda, S Ashwathi, A Charumathi, P Dharshini</i>	
Credit Card Fraud Recognition using Deep Learning and Optimization-Driven RNN Fine-Tuned Coyote Algorithm	519
<i>Dinesh Kumar Budagam, A. T. R. Krishna Priya, N. Ismayil Kani, K. Yogitha, C Sincija S. Harshavardhan Naidu</i>	
VidTranscribe: AI-Based Video Text Translation and Replacement	527
<i>Garlapati Dhatri Naresh, Marripalepu Narasimha Rao, Dusanapudi Monisha, Chintapatla Bhargav B.V. Satish Babu</i>	
Improvised Current Measurement Technique for Bidirectional DC-DC Converter with Single Current Sensor	533
<i>H Swathi Hatwar, K Suryanarayana</i>	
Modelling and Analysis of Battery Thermal Management Systems using Simulink for Electric Vehicles	541
<i>Shreyas. S, Manjunath G. Asuti, Sudarshan</i>	
GaAs HEMT Baseline Framework for Advanced T-Gate RF Device Engineering	547
<i>Vydha Pradeep Kumar, V Priyanka Brahmaiah, Sirigannagari Priyanka, N Neelima</i>	
NL2Database: A Text-to-SQL Framework for Seamless Natural Language Interaction with Relational Databases	554
<i>D Ramya, N Devi, B Preetham Murthy, B Saravana Kumar, K M Sarumathi</i>	
AI-Driven Voice-Assisted Framework for Real-Time Flood Reporting and Analysis	560
<i>D Ramya, S Abirami, R Nivetha, Marielle Catherine George, S Priya Dharshini</i>	
Real-Time Bovine Health Monitoring and Disease Prediction using IoT Sensors	566
<i>S Leela, D Priyanka, D Divya, M Santhiya, V Swasthika</i>	
Comprehensive Analysis of Channel Estimation in Multiple Input Multiple Output-Orthogonal Frequency Division Multiplexing Wireless Networks	573
<i>D. Kavitha, K.S. Rajesh</i>	

IoT-Integrated Multi-Modal Deep Learning for Accurate Plant Leaf Disease Detection	578
<i>S Madhumitha, M N Kavinish, R. Mohanraj, V.P. Kalaiyarasi, R. Poovarasana, K. GogilaDevi</i>	
Evaluate Machine Learning Techniques for Early Disease of Cardiovascular Disease	584
<i>M T Sushmitha, Surabhi Saxena, Neha Singhal</i>	
Skill-Based Recommender System for Internship and Industry Hiring using Knowledge Graphs	590
<i>S Leela, M Naren, T Rahul Choudhary, C Rinu Christy, R SachinSamuel</i>	
Intelligent Sales Forecasting using a Multi-Model AI Approach for Market Adaptation	596
<i>K. P. Siva, R. Dhanashree, R. Gomathi, K. S. Nithika, S. Prasanna Perumal</i>	
HEAL-AI: An AI-Powered Framework to Bridge Patient-Provider Communication Gaps in Healthcare	602
<i>Cholaraja. K, Vishnu Prabu. V, Sudhakar. S, Dharaneesh. S, Dhanabal. D, Deepa. S</i>	
Land Cover Detection and Classification using YoloV5 Model for Better Crop Health Monitoring using Region Attention-aided MCNN	608
<i>S. S. Sivakumar, G. Rosline Nesa Kumari</i>	
An Iterative PRISMA Review of CNN, Transfer Learning, and GANs for Skin Cancer Classification	616
<i>M. Vijaya, Rupesh Kumar Mishra</i>	
Multi-Modal Emotion Recognition using Facial, Speech, and Unstructured Data for Personalized Music and Mental Health Monitoring	622
<i>Vijay Krishna Neeli, Krishna Lalith Ghattay, Sudhamaie Toluchuri, Naga Swaroop Ponnekanti B.V. Satish Babu</i>	
Design and Comparative Analysis of Logic Styles for Low-Power and High-Speed Applications in 45 nm and 90 nm CMOS Technology	629
<i>Neha. S. Hosamath, S Priyadarshini, Nazim Khan, S Bindu, Yasha Jyothi M. Shirur, Subodh Kumar Panda</i>	
AXIOM+: A Dual-Mode Risk Governance Framework for Decentralized Mobile Ad Hoc Networks	636
<i>Jedidiah Aqui, Michael Hosein</i>	
Benchmarking AXIOM+: Quantifying Real-Time, Resource-Aware Security Decisions in MANET Nodes	644
<i>Jedidiah Aqui, Michael Hosein</i>	
AXIOM+: Embedded, Energy-Aware, and Multi-Node Evaluation for MANET Endpoints	651
<i>Michael Hosein, Jedidiah Aqui</i>	
Agentic AI in Distributed Systems: Toward Autonomous, Goal-Oriented Decision-Making in Multi-Agent Environments	656
<i>Swarup Panda, Anita Padhy</i>	
VideoVet: A Browser-Based Multimodal AI System for Real-Time Detection of Violent and Obscene Content in Online Videos	662
<i>M Pown, P A Saai Sabaresh, R Naveen Prasad, S Jai Ganesh</i>	
Enhanced FNN Architecture for Intrusion Detection in Wireless Sensor Networks: Optimized Detection Efficiency	667
<i>Veggalam Shivaraj Kumar, K. Renu, Ch. Venkat Rao</i>	
RAWD-YOLOv8: Robust Vehicle Detection in Adverse Weather and Low-Light Conditions	673
<i>Preetham. N, Sujay Arun Kudtarkar, K. Preethi, Harshitha. V, Viswavardhan Reddy, Rajesh. M, Manasa. M</i>	

Generalizable Secure Code Generation Framework for Robust Software Development Practices	680
<i>Sandana Karuppan. A, Sanjay Shanmugasundaram, Jithesh Mouriya, J Sanjeeth</i>	
A Spatiotemporal Framework for Identifying Deepfakes in Images and Videos with Residual CNNs and LSTM	687
<i>Ayesha Anjum, M Preetha, P V Asha, Dk Reena, T Poornima, P Chaitra</i>	
YOLOv9-Based Marine Oil Spill Detection System: Integration of Deep Learning with AIS Correlation for Operational Environmental Monitoring	693
<i>Ayesha Anjum, Smitha Kurian, C. H. Dhanya, Himanshi Sharma, Ashwini Talwar, Amra Firdose Shaik</i>	
Comprehensive Analysis on Machine learning and Deep learning based Intrusion Detection in the Internet of Things	699
<i>Dayyala Gowthami, S. Edwin Raja, Kalyanapu Srinivas</i>	
Segmentation and Classification of Skin Cancer using Residual Swin Transformer – UNet based Deep Metric Attention Learning Convolutional Neural Network	706
<i>Usha Thirugnanam, Nalini Joseph</i>	
Vision Transformers and Explainable Deep Learning Models for Automated Kidney Disease Classification from CT Radiographs	713
<i>Bukke Deekshith Naik, Rimmalapudi Ravichandra, Konduru Mahesh Raju, Mude Nagarjuna Naik, Sriramkumar. R, Lakshmanan. M</i>	
Circular Patch Antenna using PIN Diode Switch for WSN Application	719
<i>P. Kishor Kumar, S. Yasmin, B. Bhargavi, K. Rajini, S. Asma Swadiya</i>	
Design and Verification of a 16-Bit Multi-Slave SPI Protocol in System Verilog	725
<i>S Priyadarshini, Neha. S. Hosamath, Subodh Kumar Panda, D Smitha Gayathri, S Bindu, P Rekha</i>	
Adaptive AI System for Intelligent Network Threat Analysis and Security Monitoring	733
<i>Ayush Kumar Rai, Shrinivas Suresh Hegde, G Vivek, Priti Mishra</i>	
Comprehensive Research on Trust-Based Clustering and Routing for Secure Network Communication	740
<i>Talari Ashok, Sabout Nagaraju</i>	
Smart IoT Access Management System For Equipment Control using MQTT	746
<i>R. Mohanraj, K. Gogila Devi, S Saravanan, S Bavanandhika, M Abinaya</i>	
Computer Vision Based Anomaly Detection in Industrial Components	752
<i>Advaith Dinesan Pudussery, Alen Roy, Ihsan Rafeeqe Sainudheen, Jithin P Joji, Smitha Kurian</i>	
Energy Efficient FD Cooperative SWIPT-NOMA System Over Rayleigh Fading Channel	757
<i>Kankanala Kavitha, E. Wilvathi, Kiran Kumar Godugu, V. Pradeep Kumar, Shaik Shafi, Udari Naresh</i>	
Homomorphic Encryption for Privacy-Preserving Federated Learning in Medical Applications	763
<i>S Shabana, H S Ranjan Kumar, K Raju, Kiran Puttegowda</i>	
Design and Implementation of a 32-Bit RISC CPU on FPGA using Verilog HDL	770
<i>Iffath Fawad, Sandeep. K V</i>	
Comprehensive Analysis of Diabetes Prediction using Machine Learning and Deep Learning Approach	775
<i>Anil Kumar. S, Nijaguna. G S</i>	

Reliability-Aware Design Approaches for High-Performance Normally-Off GaN HEMTs	779
<i>E. Ramola, J. Charles Pravin</i>	
Computational Social Engineering Attacks Mitigation in Social Media Platforms	786
<i>Nelson Lungu, Lalbihari Barik, Ahmad AbdulQuadir AlRababah, Suchismita Rout, Jatinderkumar R. Saini Sudhansu Shekhar Patra</i>	
Automated Bacterial Petridish Image Segmentation using U-NET Based Framework with Colony Counting	791
<i>Shashikala R, Sachin S Bhat</i>	
Analysis of ECG Signal for the Detection of Arrhythmia and Atrial Fibrillation	796
<i>D N Niranjana, R Tilak Naidu, Vijay Aditya, S Bindu, M K Prashanth, Keerti Kulkarni</i>	
Performance Analysis of PD-NOMA System With Dynamic Power Allocation Over Fading Channels	801
<i>Kiran Kumar Godugu, P. Sandhya, Shaik Shafi, B. Venkata Harshini, M. Kirananjali Devi N. Vasu Deva Sai Laxman</i>	
Unified Artificial Intelligence and Formal Reasoning Approach to Software Security	807
<i>Arif Muhammed, R Shekhar</i>	
AttritionSense: A Transformer-Driven Hybrid Model for Early Detection of Employee Turnover Intent	814
<i>Mohammed Ali Shaik, Panduga Chandana, R. Lakshmi Praseedha, Patha Srija, Kencha Bhavana Kongara Sathwik</i>	
Deep Learning-Based Workforce Prediction System for Ex-Servicemen Career Transition	820
<i>Mohammed Ali Shaik, Bandari Rishmitha, Rahul Reddy, Sai Vardhan Reddy</i>	
Hybrid Multi-Model Ensemble Framework for Robust Echocardiographic View Classification	826
<i>Mohammed Ali Shaik, Adupa Vivek</i>	
COAST: Cost- & SLA-Aware Adaptive SQL Tuning (for Multi-Tenant Analytics)	833
<i>Anita Padhy</i>	
Enhancement and Detection of Early Discovery and Diagnostics Accuracies of Eye Anomalies in Human Eyes with New Hybridized AI and ML Models Image Translation and Classification Techniques	839
<i>Bhagyalaxmi P. Tonge, T. C. Manjunath</i>	
Novel Development of Pre-Processing & Segmentation Strategies from SPIR Images using AI-ML based Hybridization Concepts	847
<i>Daniel Nixon, T.C. Manjunath</i>	
Design, Simulation, and Optimization of EnergyEfficient High-Speed Digital Logic Circuits Employing Adiabatic Logic Principles for NextGeneration Low-Power VLSI Systems	855
<i>Jonnala Subba Reddy, Dilip I. Sangotra, Shubhangi Joshi, Sandeep. K V, M Shwetha, T. C. Manjunath</i>	
Large Language Models in Economic Forecasting: A Comprehensive Analysis of Predictive Performance and Benchmarking Against Traditional Methods for India FY 2025-26	863
<i>Benison Jacob Benny, C K James, Heena Gupta</i>	
Hybrid Ensemble-XAI Framework for Intelligent Livestock Disease Detection	869
<i>Shilpa Mangesh Pande, Sourav Karanth, P. S. Niteesh Heral, Ankith Praveen Bekalkar</i>	

Performance Enhancement of Grid-Connected PV Systems using a Hybrid DENFIS-PID Controlled UPQC	876
<i>Hravan Kumar Yadav, S. Pandimeena, V. Suganya, Jai Ram, Dinesh Ram</i>	
EEG-Based Early Diagnosis of Alzheimer's Disease via Tunable Q-factor Wavelet Transform and Deep Stacked BiLSTM Model	881
<i>Sudhiksha Hanji, Dattaprasad A. Torse, Giridhar Hebbale, Salma Shahapur</i>	
Stable Diffusion with LLM Prompt Engineering and CLIP Filtering for Fine-Grained Image Generation	887
<i>Ayush Fating, Sanika Kundekar, Kiran Shinde, Sanket Mane, Sharmila Kharat</i>	
Comparative Study of Fuzzy, PID, and Fuzzy-PID Control for Thermoelectric Module Temperature Regulation	895
<i>Srushti Vithal Naik, Ketaki Ghodinde, Amruta Deshpande</i>	
Transformer Encoder-Based Sequence Modeling for Effective Video Summarization	901
<i>Surabhi Kharkate, Palak Yerawar, Nilambari Mahajan, Rutuja Udanshiv, Sharmila Kharat</i>	
Elliptic Curve Cryptography with Zero Knowledge Proof based Key Agreement based on Anonymous Identity in Cloud Computing	907
<i>Himanshu Sharma</i>	
Comprehensive Research on Intelligent Energy Storage Management in Isolated PV Microgrids using Deterministic and Metaheuristic Optimization Approaches	913
<i>M. Pushpalathakumari, Abdul Khadar Asundi, Farzana Begum Kalbugi, R M Raghavendra, K Rajashekar</i>	
Empirical Research on Intelligent Energy Management in PV-EV Integrated Smart Grids using Machine Learning and Deep Learning-Based Optimization Approaches	920
<i>Farzana Begum Kalburgi, Abdul Khadar Asundi, PushpalathaKumari. M, Reshma Sulthana. S S Ameer Ahamed. Z</i>	
Privacy-Preserving Elliptic-Curve with Proxy ReEncryption Scheme and ABAC for Smart-Contractbased Healthcare	926
<i>Kumar. M P, Akila. A</i>	
Comprehensive Analysis of Blockchain Technique for Securing Electronic Health Records in Internet of Things	931
<i>Kiranmai Konduru, Kumar Neeraj</i>	
Comparative Analysis of River Water Quality Assessment using Machine Learning and Deep Learning Approach	937
<i>Samaila Kasimu Ahmad, Yogesh Singh Rathore</i>	
Patient Aware Bidirectional-Gated Recurrent Unit Framework for Intensive Care Unit Mortality Prediction	942
<i>G Sindhu, K L Hemalatha</i>	
AAG-NAS-MSCNet: Enhanced Nested Transformer U-Net with Neural Architecture Search and Multi-Scale Classification Network for Brain Tumor Segmentation and Classification	949
<i>H R Prakash Kumar, M D Anitha Devi</i>	
Research on Optimization of Electric Power Investment Decision based on Neural Network	957
<i>Mingyue Bai</i>	

Research on the Prediction of Tourism Short Video Dissemination Trends based on SOM Neural Network	964
<i>Chunyan Han, Ling Lin</i>	
Adaptive Interference Mitigation based Deep Reinforcement Learning for Next-Generation Wireless Communication Networks	970
<i>S. SwapnaRani, R. Uthira Devi, D. Rajashekar Reddy, G N Divyaraj, M Natesan</i>	
Research on Optimization of Electric Vehicle Battery Thermal Management System: Data-Driven Adaptive Control for Energy-Efficient Degradation Reduction	976
<i>Xianhuan Wu, Yifeng Xia, Shuang Xiao</i>	
Maize Seed Classification and Recognition based on Machine Vision and Deep Learning	981
<i>C. Balakumar, S. Nivetha</i>	
A Dynamic Capture Model of User Preferences on Music Digitization Platforms based on Reinforcement Learning	988
<i>Jia Xu</i>	
An Adaptive Artificial Intelligence based Lightweight Image Compression for BandwidthConstrained Mobile Environment	994
<i>Shahebazkhan Pathan, S V Shwetha, Ch. Deeven Kumar, M Senbagan, M P Jyothi</i>	
Pose-Aware Convolutional and Recurrent Framework for Real-Time Basketball Shooting Assistance and Training	1000
<i>Xiaoyan Zhao, Chenweiwen Liu</i>	
Hybrid African Buffalo Optimization with Convolutional Neural Network for Unstructured Social Media Data Processing and Classification using NLP	1006
<i>H. Ramprasanth, M. Rahul</i>	
Adversarially Robust Image Generation Model: Improving the Noise Robustness and Detail Generation Capabilities of StyleGAN3	1013
<i>Shanshan Xu, Weiliang Zhong, Yuanyuan Wang, Xierzhati Kuzhati</i>	
Federated Attention-Encrypted Learning for Privacy-Preserving Medical Image Classification	1018
<i>R. Arangasamy, Venkatesh Kodela, G. Soumya, Swapnil Srivastava, A C Meghashree</i>	
Causal Hardware-Adaptive Search Refinement Framework for Neural Network Architecture Search in Resource-Constrained Systems	1024
<i>Yanzhe Lu</i>	
CoreSense: Advanced Real-Time Smart Machine Health Monitoring and Predictive Maintenance System	1030
<i>Greeshma Arya, Yashika Takkar, Neha Tyagi, Tanya Arora</i>	
Distinctive Analysis of Risk Forecasting Models for Coronary Heart Disease using Random Forests	1036
<i>Priyasmita Das, Joydeep Banerjee, Tiansheng Yang, ChenhaoZhao, Nirupam Das, Lu Wang</i>	
Hybrid Convolutional Neural Network-Transformer Based Edge Artificial Intelligence for Wireless Image Recognition	1044
<i>Sunil Khemka, Arooj Ul Arsh, V. Bhasker Reddy, B. Buvaneswari, Tatiraju V. Rajani Kanth</i>	

Optimization of New Energy Vehicle Power System using Multi-Objective Genetic Algorithm with Adaptive Regulation	1051
<i>Chunfang Shi, Meijuan Wang, Xinyue Quan</i>	
A Dynamic Attention-Guided Multi-scale Fusion Network for Enhanced Hyperspectral-LiDAR Fusion in Remote Sensing	1057
<i>T. Veena, Ann Theres Joy, S. Sunitha, J Rajasubha, G Ravi</i>	
Routing Optimization in Communication Networks using Trust-Aware Deep Reinforcement Learning with Graph Neural Networks	1064
<i>Qingxiao Su</i>	
Zero-Value Acousto-Optical Detection of Drone Insulators	1069
<i>Dongxing Liu</i>	
Low-Light Image Denoising through Lightweight Vision Transformer with Efficient Noise-Aware Block for Internet of Things Vision Systems	1074
<i>G K Madhura, Balaji Salem Balasundram, Shapali Bansal, Nagesh B. Mapari, T. Kokilavani</i>	
Dynamic Barycenter Bridging Network and Twin Support Vector Machine Framework for Communication Fault Diagnosis Systems	1080
<i>Yichen Wang</i>	
TinyML Motion Classification System for Low-Power Smart Bracelets: Deployment and Energy Optimization of Ultra-Lightweight DNNs on MCUs	1086
<i>Junchen Hou, Kang Shao, Lianhao Wang</i>	
Deep Learning-Based Adaptive Signal Modulation using CNN-ADN for Wireless Networks	1091
<i>S. Julia Faith, K. Manju, T M Aruna, R Varsha, Muquitha Almas</i>	
An Attention-Enhanced CNN-BiLSTM Hybrid Deep Learning Framework for Intelligent Network Anomaly Detection	1097
<i>Chao Yang, Qizheng Sun</i>	
Painting Feature Visualization Algorithm based on Data Analysis	1103
<i>Fengping Ruan</i>	
Adaptive Quantum Signal Processing Framework for Secure and Reliable Wireless Communication	1109
<i>R Palanivel, J. Harirajkumar, Ch. Rajendra Prasad, G. Keerthana, M Vinay</i>	
Neural Network-Based Integrated Design and Adaptive Control Framework for Robotic Mechanical Structures	1115
<i>Weiling Xu</i>	
Electrocardiogram Denoising using Multi-Scale Temporal Convolution with Attention Decoder in Wearable Internet of Things Devices	1122
<i>M N Harshavardhana, P. Sirisha, K Gokulnath, G. Satish, N N Baalakumar</i>	
Energy-Adaptive Reinforcement Learning Integrated with Safe Model Predictive Control for Electrical Automation system	1128
<i>Ying Wang, Zhankui Wang, Xingjia Liu</i>	
A Lightweight CNN-Swin Transformer Approach for Channel Estimation and Equalization in OFDM Systems	1134
<i>T. Veena, Sayarnil Banerjee, A. Prithiviraj, Amrutha. P T, Praful V. Nandankar</i>	

Graph Attention Network based Temporal Consistency Learning for Anomalous Vehicle Behavior Detection in Complex Traffic Scenarios	1140
<i>Lin Yin, Peixuan Liu, Danyang Zhang, Han Wu, Taiwei Li</i>	
LCANC: Deep Learning-Based Long-Context Attention Framework for Adaptive Feedback Active Noise Control	1147
<i>Savita Muchakhandi, Sathyanarayana. N, D. Balamurugan, Nayani Sateesh, Ensteih Silvia</i>	
A Deep Learning Framework for Enhanced Target Detection using Multi-Scale and Frequency Features	1154
<i>Yuexia Zheng</i>	
A-GNN-BO: An Adaptive Graph Neural Network Framework for Real-Time Beamforming in RIS-Assisted Multi-BS Systems	1162
<i>J Snigdha, P. Chaitanya, J. Harirajkumar, B Karunakara Rai, L. Vinothkumar</i>	
Lightweight Illumination-Aware Multi-Scale Enhanced Mask-Wearing Detection System based on Artificial Intelligence	1168
<i>Ming Li</i>	
Electrocardiogram Signal Classification using a Lightweight CNN–TCN with Transfer Learning	1174
<i>P. Nagarathna, M. Krishna Chaitanya, Raja Shekhara Chary Marrelli, V. Ruba Devi, G Ravi</i>	
A Real-Time Adaptive Music Performance Assistance and Training System using Attentionbased CNN-BiLSTM with Genetic Optimization	1181
<i>Jiali Yu</i>	
Contrastive Audio Spectrogram Transformer for Robust Recognition of Environmental Acoustic Signals	1189
<i>S. Julia Faith, M. Swathi, K. Manju, A C Ramachandra, G. Satish</i>	
Local–Global Multi-Node Criticality Analysis Framework for Recognition of Key Nodes in Power Communication Networks	1196
<i>Chao Sun, Li Li, Zhao Zihao, Gao Peng Xie, Shengrun Mi</i>	
Safe and Fully-Explainable Approximation Framework for Energy-Aware Signal Processing in Next-Generation Mobile Devices	1203
<i>Amruth Ashok Gadag, Hareesh. K N, Sowmini Bandaru, S. D. Govardhan, Mukesh. S</i>	
Spectrum Allocation for Multiple Users in Wireless Communication Networks using Graph Attention based Contextual Bandit	1210
<i>Zhengxuan He, Chao He, Francesco Frentti</i>	
Simulation of Reinforcement Learning Algorithms for Adaptive Signal Timing based on Vehicle-to-Infrastructure (V2X) Data	1217
<i>Renhe Zhang</i>	
A Lightweight Confidence-Gated Graph Neural Network for Multi-Sensor Fusion in Unmanned Aerial Vehicle Systems	1223
<i>Aysola Sai Chander, Venkatesh Kodela, K. Karthick, Veeranna Kotagi, Praful V. Nandankar</i>	
Interactive Genetic Algorithm–Driven Facial Animation using Blendshape Evolution	1229
<i>Guozhi Wang, Han Xing</i>	

Enabling Translation Capabilities of Large Language Models (LLMs): Contextual Learning based on Multidimensional Cue Word Engineering	1236
<i>Chunlan Jiang</i>	
Lightweight Multi-Agent Q-learning Cross-Layer Optimization in Wireless Internet of Things Networks for Balanced Energy Utilization	1242
<i>I G Naveen, B Mahesh, D. Balamurugan, M Kiruthiga, Harpreet Kaur Thind</i>	
Adaptive Cross-Modal Gated Framework for Intelligent Medical Diagnosis using Multimodal Data Fusion	1248
<i>Huili Chang</i>	
A Bio-Inspired PSO-Based Energy Balancing and Routing Design for Wireless Sensor Networks	1256
<i>K R Lathakumari, K L Hemalatha, Sowmini Bandaru, D. Kesavan, V. Preetha</i>	
Stroke-Attention Module with Patch Graph Neural Network for Recognition of Chinese Characters in Ancient Documents	1262
<i>Tian Zhu</i>	
Decentralized Federated Reinforcement Learning with Adaptive Control for Internet of Things Control Systems	1268
<i>Kumar Neeraj, J. Harirajkumar, Anupama Sindgi, Balasubramani. R, Alka Rani</i>	
Session-Aware Hybrid Graph Neural Network for Precise Recommendation of TikTok Videos	1275
<i>Wen Jia</i>	
Transformer-Based Multilingual Discourse Cohesion Strategy Transfer Pattern Mining and Machine Translation Optimization	1282
<i>Jing Chu, Zhenqi Han</i>	
P-LocNet: A Physics-Informed Residual Learning Framework with Environment-Aware Virtual Anchors for Robust Underwater Localization in Marine Monitoring Networks	1288
<i>S. SwapnaRani, Vishwanath Petli, C Bharathi, Jacob Rubasingh, K. Balageeta</i>	
A Hybrid Graph Transformer-Driven Sports-Assisted Teaching System for Intelligent Movement Evaluation	1295
<i>Guanqiang Li</i>	
Research on Dynamic Visuality under Multimodal Interaction: An Investigation into Interactive Generation Mechanisms	1302
<i>Chunan Yue, Liya Fu, Chang Li, Xu Cong, Kaihan Cui</i>	
IED-PRS: An Intelligent IMU-EMG Deep Fusion Model for Personalized Knee Rehabilitation Scoring	1307
<i>Pradyumna Kodgi, K Sudhakar, Sowmini Bandaru, S. Arun Kumar, R Niranjan</i>	
Copula-Driven Dependency Modeling for Identifying Critical Nodes in Power Communication Coupled Networks	1315
<i>Yanan Wang, Yuhang Pang, Yue Hu, Geng Zhang</i>	
Secure IoT Data Aggregation using Lightweight Homomorphic Encryption and Trust Modeling with Fingerprint Verification	1321
<i>Shubhankar Shilpi, Riaz Ahmed Mohammed Sait, G M Harshitha, Nagesh B. Mapari, Alka Rani</i>	
Semantic-Attention Guided Optimization Framework for Visual Communication Design	1328
<i>Hefei Wang, Haibei Deng</i>	

Transfer Learning Algorithm for Cross-Lingual English-Chinese Grammatical Error Detection based on Adversarial Training	1334
<i>Yuzhuang Shen, Yan Cheng</i>	
Spectral-Aligned Federated Generative Adversarial Network for Synthetic Data Generation in Internet of Things Applications	1340
<i>S. Asha, Riaz Ahmed Mohammed Sait, Zabiha Khan, D Jeyaseelan, Sakthivel Subramaniam</i>	
Temporal Attention-based Multi-Class Fault Diagnosis Network for Power Communication Networks	1347
<i>Liang Ma, Shihao Wang, Depin Lv, Yuanze Mi, Shenyang Xiao</i>	
A Multi-Stage Learning and Fusion Framework for Water Quality Assessment using IoT-Based Sensor Data	1354
<i>Keelagaram Gunaprasad, A Swathi, Sunil S. Harakannanavar, M. Sugumaran, K. Balageeta</i>	
Precise Recommendation of Chinese Cultural Short Videos using a Cultural-Aware Multi-Stage Collaborative Filtering Framework	1361
<i>Qiligeerma, Tingting Niu</i>	
Motion Posture Detection Algorithm and Application based on Computer Vision and DNN	1368
<i>Hengran Meng, Shengyu Shi</i>	
Collaborative Access Technology and Handover Strategies for Satellite Communications and Terrestrial Cellular Networks	1374
<i>Taibo Wang, Meina Zhang, Wenfei Xu</i>	
FLPE-Vision: A Federated Lightweight and Privacy-Enhanced Vision Framework for Intelligent Surveillance Systems	1380
<i>S. G. ShivaprasadYadav, Amit Chaudhary, Pradeep Kumar. S, S. Nandakumar, Sakthivel Subramaniam</i>	
Network Security Threat Detection using MultiScale Convolutional Features and TemporalChannel Attention	1387
<i>Yunfei Cui, Xi Xiong, Meng Zhang, Jiayu Li, Ping Wang</i>	
Application of Data Envelopment Analysis (DEA) in Measuring Resource Utilization Efficiency in Healthcare	1395
<i>Wenyan Jiang</i>	
Real-Time Fault Diagnosis and Knowledge Modeling Application in Distribution Networks based on Deep Learning	1402
<i>Tingting Wang, Chenxi Guo, Mingcan Feng, Hongjun Li, Qiang Jin, Wenru Liang</i>	
Distributed Trust and Multi-Path Blockchain-Based Firmware Update Framework for Internet of Things Devices	1408
<i>R. Gogulan, S. M. C. Subashini, Vidyadevi G. Biradar, K. Gayathri Devi, Mukesh Soni</i>	
Detection of Training Movements in Physical Education using 3D-Aware Spatio-Temporal Graph Transformer	1414
<i>Wentao Yuan</i>	
Multi-Sensor Fusion and Image Quality Optimization in UAV-Assisted Image Acquisition	1422
<i>Qian Guo, Zeng Wei</i>	
Deep Learning-Based Prediction Model for Time Series Data of Physical Fitness Indicators	1428
<i>Jie Liu, Zhongyuan Lyu</i>	

AFTR-HAR-Net: Adaptive Fusion and Temporal Reasoning Network for Robust Human Activity Recognition	1434
<i>D. Chandra Prakash, Ann Theres Joy, Sowmini Bandaru, Balasubramani. R, Sakthivel Subramaniam</i>	
Digital Inheritance Platform for Traditional Chinese Medicine Culture using Cultural-Aware Contrastive Graph Recommender	1442
<i>Pengqi Sun, Xiuli Yang, Junjie Chen, Changrui Zhang, Tongtong Gong, Ruixue Wang</i>	
Digital Navigation System based on Virtual Reality and Computer Vision	1448
<i>Jian Zhao, Fan Yang</i>	
Intelligent Environment Interaction Design based on Reinforcement Learning	1454
<i>Yi Fu, Yunfei Guo</i>	
Real-Time Smart Retail Analytics through Fog Computing using the RetailLightNet Lightweight Model	1459
<i>Mayank Atreya, Navin Chhibber, Shilpa Ajay, R Loshini, K Anitha</i>	
HRCL-3D-U-Net: A Hierarchical Region-Constrained 3D U-Net for Medical Image Segmentation	1465
<i>Lei Xu</i>	
Research on Key Technologies for Ultra-Low Latency Communication in Internet of Vehicles Supported by 6G	1473
<i>Enhui Bai, Chenyi Ye, Yanan Wang, Yizhuo Li</i>	
Lightweight Spectral–Spatial Attention and Tucker Decomposition for Label-Free Hyperspectral Anomaly Detection	1480
<i>Venkata Siva Kumar Tankani, Subhra Chakraborty, J. Dhayanithi, S Sangeetha, V. Preetha</i>	
RTE-XNet: Real-Time Environment Cross-Integration Network for Network Intrusion Detection	1487
<i>Yunbo Wang</i>	
Neural Machine Translation Error Correction and Optimization System Driven by Machine Learning and Hybrid Algorithms	1495
<i>Xuefei Meng</i>	
Application of Artificial Intelligence Technology based on Python in Machine Vision Feature Extraction	1500
<i>Jinglin Zhu, Jingjing Li, Lina Ma</i>	
Self-Healing Internet of Thing Systems using Adaptive Latent Graph Restoration Network	1506
<i>Shubhankar Shilpi, Venkata Siva Kumar Tankani, Lavanya S P, R. Ranjitha, A Vaishnavi Dali</i>	
A Tiny-Object-Guided YOLOv8 Approach for Behavior Recognition of Artificially Raised Chinese Giant Toads	1513
<i>Fengming Dou</i>	
Real-Time Crowd Detection and Multi-Target Trajectory Statistics Method for Drone Intersections based on Improved YOLOv8	1520
<i>Dong Chen, Guixin Pan, Jie Huang, Kang Kang</i>	
Empirical Research on Facial Deepfake Detection: Taxonomy, Challenges, and Future Directions	1525
<i>P Supriya Kulkarni, N S Pradeep Kumar</i>	

Constraint-Aware Multi-Agent Proximal Policy Optimization for Intelligent Indoor Layout Optimization	1532
<i>Hongying Qu</i>	
Construction and Validation of Power System Transient Stability Assessment Model based on Convolutional Neural Network (CNN)	1539
<i>Yang Jiang</i>	
Application of Improved Isolation Forest Algorithm in Residential Electricity Consumption Anomaly Detection	1545
<i>Xiaofeng Lu, Min He, Sheng Zhao, Haohan Qian</i>	
Multi-Scale Deformable Convolutional Long Short-Term Memory Model for Satellite Cloud Image Prediction	1551
<i>Chun Gan, Hao Huang, Hao Wu</i>	
Deep Temporal Longitudinal Value Assessment Model for Long-Term Value Analysis and Sustainability of Data Assets	1557
<i>Zhijiao Chu, Chunli Wang</i>	
Construction of an Immersive Evaluation System for Design Solutions based on VR/AR and Eye Tracking Technology	1563
<i>Yi Fu, Yunfei Guo</i>	
Transformer-based Diffusion Model with Structure-Aware Learning Rule for Music Creation	1569
<i>Jie An</i>	
Millimeter-Wave Low-Noise Amplifier Design and Package Parasitic Suppression Technology for 6G Communication Systems	1575
<i>Jun Chen</i>	
A Hybrid Data Security Encryption Framework using Modified AES	1581
<i>Yong Liang</i>	
Elastic Fault-Tolerant Architecture and Performance Verification of Cloud-Native Logging Platform based on CRD and Operator	1587
<i>Qizeng Sun</i>	
Grid Automation Control using Reinforcement Learning	1594
<i>Bin Li, Yuhang Lei, Minna Dou, Xiaoqiang Chang, Lujin Wang, Zekai Qiu, Lirong Wang</i>	
Dynamic Prediction Algorithm for New and Existing Roadbed Settlement by Fusing InSAR Time-Series Data and CNN	1600
<i>Feng Cao, Xue Liu, Yiming Yu</i>	
FA-cGAN: Feature-Aware Conditional Generated Adversarial Networks for Enhance Network Traffic Anomaly Detection	1606
<i>Jinming Zhang</i>	
Equipment Operation Status Monitoring based on Internet of Things Technology	1612
<i>Lina Chen</i>	
An Attention-Enhanced Convolutional Neural Network for Vocal Performance Evaluation	1617
<i>Yuanyuan Hu, Yezhi Liu</i>	

Railway Signal Fault Diagnosis using Few-Shot Learning with Knowledge-Aware Prototype Enhancement	1623
<i>Rangcao Cai</i>	
Application of Improved Multi-Agent Deep Reinforcement Learning (MADRL) in Dynamic Game Modeling of Inter-Provincial Electricity Mutual Aid and Construction of Trading Strategy Simulation System	1630
<i>Zhongyang Chen State, Min Wu, Zhen Bao, Fei Du, Xinyan Xiang, Yue Gu, Gaowei Liu</i>	
Spatiotemporal Transformer with Enhanced Differentiable Dynamic Time Warping (SoftDTW) for Digital Sports Action Teaching Platform	1636
<i>Minghui Gao, Duo Jing</i>	
Convolutional Neural Network-Based MicroMotion Detection and Mechanized Construction Quality Monitoring System for Transmission Line Projects	1642
<i>Zhiwei Liu, Xiaogang Li, Wangxin Cai, Jianping Cheng</i>	
Improved Random Forest Algorithm for Smart City Energy Consumption Prediction and Supply and Demand Scheduling Optimization	1648
<i>Jianwei Ning</i>	
Closed-Loop Neuro-Adaptive Counter-Terrorism Training Model for Virtual Reality based Brain Computer Interface Simulation	1655
<i>Yang Liu</i>	
Intelligent Connected Vehicles: Distributed Decision-Making Algorithm for Dynamic Obstacle Avoidance of Multi-Agent Vehicles under Vehicle-Road Collaboration	1660
<i>Xianglin Song</i>	
Enhanced Ant Colony Optimization–KMeans and Reinforcement Learning Framework for Optimizing Tennis Training Programs	1665
<i>Yu’An Sun, Han Gao, Jun Chen, Hao Jiang</i>	
Intelligent Fault Diagnosis for Electronic Information Equipment: Improved Convolutional Neural Network and Multi-Sensor Data Fusion	1671
<i>Lingdong Mei, Shuo Wang</i>	
Compression Algorithms for Computer Network Transmission in Virtual Reality Scenarios-Neural Network-Based Dynamic Rate Control	1678
<i>Zhitao Wang</i>	
Temporal Deep Learning Architecture for Fault Diagnosis in Photovoltaic Power Generation Systems	1684
<i>Hang Zhang, Xiangdong Liu, Xiaoli Hou, Dongmei Ouyang</i>	
Lightweight Neural Network Compression Algorithm for High-Resolution Geographic Information Data	1691
<i>Liming Lin, Ying Jiang, Zhibin Huang, Xirong Lv</i>	
VR-Based Shooting Training System using Deep Learning and Adaptive Reinforcement Learning	1697
<i>Guozhong Qu, Ganglin Luo</i>	
LSTM-Based Railway Signal System Failure Prediction Model: A Methodology for Enhancing Diagnostic Timeliness and Accuracy	1703
<i>Yuan Wu</i>	

Design and Application of an Attention-Enhanced Temporal Framework for Intelligent Shooting Training Systems	1709
<i>Guozhong Qu</i>	
Green Procurement Oriented Carbon Emission Accounting for Power Grid Enterprises	1715
<i>Changtao Xie, Lin Deng, Zhitao Tang</i>	
Intelligent Shooting Training System using Sensor-based Motion Capture and Feedback	1722
<i>Guozhong Qu</i>	
English Speech Recognition using Harmonic Feature Encoding and CNN-Bi-LSTM	1727
<i>Xiang Li</i>	
Comprehensive Analysis of Lung Cancer Detection using Deep Learning Approaches	1734
<i>N. V. Ramya Devi Kotla, Suresh Babu Mudunuri</i>	
An Analysis of Medical Image Compression and Encryption Techniques for Medical Applications	1738
<i>S Swarnamba, K S Manu, Nataraj, G L Swarnalatha</i>	
Development and Design of Intelligent Bots for an Effective Smart Education System using Improved Generative LLM Algorithms	1746
<i>Nelloju Priyanka, S. Rama Krishna</i>	
Enhanced Network Stability and Lifetime in Mobile Wireless Sensor Network through Fuzzy Golden Jackal-Based Clustering and Arctic Puffin-Based Routing	1752
<i>Kolukuluri Srilatha, Shivani Yadao, Potu Narayana, P. Rishitha, P. Abhishek Goud</i>	
Ensemble Hybrid Learning Network for Chronic Disease Prediction using Multiple Patient Datasets	1759
<i>Gogula Divya, Rameshbabu Akarapu</i>	
Design and Development of Agro-Climatic Conditions using Machine and Deep Learning Algorithms	1766
<i>Maya B. Dhone, Naramula Venkatesh</i>	
Resource Management in Fog Computing using Deep Learning	1773
<i>Potu Narayana, B. V. Ramana Murthy, Y. V. S. Sai Pragathi, Karadi Keerthi, Vuppu Padmakar</i>	
Intelligent and Efficient Framework for Mitigating Attacks in the Perception-Execution Layer of CPS	1779
<i>Preeti Prasada, Srinivas Prasad</i>	
Early Prediction of Dementia Diseases using Explainable Learning Frameworks	1785
<i>Sruthi Thota, N. Sharmila Banu</i>	
DenseNet-121-Based Deep Learning Framework for Accurate Detection and Classification of Lung Fibrosis	1791
<i>B. Girirajan, S. Prabu, G. Visalaxi, M. Sasikala, D. Regan</i>	
Enhance Face Morphing Detection for Biometric Security using Local Binary Patterns and Support Vector Machines	1798
<i>Kothapalli Seshadri Ramana, M. K. Pushpa, Gurusigaamani Ayyanar Muthulingam, S. Gomathi Meena, S. Tamilselvi, L Natrayan</i>	
Multi-Objective Evolutionary Framework for Prediction in PV-Integrated Microgrids with Electric Vehicles in Modern Power Systems	1806
<i>G. Sireesha, M. Sindhu, R Balasubramani, P Ganesh, G. Satish, L Natrayan</i>	

Artificial Bee Colony Optimization Algorithm based Unified Power Quality Conditioner in Grid Connected Renewable Energy Systems to Improve Power Quality	1813
<i>Rajeev Varma Rajakakarlapudi, Divya Mishra, Balasubramani. R, Praful V. Nandankar, G. Satish L Natrayan</i>	
Adaptive AI Framework for Software Defect Detection using Stacked Ensembles and RL	1821
<i>Nithyashree, R Vr. Nagarajan, Kaliappan, Nallam Krishnaiah, Thanuja. M, Natrayan. L</i>	
Deep Learning-Based Framework for Accurate Lung Disease Detection and Classification using XRay Images	1829
<i>B H Swathi, Shalet Benvin, R Arvind, Nayani Sateesh, M Thanuja, L Natrayan</i>	