

2025 IEEE International Conference on Emerging Technologies and Applications (MPSec ICETA 2025)

**Gwalior, India
21-23 February 2025**



**IEEE Catalog Number: CFP256B5-POD
ISBN: 979-8-3315-2132-5**

**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:	CFP256B5-POD
ISBN (Print-On-Demand):	979-8-3315-2132-5
ISBN (Online):	979-8-3315-2131-8

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

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Design and Development of Machine Vision-Driven Robotics System for Safe and Efficient Inner Pipe Inspection.....	1
<i>Tejesh Matonkar, Saif Taiab, Nirali Solanki</i>	
A Study of Machine Learning Techniques for Predicting Equipment Failures in Industrial Maintenance.....	7
<i>Hiranmaye Sarpana Chandu</i>	
RenoBridge: A User-Centric Platform for Streamlining Contractor-Homeowner Collaboration.....	13
<i>Lee Ping How, Tarak Nandy, Ismail Ahmed Al-Qasem Al-Hadi</i>	
Assessing the Performance of Machine Learning Approaches for Cyber Attack Detection to Improve Cybersecurity.....	19
<i>Sumeet Mathur, Himanshu Sinha, Mani Gopalsamy, Sandeep Gupta</i>	
Mitigating the Effect of Shadows in Vision-Based Industrial Robot.....	25
<i>Aryan Bhaskar, Priyal Mehta, Atharva Mahadeshwar, Shruti Singh, Amey Raut, Sapna Shah</i>	
Cross-Lingual Semantic Integration: Enhancing Document Retrieval Through Vector Space Models (VSM) and Machine Translation.....	31
<i>Anuska Palit, Dhanpratap Singh</i>	
MAIA - Malware Analysis and Intelligence Assistant.....	37
<i>Heli Naliapara, Puru Singhvi, Pratham Shukla, Sulalah Mirkar</i>	
Automated Waste Segregation to Optimize Recycling Efficiency Using YOLOv11 Approach.....	43
<i>Aaditi Ghodke, Girija Giri, Manvi Ankalgi, Lavanya Kamble, Pawan Wawage</i>	
Advanced Deep Learning Techniques for Precision Diagnosis of Tea Leaf Diseases.....	49
<i>Md Zakirhossain, Md Munsur Khan, Sanjog Thapa, Roise Uddin, Erin Jahan Meem, Saffat Kamal Niloy, Mainuddin Adel Rafi, Md Sahria Jaman Shazib, Md Firoz Kabir, Girigula Durga Bhavani</i>	
Advanced Classification of Diabetic Foot Ulcers Using Custom and Deep Learning Models.....	55
<i>Md Zakirhossain, Md Munsur Khan, Sowad Rahman, Sazid Rahman Kazi, Yearanoor Khan, Mohammad Mahmudur Rahman, Md Firoz Kabir, Roise Uddin, Md Nafis Azad Nobel, Girigula Durga Bhavani</i>	
An Improved Faculty Management System for Universities: FacultyStream.....	61
<i>Salman Abdulhafiz Mohamed Ibrahim, Tarak Nandy</i>	
Multi-Level Attention Driven GAT for Recommending Top Profitable Stocks and Sectors.....	67
<i>Ashitosh Phadatare, Mauli Mehulkumar Patel, Biju R. Mohan, Chaithra</i>	
Automated Social Media Sentiment Analysis Through Novel User-Generated Content on Major Social Media Platforms.....	73
<i>J. Vijaya, Harshvardhan Sharma, Shantanu Gupta</i>	
Scalable Data De-Duplication and Retrieval Using Public Key Encryption and Keyword Search Mechanisms.....	79
<i>P. Sathish, Dharani Parameshwar Hegde, M R Dileep</i>	

Secure and Anonymous Crime Reporting Using Smart Contracts	84
<i>Arghya Maji, Ananya Gupta, Junaid Alam, Soumyadev Maity</i>	
AI-Assisted Second Harmonic Generation Microscopy for Detecting Corneal Edema	90
<i>Siddhartha Choubey, Dipti Jaiswal, Abha Choubey, Manuraj Jaiswal</i>	
Application of Transfer Learning to Predict Prices of Emerging Cryptocurrencies	95
<i>Yashveer Tiwari, Aarushi Sharan, Vaishnavi Dachawar, Kanishk Punekar, M. R. Jansari</i>	
Swin Transformers for Remote Sensing SAR Image Classification.....	101
<i>T. Meena, J. Vijaya, B Harsha</i>	
Impact of Yoke Thickness Variations on Operating Performance of Switched Reluctance Motors: Quantitative Analysis.....	107
<i>Atul Kumar Singh, M R Sindhu, P Balakrishnan</i>	
Alcohol Detector and Engine Locking System Using Arduino Uno and MQ3 Sensor	113
<i>Tanish Bhatt, Shubham Bhatt, Rishabh Nolkha, Tangudu Ramji</i>	
CASE Typing: Interactive Learning Through a Typing Game	119
<i>Christopher Aseer J Albert, Earnest Ebenezer, Angelin Daniel, Satyajit Gahan, Nupur Gaikwad</i>	
Student Performance Prediction System Using Machine Learning.....	125
<i>Leong Yew Wei, Tarak Nandy</i>	
An Evaluation of Machine Learning Approaches for Android Malware Detection to Enhance Cyber Security.....	131
<i>Sumeet Mathur, Himanshu Sinha, Mani Gopalsamy, Sandeep Gupta</i>	
Structural Digital Twin-Based Framework for Real-time Health Monitoring	137
<i>Aditya Raj Dubey, M. Mahammad Yousuf, T. Jothi Saravanan, S. R. Dash</i>	
Waveform and Mel-Frequency Cepstral Coefficients (MFCC) Approach for Deepfake Audio Detection	143
<i>Sunny Singh, Nitesh K Bharadwaj</i>	
U-Transformer Driven Brain Tumor Recurrence Prediction Using Radiomic Feature Extraction	149
<i>Afna Rh, T Jarin, Swapna B. Sasi</i>	
EduBot: A Cloud-Based Chatbot for Student Assistance, Built Entirely on AWS	155
<i>R Swathi, P Jaiadithya, K Jagan</i>	
Integrating Visual Data in Conversational AI: A Study on LangChain Custom Tools for Image-Based Interaction.....	160
<i>Ahsan Kabir Nuhel, Adnan Sabith Taha, Muhammad Ibrahim, Marisha Islam Oishy, Chinmoy Mondol, Md Tashanul Iqbal Sifat, Mehnaz Chowdhury, Ambuj Kumar</i>	
Optimizing Agriculture in Arid and Semi-Arid Region Using Remote Sensing: A Review.....	166
<i>Laxmi B Rananavare, D C Saravana Kumar, Abhishek R Prasad, Ankush Hegde, B N Pavan</i>	
Optimal Pneumonia Detection Using X-Ray Images and Tabular Patient Data.....	172
<i>Krosuri Lakshmi Revathi, Cheekala Balaji, Loya Lakshmi Naga Venkata Sathvika</i>	

A Network Based Intrusion Detection System for Internet of Medical Things Using Deep Learning Approach	178
<i>Om Prakash Yadav, Deepak Kumar Singh, Mayank Parashar, Manik Chandra Pandey, Ganesh Kumar Yadav, Shashi Bhushan</i>	
Innovating Network Security: Federated Transfer Learning for Intrusion Detection	184
<i>Rajdeep Das, Arjun Ghosal, Arunava Kundu, Indrajit De, Amitava Nag</i>	
Enhancing Data Security and Privacy with a Modified Paillier Cryptosystem: A Lightweight Approach to Additive Homomorphic Encryption.....	190
<i>Gaurang Singh, Parth Sharma, Vrinda Manchanda, K Valarmathi</i>	
Estimating Stockpile Volume Using Drone Photography: A Marker-Based Approach	196
<i>Bhanu Pratap Patel, Ashish Gupta, Pushparaj Mani Pathak</i>	
Physics-Informed Machine Learning for Predicting Remaining Useful Life of Aircraft Engines: A Robust Framework for Risk-Aware Maintenance	201
<i>Amith Srivatsa, Vishwa Iranna B Goudar, Thumma Naveen, Rashmitha Madhavi Peri, Debjani Kangsa Banik, M Rajesh Kumar</i>	
Fog Driven IoT Framework for Critical Patient Health Care Monitoring System	207
<i>M. Anand Kumar, M. Renuka Devi, P Sudha, K Kumari, K Parishruth</i>	
Cyber Physical System Based Wearable Health Monitoring Device for Defense Applications.....	213
<i>Anubhav Kumar Pandey, Simarpreet Kaur, Gaurav Kumar Bharti</i>	
Enhancing Public Access to Legal Knowledge in India: A Legal Chatbot Using Legal BERT, GPT-2, and Retrieval-Augmented Generation (RAG)	218
<i>Abhinav Garlapati, Hemanth Koutharapu, Neha Doddi</i>	
Outage Performance of Ambient Backscatter-Enabled V2V Communication Systems Over Cascaded Rayleigh Fading	224
<i>Ashutosh Rastogi, Suneel Yadav, Radhika Gour, Neetesh Purohit, Devendra S. Gurjar</i>	
Efficient Autonomous Drone Landing: A Computer Vision Approach Optimized for Low-Power Platforms	229
<i>Dhananjay Arne, Soumitra K Nayak</i>	
A High Resolution Multi-Exposure Stereo Event-Intensity-Depth Database of Natural Scenes.....	235
<i>Sally Khaidem, Rohit Choudhary, Mansi Sharma, B Sankaranarayanan</i>	
2.4GHz CMOS Class AB Low Power Amplifier with High Power Gain.....	240
<i>Samala Mrunalini, Swapnasri Gurrarn, Anjali Priya</i>	
Design Optimization and Cost Benefit Analysis of an Experimental UAV Based Spraying System	245
<i>Paawan Kumar, Snehal Rajput, Suneel Yadav, Pritish Kumar Varadwaj</i>	
Secure and Anonymous Data Access in Smart Healthcare Applications Using Blockchain, LSR-KLA, and TSPP-SS	251
<i>Romil Jain, P S Raghavendra Rao, Komal Madhukar Birare, S. Kannimuthu, Nipun Setia, T Vignesh</i>	
Artificial Neural Network-Founded Big Data Solution for Accurate Heart Disease Analysis and Cataloguing	257
<i>B Umamaheswari, Prateek Aggarwal, D T Arunkumar, Shreeya Swagatika Sahoo, S. Kannimuthu, Akhilesh Kalita</i>	

Optimized Energy-Efficient Secure Data Transmission in Smart Healthcare Applications Using PC2-ECC, TD-K-Means, and NTLM-LS-RSA.....	263
<i>C Shakeela Banu, Suneeta Satapathy, A. Sivanantham, Aseem Aneja, Sidhant Das, T Vignesh</i>	
Maximal Overlap Discrete Wavelet Packet Transform for ECG Signal-Based Cardiac Ailments Classification.....	269
<i>K. K. Senthilkumar, Lakshya Swarup, B. R Sampangi Rama Reddy, Madhusree Kuanr, P. K. Miniappan, Rajeev Sharma</i>	
Low-Cost Wearable Sensor System and BI-LSTM-HMM for Effective Monitoring and Detection of Food Intake Events.....	275
<i>Sahil Khurana, Y S Srisathirapath, Kanika Seth, M Manjula, Pubali Chatterjee, P. K. Miniappan</i>	
Utilizing Digital Data and Soft Computing Techniques for Comprehensive Behavioral Addiction Analysis and Monitoring.....	281
<i>Manoranjan Parhi, K. Yuvaraj, Rahul, R. Jayadurga, Pradeep Marwaha, Roopa Traisa</i>	
AI Assisted Cloud Resources Allocation for Edge Computing.....	287
<i>Sai Krishna Khanday</i>	
Machine Learning-Based Classification for Effective Recognition and Examination of Epileptic Seizures.....	293
<i>Ashmeet Kaur, R Manjunatha, Lambodar Jena, M. S. Gowtham, Ayush Gandhi, E Aswini</i>	
Study of Electron and Hole Qubits in Siligene Monolayer: Ab Initio Calculations.....	299
<i>Obraczov Kirill, Chibisov Andrey, Srivastava Anurag</i>	
A Mobile Application for the Early Detection of Dolichos Yellow Mosaic Virus in Lablab-Bean Using Pre-Trained CNN Models and Deep Learning.....	303
<i>Parthasarathy Seethapathy, M. Kannan, G. Gopakumar, V. S. Manivasagam, Sudheesh Manalil</i>	
Effect of Electron Qubit on Quantum and Magnetic Properties of MoS2 Monolayer.....	309
<i>Andrey Chibisov, Svyatoslav Bulakh, Anurag Srivastava</i>	
Leveraging Digital Data and Soft Computing Techniques for Advanced Mental Health Analysis and Intervention Strategies.....	313
<i>Malatesh Akkur, Bijay Kumar Paikaray, C. Mukuntharaj, Pratibha Sharma, S Sheril, Amritpal Sidhu</i>	
Emotional Health Analysis Using Digital Data and Soft Computing Techniques: A Comprehensive Approach to Understanding Emotional Well-Being.....	318
<i>P. Gajendran, Nipun Setia, Gayathri C, Nitish Vashisht, Manashree, Srija Chakraborty</i>	
Comprehensive Behavioral Health Analysis Using Adaptive Neuro-Fuzzy Inference Systems and Soft Computing with Digital Data.....	323
<i>Meenakshi Das, D. Bhanu, Akhilesh Kalia, J Praveena, Lakshya Swarup, Sujayaraj Samuel Jayakumar</i>	
An Ensemble-Based Approach to Lung Cancer Prediction and Accuracy Improvement.....	328
<i>Jaspreet Sidhu, N Divya, Gunveen Ahluwalia, B. S. Babitha, Swagatika Tripathy, M. Vigenesh</i>	
Region of Interest (ROI) Analysis in EEG Signals for Depression Detection Using Machine Learning.....	334
<i>K. S. Bhuvaneshwari, Vaibhav Kaushik, Srisainath R, Ayaan Faizumakanth S, Umakanth S, Sarada Prasanna Pati</i>	

Analyzing Sleep Quality Through Digital Data Insights and Soft Computing Methods for Enhanced Evaluation.....	340
<i>Gourav Sood, S Varalakshmi, Bhandari Mahesh Ashok, S. Ram Prasath, Preetjot Singh, S Srividhya</i>	
Leveraging Bio-Inspired Metaheuristics for Effective Congestion Control in Wireless Sensor Networks	346
<i>V Janakiraman, Mohit Gupta, K Lakshman, Lilapati Waikhom, D. Bhanu, Shriya Mahajan</i>	
Explainable AI for Leukemia Diagnosis: Interpreting Optimized Deep Learning Models for Improved Clinical Decision-Making	352
<i>R Reena, Varun Ojha, Baishakhi Debnath, Santosh Kumar Samarwar, S. Arul Antran Vijay, Nittin Sharma</i>	
An Explainable AI Framework for Vision-Based Human Fall Detection in Fog Infrastructure.....	358
<i>Anila Bajpai, Gaurav Yadav, V. P. Arul Kumar, Manisha Chandna, R Srisainath, Noopur Pandey</i>	
Comprehensive Security Model for Medical IoT: Hybrid Encryption and User Authentication for Data Protection	364
<i>M. Kulanthaivel, Pavas Saini, Manas Kumar Mallick, Lakshya Swarup, K Venkadeshwaran, Veena S Badiger</i>	
Efficient Data Classification Model with Optimal Feature Selection for Predicting Chronic Kidney Disease	370
<i>Pachayappan R, P. N. Ramesh, Prabhjot Kaur, Debahuti Mishra, Kanika Seth, M K Aravindan</i>	
Classification and Diagnosis of EEG Signals for Epilepsy Detection Using a Proposed CNN-FCM Approach	376
<i>H Adarsha, N Vasantha Kumari, N. Kalidas, Jaspreet Sidhu, Binod Kumar Pattanayak, Hitesh Kalra</i>	
UAV Based Farm Inspection Using Deep Learning	382
<i>Katta Rajat, Kumar Sheshank Shekhar, Harsha Avinash Tanti, Abhirup Datta</i>	
Harnessing Generative Adversarial Models to Enhance Satellite Imagery Quality.....	387
<i>Vrinda Pujara, Om Patel, Ritesh Vyas</i>	
Enhanced Cricket Commentary Using AI Vision and Multilingual Translation.....	393
<i>N Md Sameer, K Jayavardhan, Oviya Ramalakshmi Iyyappan</i>	
Optimizing Sum-Rate in RIS-Assisted Multi-User OFDMA Systems with Time Switching-based Non-Linear Energy Harvesting.....	399
<i>Mahendra Tyagi, Sumit Gautam</i>	
Advanced Machine Learning and Deep Learning Techniques for Gujarati Sign Language Recognition	405
<i>Vivek Moliya, Om Prakash Suthar, Nikhil Pankhaniya, Dhyey Hansaliya, Abhishek Tiwari, Upasana Tiwari</i>	
Improving Iot Efficiency by Noma: Delay Minimization in Massive Networks.....	411
<i>Y Meghamala, Toldi Abhay Sai, Shaik Farhatunnisa, Shirisha Pichiguntla</i>	
Robotic Manipulator Control Algorithms for Assembly Lines.....	417
<i>E Pavani Akshaya, S Vyshnav Kumar, Anand Mohanan, Mukhirathinam, V. M. Akhil</i>	

Voice Controlled Spoon Feeding Robotic Arm for the Elderly	423
<i>Sreevalliputhuru Siri Priya, Penneru Shaswathi Sanjana, Jayanthi Vinay Kumar, Chinthala Bhuvanesh, V M Akhil</i>	
Intelligent Transport Simulation and Performance Evaluation in VANET Using Automotive Collision Routing	429
<i>V. M. Niaz Ahamed, K Sivaraman</i>	
Deep Reinforcement Learning Driven Control and Optimization for Cyber Physical System in Smart Manufacturing.....	434
<i>Shagufta Ali, Naghma Ali, Vineet Misra, Deeptanshu Dwivedi, Sandeep Kanaujia, Sandeep Gupta</i>	
Improving SCADA Cyber Security: A Deep Learning Technique for Anomaly Detection.....	440
<i>G. C Madhu, S. Sivakumar, S. Sree Hari Raju, M. Sonia, Ks Chakradhar, Sandeep Gupta</i>	
Cost Effective Machine Vision System for RealTime Defect Detection and Energy Efficiency in Learning Factories	446
<i>D. Deepa, Yoganand S, N Balaji, Kamanasish Bhattacharjee</i>	
Improved Intrusion Detection in Cyber-Physical Systems with Explainable AI and Hybrid Optimization.....	451
<i>M Ravi Kumar, G. C Madhu, Vasu Babu Narra, Vamsi Krishna Chidipothu, K S Chakradhar, Vikash Sawan</i>	
Harnessing Photons for Next-Generation Computational Speed and Efficiency	457
<i>M Ravi Kumar, S. Sivakumar, Sachin Aralikatti, T Raja Santhosh Kumar, K S Chakradhar, Sandeep Gupta</i>	
System Access Security Protocols on Screen-Based Devices	463
<i>Devarsh Shah, Vedant Brahmabhatt, Shilpa Pandey</i>	
Design of 60-GHz Virtual Inductance Via H-Shaped Defected Ground Structure with Projections	469
<i>Maddipatla Venkata Sai Krishna Tarun, Thota Vasu, Kuppireddy Abhilash Reddy, Mandadi Sai Swethan, Karthigha Balamurugan, B Sabarish Narayanan</i>	
Leveraging Knowledge Graphs and LLMs for Context-Aware Messaging	475
<i>Rajeev Kumar, Harishankar Kumar, Kumari Shalini</i>	
SignCraft: Khasi Sign Language Recognition Application	480
<i>Madhurima Mukherjee, Riya Layek, Parul Srivastava, Lincoln A Rane, Indrajit De, Arnab Kumar Maji</i>	
A Synergistic Approach of Coffee Leaf Pathology Segmentation with Self-Attentive U-Net	486
<i>P Kuppasamy, Pabbisetty Pranavi, Ramireddy Jyothsna, Bikki Sai Sahana, Lingala Meghana</i>	
A Polynomial Symmetric Key Sharing Scheme with Cheater Detection for Cloud Storage Using Ethereum Blockchain	492
<i>Swatisipra Das, Minati Mishra, Rojalina Priyadarshini</i>	
Optimization and Impact of Gate Stack on 22 Nm Triple Gate FinFET Architecture for Enhanced Electrical Performance	498
<i>Varun Mishra, Chandni Tiwari, Neha Belwal, Manan Sharma, Mohd. Umer Ansari, Vikas Rathi</i>	
Cross-Domain Knowledge Transfer Using LLMs and Domain-Specific Knowledge Graphs	502
<i>Rajeev Kumar, Harishankar Kumar, Kumari Shalini</i>	

Smart Plant Monitoring System	508
<i>Aman Raj, Ananya Dubey, Visinigiri Jayant, Tangudu Ramji</i>	
Advanced ECG Signal Classification of Cardiac Conditions Via Convolutional Neural Networks	513
<i>Harsimrat Kandhari, I K Kantharaj, Sheethal, A. Sivanantham, Vaibhav Kaushik, Rajashree Dash</i>	
Hybrid Classification Approaches for ECG Signal Detection of Four Cardiac Ailments	519
<i>Mitrabinda Ray, Gunveen Ahluwalia, C Manjunath, Anitha D Souza J, A. Sivanantham, Prakriti Kapoor</i>	
Recurrent Neural Network Strategies for Classifying Cardiac Ailments from ECG Signal.....	525
<i>Pradeep Marwaha, Rasmita Dash, Ayaan Faiz, J Deepak, Peer Mohammed Jeelan, C. Mukuntharaj</i>	
Advanced Techniques for the Elimination of EOG Artifacts in EEG Signals Employing CSSA Alongside Dynamic Wavelet Approaches	531
<i>P. N. Ramesh, Preetjot Singh, Sourav Biswas, Avni Garg, V. Pushparajesh, Venkatesh H</i>	
Exploring the Efficiency of Docker Containers in Cloud-Based Application Deployment Using AWS	537
<i>Vashudhar Sai Thokala, Sandeep Gupta</i>	
Testing and Optimizing Web Applications with Continuous Integration/Continuous Deployment in Cloud Environments.....	543
<i>Vashudhar Sai Thokala, Sumit Pillai, Sandeep Gupta</i>	
Sleeping Stages Scoring Automation by Utilising Time-Frequency Spectra and Convolutional Neural Networks.....	549
<i>Simranjeet Nanda, Avinash Potluri, Divya Sharma, Dushyanth V Babu R, Dhanasingh B Rathod, M. S. Gowtham</i>	
Multi-Objective Optimization and Hybrid HHO-RF for Data Prediction and Performance Improvement in WSN.....	555
<i>R. Kumar, Amit Kumar, Trushna Parida, Lalit Khanna, Dimple Bahri, J Jesupriya</i>	
Optimized Deep Learning Techniques for Intrusion Detection with Explainable AI-Based Ensemble Feature Selection	561
<i>S Raghunathan, S. Gopinath, Divya Sharma, Rajesh Purkait, Mohan Garg, Gautham Krishna</i>	
Explainable AI and Enhanced Krill Herd Feature Selection for Optimized Deep Learning in Intrusion Detection Systems.....	567
<i>Gopalakrishna V Gaonkar, T Pushpalatha, D. Bhanu, Anoop Dev, Tribhuvan Singh, Paramjit Baxi</i>	
Analysis of Network Resource Management Techniques for Enhanced 5G-Iot Smart Healthcare Solutions.....	573
<i>Varun Ojha, P. S. Pavan, Lakshmi Narayana, V. Mathan Kumar, Vibhor Mahajan, Suchintan Mishra</i>	
Developing an Optimized Intelligent Security Framework for Cyber-Physical Systems.....	579
<i>Deepak Bhanot, Subrat Kumar Nayak, Manish Nagpal, H R Manjunath, R Shyam, C. Mukuntharaj</i>	
Optimized Security and Design-Based System Enhancement for Cyber-Physical Infrastructure	585
<i>V. P. Arul Kumar, Dukhbhanjan Singh, Niranjana Panda, Madhur Grover, K S Kiran, Shabeeh Asghar Abidi</i>	

Development of a Smart Tire Pressure Monitoring System: A Comprehensive Approach to Vehicle Safety.....	591
<i>Parth Chinchone, Hardik Somkuwar, Aman Mohane, Remanshu Thakur, Nekita Chavhan, Ketan Bodhe</i>	
Time-Frequency EEG and Bi-LSTM-Based Automated Cognitive Load Detection Using Machine Learning	597
<i>Manvinder Brar, Nitesh Kumar Jha, Lovish Dhingra, Gopala Krishnan, Simran Raj, T. Yawanikha</i>	
Fused IGAN-IDS System Leveraging Randomized Tree Classification for Extreme Performance Improvement	603
<i>N T Harisha Naik, K. Sriram Kumar, Sahil Suri, Sasmita Parida, B Reddy, Lakshmi Sevukamoorthy</i>	
Practical Realization of SWIPT Via AM and FM.....	609
<i>Vinish Ranjan, Vimlesh Kumar, Emani N S S Anjana, Sumit Gautam</i>	
Enhancing IoT Security with IDSIoT2024 Dataset: A Three-Tier Intrusion Detection Framework	615
<i>Manasa Koppula, L. M. I. Leo Joseph</i>	
Aligning Academic Curricula with Job Market Demands: A Data-Driven Analysis.....	621
<i>Nishtha Singh, Shakshi Singh, Sumit Goswami</i>	
Pattern Analysis in the Trajectory of Moving Objects.....	627
<i>S Mathumita, Bharath Krishna Menon, Abishi Chowdhury, Amrit Pal</i>	
Performance Improvement and Optimization of Nanomaterial-Based Liner Materials for 3D-IC Integration	633
<i>Santosh Kumar Tallapalli, V. Vijayakumar, Asisa Kumar Panigrahy, N. Arunvignesh</i>	
An Intelligent Platform for Role-Based Resource Configuration Using Machine Learning and Workflow Automation	639
<i>Syamprasad Guda</i>	
AI-Powered Recruitment Marketing Enhancing Candidate Experience and Employer Branding	645
<i>Vineet Kumar, P Praba Devi, T. Naresh Babu, Azad Salh Nader, Ali Ali Saber Mohammed, R Saravanakumar</i>	
Dual Light Harvester in Perovskite Solar Cell Delivering PCE of 25.86 %.....	651
<i>Om Prakash Chandrakar, Mukesh Bharadwaj, Deboraj Muchahary</i>	
Sentiment Analysis of Work-From-Home Practices Among Indian it Professionals Using Transformer-Based Models	656
<i>Mohamed Shameen, A. Geetha</i>	

Author Index