

2025 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT 2025)

Bengaluru, India

10-13 July 2025

Pages 1–626

IEEE Catalog Number:
ISBN:

CFP25COT-POD
979-8-3315-0237-9



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:	CFP25COT-POD
ISBN (Print-On-Demand):	979-8-3315-0237-9
ISBN (Online):	979-8-3315-0236-2
ISSN:	2334-0940

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

A Comprehensive Survey on the Evolution of Proof of Work Consensus for EHR Smart Contracts: From Classical to AI Driven Approaches	1
<i>S. Parameswaran, P. Velmurugadass</i>	
Intrusion Classification Using Machine Learning Models on Network Traffic Data	7
<i>Uday Chandra Akuthota, Mitesh Singh Rajpurohit, Lava Bhargava</i>	
Development and Simulation of Au/TiO ₂ -Based SPR Sensors for Wide-Range Refractive Index Sensing	12
<i>Bandaru Pallavi, Kaza Pallavi, Sanjeev Mani Yadav</i>	
Retrieval-Augmented Generation and Language Model for Advanced Product Querying	16
<i>Tahiyya Khan, Jb Simha, G Paramesh</i>	
Attention Based Transformation Encoder for blood cell classification	22
<i>Silki Shreya, J Aravinth, Suguna G</i>	
Challenges in the Design of Compact Control Cable Harnesses Optimized for Performance for Long Range Radars Operating In Naval Environment	27
<i>Abhinandan Sarkar, Shiva S Rai, Rakesh Kumar Verma, Jayabrata Chakrabarty, Shashi Kant M Sheik Althaf</i>	
Integration of Real Time Embedded Hardware with Processing Sub-Systems for Long Range Radars	33
<i>Abhinandan Sarkar, Jayabrata Chakrabarty, M Sheik Althaf</i>	
3D Visualization of Fetal Ultrasound Scans: Volume Rendering and Multiplanar Reconstruction for Mobile Applications	39
<i>H. S. Harsha, S. Rajarajeswari, R. C. A. Naidu, S.S Pruthvi Darshan, Prince Raj, Muskan Goyal Shree Lakshmi S, Devdas Puthusseril, Rohit Singh</i>	
Remote identity proofing system	45
<i>Muntaswir Waliyullah, Raj Kishen Moloo</i>	
MauShrimp: Real-Time Shrimp Farming Monitoring System	51
<i>Khem Bissessur, Raj Kishen Moloo</i>	
A Smart Doorkeeper Solution for Visitor Monitoring to Enhance Security in a Smart Home Environment	56
<i>Kislay Pandey, Dadi Madhu Kumar, Raushan Joshi, Vishwavrat Vaibhav</i>	
Spy-Bots-Autonomous Wheeled Robots for Multiple Applications	62
<i>Rajesh G, R Mohan Das, P Aquib, Mohammed Saqib Irshad, Baba Fakharuddin, Mohammad Arsalan Wani</i>	
Atomic Orbital Search Algorithm for Optimal Reactive Power Dispatch in Demand-Side Electricity Markets	68
<i>Punam Das, Raj Chakraborty, Sadhan Gope, Diptanu Das, Nivedita Laskar</i>	
Robotic Hand Operated by Strings and Servo Motors	74
<i>Prashobh Karunakaran, Mohd. Shahril Osman, Denis Siaw</i>	
Barlow Twins-Based Self-Supervised Attention Network for Change Detection in Satellite Images	80
<i>K.P. Rakesh, Narayan Panigrahi, Madhu S. Nair</i>	

An Optimized Viterbi Decoder Architecture Using the Precomputed Table Approach for Branch Metric Unit	86
<i>K R Eswaran, G Veerasakthi, Goppinath Saravanan, M Harshavardhan, B Yamuna, Jiya Johnson</i>	
Design of Digital Beam Steering Network with Early Verification for Active Phased Array Radars	90
<i>Taniza Roy, Abhinandan Sarkar, Shreeshail, Jayabrata Chakrabarty, M Sheik Althaf</i>	
Hardware Trojan Detection Using Deep Q – Network (DQN)	96
<i>T Sri Varsshini, Navya Mohan</i>	
Efficient Deep Learning Model Architecture for Emergence of Machine Style Calligraphy	102
<i>Nyshadham Phani Kumar, Biswas Prasanna, Mittal Archie</i>	
Sentiment Analysis of Malayalam-English Code-Mixed Data Using GPT-Based Augmentation	108
<i>Amlu Anna Joshy, Shakespeare James</i>	
A Proposed Dual-Band Low-Noise Amplifier With Tunable Gain and SNDR Characteristics	114
<i>Utkarsh Singh, Sateesh Kourav, Riyaz Ahmad, Kavindra Kandpal, Prasanna Kumar Misra</i>	
SecRISC-DFI: Secure RISC-V Architecture with Data-Flow Integrity Enforcement	119
<i>K. Kannaiah, Srinivasulu Jogi</i>	
Comparative Analysis of Kubernetes Autoscaling Using Internal and External Metrics	125
<i>Harsh Mehra, Subrata Goswami</i>	
Physics-Informed LS-SVM: A Hybrid Approach for AI-Driven Financial Modelling	131
<i>Bhubaneswari Mishra, Snehashish Chakraverty</i>	
URL Title Analysis Combined with Ensemble Learning for Enhancing Phishing Sites Detection	137
<i>Vishnu Prasad Goranthala, Murali Mohan Malyala, Naresh Padakanti, K.Srivarun Reddy Bhanu Chand Addanki, S. Kaliappan</i>	
Exposing Digital Illusions: A Comparative Analysis of CNN Architectures for Deepfake Detection	143
<i>Panchadip Bhattacharjee, Advithiya Duddu, Gururaj H. L, Shreyas J</i>	
Empowering Blind Internet Users: Addressing Communication Self-Efficacy and Digital Barriers	149
<i>Sanjram Premjit Khanganba, Ritu Sharma</i>	
A Novel Hybrid Differential Privacy Automaton for Adaptive Privacy Enforcement in Data Analytics	155
<i>Sheema Madhusudhanan, Arun Cyril Jose</i>	
Denoising Fetal ECG Signals Using Adaptive Filters and DWT in Non-Invasive Monitoring: A Comparative Approach	161
<i>K V Gayathiri, J Aravinth</i>	
Hardware Trojan Detection with Explainable Graph Learning Using XGBoost Algorithm	167
<i>C Sneha, M Nirmala Devi</i>	
A Hybrid LSTM-RF model for Remaining Useful life prediction of Li-Ion Batteries	173
<i>Lakshmi Shrinivasan, Apoorva S Taradale, Reshma Verma</i>	
Smart Trolley System with Automated Product Tracking and Billing	177
<i>A S Krishna, B Akarshana, M Karthick, S J Ovy, M Ganesan</i>	

A Fully Convolutional Network based DoA Estimator with Low RMSE at Low SNRs and Wide Range of Angles of Separation	183
<i>Jishnu Mohan, T. S. Bindhya</i>	
IoT-Enabled Smart Security Surveillance System for Farmland and Livestock Monitoring Using Computer Vision	189
<i>Nisha Varghese, Shafi Shereef</i>	
Testability-based Hardware Trojan Design	194
<i>Shreoshi Chattopadhyay, Smruthi Sajan Varier, M Nirmala Devi</i>	
Sustainable Hybrid Cooling for High-Density Electronics: Integrating HFO 1234ze Nanofluids, Thermoelectric Cooling, and Heat Pipes	199
<i>Kazi Ashikul Haque, Sudipto Pramanik, Tama Fouzder, Muhammad Moshir Rahman Tarafder Md. Mahbubur Rahman</i>	
Celestial Image Classification using Ensemble Learning and Vision Transformers	205
<i>Nisha Varghese, Jesvin K Justin, S Kezha Steffyn</i>	
AI-Driven Lead Scoring: Enhancing Real Estate Decisions with Predictive Analytics	210
<i>Maansi Tomer, Rashmi Siddalingappa, J Jayapriya</i>	
Advancements in NLP: From Rule-Based Methods to Modern Language Models	216
<i>H. Harshavardhan, Sakshi Shetty, Rithika P Shetty, Prathi U Shetty, Sakshi</i>	
RareDetect: A Deep Federated Learning Framework for Multi-task Learning with RAG-Enhanced Conversational Interface for Low-Frequency Event Detection in Oil Extraction Industry	221
<i>Saahil Pakhare, Shreya Hegde, Prema Ramasamy, Animesh Giri</i>	
Flammability characteristics study of polymers-based sensors in spacecrafts*	227
<i>Vishal Srivastav, Amit Kumar</i>	
Deep Recurrent Q-Network Based MAC Scheduling Optimization Using Bandwidth Parts in 5G and Beyond	233
<i>Animesh Kumar, Ram Aditya S, Shyamal Dhua, Ashok Kumar Reddy Chavva, Vimal Bastin Edwin Joseph</i>	
LakshyA: Lightweight TinyML-based Framework for Securing Battlefield UAV Networks With 5G	239
<i>Yashvi Shah, Khushi Vasava, Lakshin Pathak, Lakshit Pathak, Kahan Jash, Rajesh Gupta, Sudeep Tanwar</i>	
CHATGPT: Our Driving Partner- A Systematic Review and Implementation	245
<i>Ananya Sadanand Gowda, G Mamatha</i>	
SafEV: ML-based DDoS Attack Detection Framework for Autonomous EVs in Smart Cities	251
<i>Poorvanshi Kochar, Rimmi Sharma, Saanvi Ganna, Lakshit Pathak, Rajesh Gupta, Sudeep Tanwar</i>	
Design and Performance Optimization of PVDF-Silicone Energy Harvester for Leadless Pacemaker	257
<i>Pushplata Tiwari, Sunny, Surya Prakash</i>	
LDO PSpice Modeling with its Features Dependency on ESR, Cout and Temperature: A Tutorial Overview	263
<i>P Adithya Pai, Thejasvi Rao</i>	
SCAM-QUAVs: Side Channel Attacks Mitigation and Countermeasures of Quantum-Safe UAVs	269
<i>G. Hemant Kumar, Durbadal Chattaraj, Dilip Kumar Jang Bahadur Saini, Naveen Kulkarni Sharanabasappa Tadkal, P Ranjima</i>	

Comparative Analysis of Neural Machine Translation Techniques for Sanskrit-to-English Using Deep Learning and Transformer Models	275
<i>B Ganeshkrishna, Vibha Marpalle, Darshan Krishna Hegde, R Harshitha Krishna, P Preethi</i>	
Detection of Phishing Websites Using Machine Learning	281
<i>R Geetanjali, T M Sreehari</i>	
STAlign-Net: Multi-Frame Spatiotemporal Feature Aggregation with Convolution based Deformable Cross-Attention for Video Traffic Light Detection	287
<i>Vijay Nagar, Sreejith Kizhiyedath, T R Ratheesh</i>	
A Novel Hardware Efficient FPGA Implementation of Multi-Linear Regression Algorithm	293
<i>Velayutham Sudharsan, Shirshendu Roy</i>	
SmartBP: Contactless Blood Pressure Monitoring via Remote Photoplethysmography	299
<i>S V Ganesan, G S Yaythish Kannaa, A Arun, Sayantani Bhattacharya, N Aishwarya</i>	
Designing and Building an Archimedes Screw Micro-hydro for a Village in Malaysia	305
<i>Prashobh Karunakaran, Mohd. Shahril Osman, Prashanth Karunakaran, Emmanuel Savio, Clement Sabang</i>	
Efficient Radar Network on Vehicle for Optimized Object Tracking	311
<i>Venkat Roy, Dontamsetti Satya Ganesh, Murali Chembarpu</i>	
Attention-Driven Spatial Convolutions: Hybrid Architecture for Precise Lane Prediction	316
<i>P Rajendra Prasad, S J Sampreeth</i>	
High-Performance 2D Photonic Crystal Nanocavity Ring Resonator-Based Biosensor for Biomedical Applications	322
<i>Shivesh Kumar, Mrinal Sen</i>	
Fashion Fit: Dress Recommendation For Different Body Shape Using Efficient-NetB3 Model	327
<i>Vishwas Vivian Anthony, Niel Abhishek J David, S Monisha, E Nisha, Roopa Ravish</i>	
GaitSens: AI-Powered Gait and Mobility Analysis	333
<i>Harshita, Vaishnavi Moorthy, J Suresh, Shilpa Onkar Singh, Sumit Kumar, M Pushpalatha</i>	
Statistical Learning Method for Signal Recovery from Telemetry Frames with Missing Data	339
<i>Vrinda Vijayan, A T Shadh Parveen, Parvathy S Unni, Sreelekha Ram B, Sreeleja N Unnithan</i> <i>V Vivekanand, Deepak Mishra</i>	
On Exploration of SDR-based Wireless Power Transmission: Reinforcement Learning Perspective	345
<i>Emani N S S Anjana, Serene Banerjee, Sumit Gautam</i>	
Lung Cancer Classification Using a Custom Vision Transformer with Channel and Spatial Attention Mechanisms	351
<i>Md Nur Alam, Javed Hossain, Krisdahim Kogoya</i>	
Enhancing Autonomous Vehicle Vision Using Entropy Based Multi Histogram Equalization	357
<i>Srikanth Jois, Kartikeya Yeledhalli, Eshaan Haavanur, Aswini N</i>	
Predicting Big Data Applications Runtime on Spark Cluster using Machine Learning Techniques	363
<i>Khan Umar Farooq, H A Sanjay, G C Akshatha</i>	
Enhanced Feature Based Methods for Histopathology Image Registration with ORB	369
<i>Bijoyeta Roy, Mousumi Gupta</i>	

Securing Federated Learning: Anomaly Detection and Mitigation via VAEs and Unlearning	375
<i>Tejo Vardhan Kattamuri, Sushanth Dondapati, Tallapalli Uday Krishna, Vipparla Neeraj Chowdary</i>	
<i>Anuja Kunjumon, Jyothisha J. Nair</i>	
FairWrite: Detection and Mitigation of Linguistic Bias in News and Wikipedia Articles	381
<i>Jahnavi Murali, Alamelu Kannan, N. Sujaudeen</i>	
Securing User Authentication and Data with Advanced Cryptographic Techniques and Blockchain	
Mechanisms in a Fintech Application	387
<i>Saurav Singh, Debesh Biswas, Arthi Murugadass, V Sellam, Satya Kumar Vankayala</i>	
<i>Seungil Yoon Samsung Electronics</i>	
Wireless Bluetooth Speaker Based Acoustic Energy Harvesting System by Using Hollow Cylinder with	
Piezoelectric Transducers Mounted on Metallic Plate	393
<i>Manasmi Hazarika, Ram Kishore Roy, Tulshi Bezboruah</i>	
Development of a Portable Plantar Image Acquisition Setup and its Analysis for Pressure Distribution	
and Arch Index of Varied Foot-types using an Artificial Intelligence	399
<i>Akshay Daydar, Amit Kumar, Lipika Boruah, Subramani Kanagaraj</i>	
Emojis as Emotional Markers: A Computational Approach to Sentiment Analysis	405
<i>Ujjwal Pardeshi, Sharanya Katna, Dhruv Hada, Achintya Singh, Vaishnavi Moorthy, Bss Harichandana</i>	
<i>Sumit Kumar, M Pushpalatha</i>	
Microcontroller-Based Adaptive Smart Home System for Energy Efficiency and User Comfort	411
<i>Sudipto Pramanik, Moytri Ghosal, Sandipa Chowdhury, Protoye Kumar Mohanta, Sadia Tasnim</i>	
<i>Sagira Zaman Eva</i>	
Anticipation of Oceanic XCO ₂ using Data Fusion and AI-Based Approaches	417
<i>Spurthy Maria Pais, Shrutilipi Bhattacharjee, Anand Kumar Madasamy</i>	
Reinforcement Learning aided Resource Management in Multi RAT Spectrum Sharing	423
<i>Ramesh Chandra Vuppala, Ashok Kumar Reddy Chavva</i>	
MLOps Challenges in Deploying High-Performance Vision Models: An Empirical Analysis	429
<i>P A Abdul Hakkeem, Anusha Ottakandathil, Bijoy A. Jose, Anand Harikrishnan, Kiran Elengickal</i>	
Performance analysis of an LFM-based FMCW photonic RADAR for multi-target detection	435
<i>Shivam Bhutiani, Ilika Mitra, Amitesh Kumar</i>	
Design of Improvised CVLCG Based on Chaotic Iteration for Pseudorandom Number Generation	440
<i>T V Sailesh Kumar, S V Sowmya Nithishwar, P V Srinidhi, D S Harish, J P Anita</i>	
Sign Language Interpreter for the Hearing and Speaking Impaired	446
<i>Sagiraju Dileep Kumar Varma, Ssr Sarathbabu Duvvuri, Manne Rishmitha Sai, Intenti Harika</i>	
<i>Kota Priyadarshini, Sulam Gowripriya</i>	
RIS Assisted OTFS System for High-Doppler 5G-NR TDL Channels in mm-Wave Communications	452
<i>Saiteja Kalithkar, Ashvini Chaturvedi, Naga Siva Prasad Bodempudi, H Rashmi</i>	
Enhancing Genetic Algorithm Efficiency: A Comparative Study of Serial and Parallel Computation for	
TSP	458
<i>M Mallegowda, Tresa Maria Josylin, Anusha M</i>	

Efficient Multilingual Translation of Native Indian Languages in GenAI based Product Offer Platform	464
<i>Shiv Anand Awasthi, Disha Kumar, Anouska Jhunjhunwala, Karthik Manikantan Padmanabhan Vaishnavi Moorthy, Gomathi Sengodan, Sundar Srinivasan, Praveen George, Ankit Pandey, M Pushpalatha</i>	
AODIP: A Novel Adhale Optimizer With Deep Image Prior For Near Field MIMO Channel Estimation	470
<i>Krishna Chaitanya Muttevi, Chaarvi Sai Renuka Choudary Ayineni, Prasanjith Panda, Bhavya Agarwal G. Saranya, P Banu Priya, Satya Kumar Vankayala, Seungil Yoon</i>	
Fake Brand Detection - A Comprehensive Analysis	476
<i>A Vikasni, B Jagathsri, A M Abirami</i>	
OpenSim Validation for Healthy and Post-Stroke Gait Analysis: A Comparison with Experimental Motion Capture Data	482
<i>Anish Behera, Samyak Kumar Mishra, Japteshwar Singh, Jyotindra Narayan, Anil Kumar Pal Hassène Gritli</i>	
GANHSS: A Generative Adversarial Network-Based Hospital Staff Scheduler	488
<i>Bibhasan Podder, Anurag Das, Soura Bose, Sattwik Sarkar, Ipsita Dalui, Sohinee Mondal</i>	
A Compact and Low-Cost Optical Sensor System for OD600 Measurement	494
<i>V Dheeraj, Aditya Joshi, Shishira M Iyar, Kushal P Koundinya, S Risheek, P Nagaraju</i>	
Practical Approach to a Metaverse-Based Virtual Classroom in the Indian Context	498
<i>M Kumar, Gundluru Mamatha, Malineni Aparna</i>	
Outcome-based Course Prerequisite Identification using a Fine-tuned BERT Model	504
<i>N Pradeesh, Shivsubramani Krishnamoorthy</i>	
Eye Blink Artifact Removal from EEG Signals: A Comparative Analysis	510
<i>Rohan S Parthasarathy, Rohith Prem Kumar, R Sunitha, Arun Sasidharan</i>	
A novel method for real-time image synthesis through layered component integration using stable diffusion within a multi-layered large language model	516
<i>Tom George, Brahmika Shree Balaji, Rounak Paul, Saumya Verma, Vaishnavi Moorthy, Gomathi Sengodan Sundar Srinivasan, Praveen George, Ankit Pandey, Pushpalatha M</i>	
Real-Time Enhanced RGB-D Feature Matching via Depth and Motion Integration	522
<i>Ankit Gupta, Paras Sharma, Dibyendu Ghosh, Debasish Ghose</i>	
A Method and System to use Single Chip Radio to facilitate Multiple Communication Technologies	528
<i>Syam Sidhardhan, Inpyo Kang, Dongwook Lee</i>	
Developing the Harmfulness Score (H Score): A Novel Framework for Evaluating Packaged Food Content	534
<i>S Akshay, Amruthaluri Yuvadeep, M K Shreevatsa, B M Laveen, S Hemanth Bharadwaj</i>	
Study of Optical Reflection Loss of FBGs Using OTDR	540
<i>Amal Jani, R Rishika, E S Shivaleela</i>	
Enhancing Liver Disorder Diagnosis Through Interpolative Ensemble Machine Learning	546
<i>Vishnu Prasad Goranthala, Janga VijayKumar, Suresh Salendra, Naresh Goke, Sravanvardhan Rao Souda S. Kaliappan</i>	
AI Powered Autonomous Robot for Self-Driving and Delivery	552
<i>S Vijaya Shetty, Vinayak R Krishnan, Sudesh Gadi, K A Abhijith, Siddharth S Edavi</i>	

BERT Based Word Embedding for Course Similarity Analysis and Clustering Evaluation Using Silhouette Score	558
<i>Indu Joseph Thoppil, Arunkumar Gopu, Jayita Saha</i>	
Novel Deep Learning Approach for Collision Warning and Speed Recommendation System for Driver	564
<i>Devidas Tulshiram Kushnure, Shruti Jaiswal, Lakshmi Narasimha Gopalan</i>	
XAI-Enhanced Lightweight Multi-Class Attack Classification in Smart Homes with 5G-Based Secure Communication Framework	570
<i>Yatri Patel, Khushal Vanjara, Maurya Thakore, Karm Vyas, Lakshin Pathak, Rajesh Gupta, Sudeep Tanwar</i>	
Performance Evaluation of Spiking Neural Network using Sinabs for Classification of Cotton Weeds	576
<i>J Mrudula, M. Santhosh</i>	
Design of Low Power Operational Transconductance Amplifier in 90nm Technology Node	581
<i>P Rajendra Prasad, G M Sudarshan Dixith</i>	
Fine-Tuning Techniques for Large Language Models: A Comprehensive survey	587
<i>G Ramesh, N G Shrikant, Kutakole Gauri Mahadev, Rashad N Mohammed</i>	
Blockchain-Enhanced Malware Detection System	593
<i>S Yashaswini, K R Jayanth, S Lavanya, V Priya, A C Pavan</i>	
Optimizing Marketing Strategies Through Data-Driven Segment Analysis: A Data Science Approach	599
<i>Vahini Siruvoru, Kona Veda Varshini, S K Grishika, Guttala Mohan Chandra, Jadavath Kowshik</i>	
Adaptive Security Operations Center	605
<i>D R Janardhana, M Tejas, Vamshi Rayala, Jayapadmini Kanchan</i>	
A DenseNet-CNN Framework for Non-Invasive Anemia Prediction Using Mediapipe and Roboflow-Based Feature Extraction	611
<i>K Vignesh, V Harish, M Abhilash, K Janahan, S Harish, B Baranitharan</i>	
Integration of UNET and GAN for specular reflection detection and inpainting in colposcopy medical images	617
<i>Parimala Tamang, Annet Thatal, Mousumi Gupta, Nishank Upreti</i>	
TGAPneumoSeg: A Text-Guided Attention Network for Pneumothorax Segmentation in Chest X-rays	621
<i>Yashashvi Mann, Rethvik Jain, Vedant Gupta, Chhavi Dhiman</i>	
NeoMat Study – AI-driven Early Assessment and Risk Prediction for Maternal and Neonatal Health	627
<i>Bhuvaneswari Perumal, Vaishnavi Moorthy, Gladius Jennifer H</i>	
A Study on Malware Detection using Machine Learning Algorithms	633
<i>D Evangeline, S R Mani Sekhar, M Sinthuja, Abhishek Attigeri, Arnab Panda</i>	
Vehicular Computation Offloading With Dynamic Computing Resources: A DRL Approach	637
<i>Sanjana Harish, Sayeekrishnan Sayi Venkata Subramaniam, S Vighnesh, Shaurya Maharishi Vamsi Krishna Tumuluru</i>	
Detection of Sapodilla Fruit Diseases Using EfficientNet V2 Large: A Comprehensive Approach for Agricultural Automation	643
<i>Vinod Kimbahune, Jameer Kotwal, Shubham Kumbhar, Devdatt Khilari, Atharva Athanikar, Sahil Borkar</i>	

Emotion-Aware Subtitle Generation and Dialogue-Based Scene Extraction: Transformer and LSTM-Based Approach	649
<i>Nishanth D'Mello, R Rohit, Ds Sumedha, Vvk Rahul, Vandana M Ladwani</i>	
Indian Sign Language Recognition System Using Machine Language	654
<i>Y R Thulasi Prasad</i>	
GCN-HP-PCA: Improving node classification accuracy in networks	660
<i>Daksh Deep, Yashvi Arya, Rahul Saxena, Kavita Jhajharia</i>	
Automatic Prediction of Problematic System Parameters Using Machine Learning Techniques	665
<i>Sharon Christa, Rekha Jayaram</i>	
Low Powered Short Range Radar System with Pan Tilt Scanning Capabilities	671
<i>Abhinav Rajesh, V Aarathi, Vs Vaisakh, S Vijayalekshmy</i>	
Leveraging Machine Learning for Enhanced Open Radio Access Network (O-RAN)	677
<i>S.K. Maanav, Akanksha M Raj, K A Nethravathi</i>	
AlzDeepNet: An Optimized Deep Learning Model for Enhanced Alzheimer's Diagnosis	683
<i>Venkata Siva Sai Greeshma Bethalam, Rahul Gowtham Poola, Tejaswi Chodavarapu, Raju Galimutti Ramesh Vaddi, Siva Sankar Yellampalli</i>	
Comparison of Deep Learning Models with and without Image Annotations on Dragon Fruit	689
<i>Pranali Kosamkar, Srishti Bachchan, Soha Arora</i>	
Design & Implementation of Karatsuba Multiplier: A complete RTL to GDS II Flow	695
<i>Peketi Reshma, A S Surabhi, Sujatha Hiremath</i>	
Deep Learning and Adaptive Large Language Model for Speech Denoising and Performance Enhancement	701
<i>Nipun Agarwal, Sainath Bitragunta</i>	
Context-Aware Machine Learning Model for Large-Scale Text Classification	707
<i>R B Hussana Johar, M Prajwal, Uk Dhakshath, S Vinay, N A Shashank</i>	
Speech Recognition and Translation using Machine Learning	712
<i>S. Kusuma, M.Kiran Kumar, Shaik Khadeer Basha, T.Gokul Krishna, Kalathur Jahnvi</i>	
Enhanced Load Recognition and Anomaly Detection in Non-Intrusive Load Monitoring Using Transfer Learning	718
<i>Mariya Afaq, Nida Ul Islam, Shahid Mehraj Shah</i>	
Kookaburra Optimization-enabled SpinalNet for MAC Scheduling in 5G Networks	724
<i>Shilpa S Chaudhari, D Bhavana, K A Varun Balaji, Lakshay Mahindro, Kritika Sah</i>	
Fallen Powered Two-Wheeler Indication System under Low Visibility Conditions	730
<i>Vinay Kumar Yadav, P Sanjana, Sunil Bhaskar, Rakesh Maheshwari, S Gayatri, S Pranav, Amit Jain</i>	
No Code App Builder	736
<i>Rajni Tiwari, Muskan Shah, Neha Baiju, Raghav Saxena</i>	
Decentralized Multi-Robot Systems: Harnessing Swarm Intelligence for Autonomous Operations	742
<i>Ponnuru L N Prakash Kumar, Korukonda Keerthi Sujana</i>	

Design And Implementation Of Branch Line Coupler For Dual Band Applications	748
<i>K. Keerthi Naidu, S. Imaculate Rosaline, Alphonse Arokiaswami</i>	
Reducing traffic accidents through real-time detection and alerting of hazardous driving behaviors using multimodal LLM	753
<i>Naoudouwel Fulbert, S J Rexline</i>	
Optimizing System-on-Chip and Software Design for Enhanced Power Savings and Response Time	758
<i>Thejeswara Reddy, Prasad Dandra, Tushar Vrind, Bhargavi Kandala, Omkar Singh, Somraj Mani, Seokha Hong</i>	
Deep Learning for Dermatology: Analyzing Skin Lesions with LeNet and ResNet	764
<i>Nagadevi Darapureddy, Kakarla Deepthi, Sampurna Lakshmi</i>	
Synthesis of CNN Accelerator with Weight Sharing through Quantization	769
<i>G Aasthikka, Ks Anusha</i>	
Frequency Control in a SSSC enabled microgrid utilizing FOPID Scheme	774
<i>Raghav Garg, Anant Deogaonkar, Amit Sharma, Sunil Semwal, Arun Balodi, Rishabh Mandal</i>	
Ratioed NAND and NOR based On-Chip Process Sensor	780
<i>M Chandan, S. S Rekha, K Sudeendra Kumar</i>	
Smart Assistive Solutions: Convolutional Neural Networks in BCI for Enhanced Accessibility	786
<i>K Mahantesh, N Hamsaveni, L Pranav, S Bhoomika, J K Gagana, S Aditi</i>	
Adaptive Athlete Nutrition driven by MET Calorie Estimation using DietBot	791
<i>G Divya, Prasanna Paga, Chaaritya Shah, Chinmay Sanjay Mahulikar, Isha Subash</i>	
Hybrid Mean-Max Color Correction Algorithm with LAB Contrast Adjustment for Underwater Image Enhancement	797
<i>Ishani Barad, Arvind R. Yadav</i>	
Space Surveillance and Trajectory Mapping Framework using Artificial Intelligence	803
<i>Nivedita Manohar Mathkunti, V Pavan, D E Anindita, M Vivek</i>	
Optimized Control Strategies for Robotic Arm in Rotational Welding: Modeling, Simulation, and Performance Analysis	809
<i>C Niranjana, S Arungalai Vendan, C Mukti</i>	
Enhancing Deepfake Audio Detection: A Performance Evaluation of Machine Learning and Deep Learning Models	815
<i>Neethu Prem, Lijiya A</i>	
A Design-Driven Taxonomy of AI Agentic Patterns	821
<i>Josephine Eskaline Joyce, Shikha Maheshwari</i>	
Quantum Computing for Telecom KPI Optimization: Advantages Over Generative AI	827
<i>Ashok Kumar, Gourav Jain</i>	
A Novel Multi-Functional DC-DC Converter for Aerospace Applications	833
<i>Pranay Kumar Alladi, Vasanth Mangi, Santosh Nartu</i>	
U+Seq-Net: Detection of Anemia Using Palpebral Conjunctiva by Deep Learning Techniques	837
<i>B Sowjanya, H Mohamed Yaser, P.S Abishek, N Venkateswaran</i>	

YAAN: A Dual Path Feature Extraction Framework for Efficient Image Compression	842
<i>S Renji, Arun Cyril Jose, Reza Malekian</i>	
Modeling and Simulation of Tantalum and Gallium Oxide-based Memristors	848
<i>N. Nithya, R. Mallikarjun, Srikanth Itapu, G. Ramana Murthy</i>	
Deep Learning Models for Workload Prediction in Virtual Machine Cloud Data Center	852
<i>Aditya Bhardwaj, Yashwant Ram Sai, Nilesh Vishwasrao Patil</i>	
Energy Efficient Cloud-based Resource Management and 5G Network Orchestration	858
<i>A Malicheti, A Papuri, A Cheguri, Navin Kumar, V Satyakumar, Seungil Yoon</i>	
Performance of a 1.5-km/50-Gb/s DWDM based FSOC system with 100-GHz/0.8-nm channel spacing under variable weather conditions	864
<i>Shivam Bhutiani</i>	
Localization and Classification of Single and Multiple Low RCS Objects using mm-wave MIMO Radar: A Hardware Experiment Perspective	869
<i>Shivam Shinde, Atli Lemma Gebretsadik, Debdeep Sarkar</i>	
A 52-phase Integrated VR chiplet with digital phase current balancing for GPU applications	875
<i>Shobhit Tyagi, Anup J Deka</i>	
EduCode: A Gamified Learning Platform for Competitive Programming Education	881
<i>Animesh Giri, Manvith M Nayak, Delisha Riyona Dsouza</i>	
Enhancing Campus Recruitment Readiness Through a RAG-Based System Integrating Query Caching and Resume Profiling	887
<i>Animesh Giri, Shree Vidya Nagaraj, Shree La Sukumar Shetty, Shreya Ammalajeri</i>	
AI-Based Accident and Crime Detection System: A Smart Surveillance Approach	893
<i>Saakshi J Shetty, Keerthi Shetty</i>	
Speech-Based Mathematical Expression Recognition System Using Deep Learning Methods	899
<i>Kusumika Krori Dutta, Annapurna Patil, R Hruday</i>	
A Novel Approach for the Detection of Skin Cancer Using Gen AI	905
<i>S.N Srujana, N Veena, S.A Karthik</i>	
SoundVerify: Transformer-Based Detection and Profiling of Hindi Voice Impersonations	911
<i>Priyanshi Furiya, Abhishek Nair, Ami Munshi, Vaishali Kulkarni</i>	
Semantically Enhanced Satellite Image Querying: A Knowledge Graph-Driven Agent Based System	917
<i>Aaryan Shetty, Sai Anitej Amara, Chetana Mital, Ashvin Bhat, S Natarajan</i>	
Enhancing E-Commerce with Image-Based Search: Promoting Authentic Indian Handicrafts and Village Artisans	923
<i>Sai Manasa Sowmya Hasavathu, Badam Venkata Subba Sathya Sumanth, J Viswaksena, Ramesh Guntha</i>	
An Integrated Module for Age Prediction through Wearable Sensor-based Gait Analysis	929
<i>Anusha R, Shridhar Sanshi</i>	
Optimized Winograd CNN Hardware Accelerator with Quantized Computation	935
<i>R Aishwarya, Protyusha Ray, R Akanksha, B Rajeshwari</i>	

FPGA Implementation of Sigmoid, Hyperbolic Tangent and Softmax Functions using Efficient Architecture for Exponential Function	941
<i>Shirshendu Roy</i>	
Deutsch-Jozsa and Bernstein-Vazirani algorithm using single-particle discrete-time quantum walk	946
<i>Ravi Sangwan, Vikas Ramaswamy, Henry Sukumar, Gudapati Naresh Raghava</i>	
Resource Allocation in 5G Networks using a Hybrid Cloud Model and ARIMA-based Traffic Forecasting	952
<i>T Manushri, Mahadevi E Malkhed, Ns Geetaa, Navin Kumar, V Satyakumar, Seungil Yoon</i>	
Near-field Characterization of Large-Scale mm-wave Massive MIMO Arrays using IDM Computed EM Lagrangian Density	958
<i>Debdeep Sarkar, Yahia M. M. Antar</i>	
Effect of Waterproofing Material on Waveform Features of Photoplethysmography Signal	963
<i>Subhojit Jash, Sajjan Kapil, Subramani Kanagaraj</i>	
TuneShift: Harnessing Diffusion Models for Music Generation and Adaptation	968
<i>Mallikarjuna Rao Gundavarapu, Affan Pinjary, Bhuvan Gampala, Rikhil Kambhampati Pericherla Anil Varma</i>	
TemporalFormer: Enhanced EfficientFormer for Real-Time Deepfake Detection on Edge Devices	973
<i>Aarif Zafar, Kartik Singh, Udit Manav, Rajesh Kumar Panda, Nikhil Sahni, Renju Chirakarotu Nair</i>	
Arterial Spin Labeling-Based CBF Map Generation Using a Vector Quantized Variational Autoencoder	979
<i>Dhanashri Joshi, Amol Gautam, Bhushan Borotikar</i>	
Genetically Optimized GAT Recommender	984
<i>R Vikash Krishna, B Sundharess, T Sudhakar, Cecil Donald, Helen K Joy, Hubert Shanthan</i>	
Low-Complexity LDPC Decoder for Cloud Based Architectures	990
<i>Satya Kumar Vankayala, Tirthankar Mittra, Thirumulanathan D, Srihari Das Sunkada Gopinath Varigonda Srinivasa Mohan Kumar, Seungil Yoon</i>	
Aerial Vehicle Classification Using a Custom Lightweight CNN: A Deep Learning Approach	996
<i>Goutham Raj, Raj I Susan Mathew, Linga Reddy Cenkeramaddi</i>	
Advanced Image Analysis for Skin Disease Classification Using Deep Learning Models	1002
<i>Vidisha Wanjare, Zarwaan Shroff, Grishma Sharma</i>	
Impact Analysis of Confidential Computing on Beyond 5G Networks	1008
<i>Aniket Kumar, P. Venkatadri Reddy, R Hitesh, Navin Kumar, Ramesh C. Vuppala, Neha Sharma</i>	
Pyradiomics Feature Extraction from DCE-MRI for Classification of True Progression and Pseudoprogression in Glioblastoma patients	1014
<i>Akashleena Chatterjee, Sourav Basak, Subhanon Bera, Gabriela W Kostrzanowska, Archith Rajan Harish Poptani, Sanjeev Chawla, Sourav Bhaduri</i>	
Dual-Attention U-Net for Denoising Portable Electrochemical Biosensors	1020
<i>Inderpreet Singh, Ashish Mani, Chansi, Tinku Basu</i>	
ECHO-TTS: Expressive, Contextual, and Harmonized Order Text-To-Speech (TTS) Using Deep Learning Techniques	1026
<i>Rahmath Fathima, Shruthi Ramesh, Ansh Bomb, Rida Eshal Chuna, S. Chitrakala</i>	

Real-Time Data Drift Detection for Anomaly Detection Services in Multivariate Time Series Using Deep Learning within MLOps Pipelines	1032
<i>B P Vijaya Kumar, P Shekinah, S M Kusuma</i>	
Improving Imbalance Learning in Audio Domain through Spectrogram-Based Augmentation	1038
<i>Nikunj Dalsaniya, Pranshav Patel, Sapan H Mankad</i>	
User Interactions and Attention as Internet Currency: Impact on Digital Assets	1044
<i>Simran Desai, Sneha Thombre</i>	
Multi-Cloud Collaborative Platform for Seamless Task Coordination	1050
<i>Sri Sai Suhas Sanisetty, Aditya Thelu, D M Mohith, Navin Kumar, Satya Kumar Vankayala</i>	
<i>Srihari Das Sunkada Gopinath, Seungil Yoon</i>	
Automated Flat Foot Diagnosis using Generative Model and Color Channel Feature Integration Network	1056
<i>Akshay Daydar, Ajit Yadav, Lipika Boruah, Subramani Kanagaraj</i>	
Exploring Capabilities Of Large Language Models In Solving Basic Algebraic Equations	1062
<i>Mohamed Neina Hasan, K.B. Sundhara Kumar</i>	
Assessing the Efficiency of Hybrid Quantum Models Relative to Classical Deep Learning Models	1068
<i>Ruchi Juyal, Jayabharti M, Ruqaiya Anjum, Vaibhav Pratap Singh, Haribabu Pasupuleti, S D Sudarsan</i>	
Investigation of Heat Sink Geometries and Fluid Flow Effects for Efficient Thermal Management in Electronics	1074
<i>Amol More, Sanjeev Kumar Kundu, Sandeep Kore</i>	
Power Converter topology combining Voltage Stabilizer and Inverter/UPS using a Single Transformer	1080
<i>Efraem Joji, K K Arjun Krishna, Yathul P Deep, J S Jithin Raj, S Nitin, K Sunitha, Aswathi R Nair</i>	
Cost-Aware Resource Allocation for Network Slicing using a Two-Tier Modified Matching Game	1086
<i>Deborsi Basu, Samriddha Sanyal, Goutam Das, Uttam Ghosh, Raja Datta</i>	
Real-Time Thought-Driven Scene Creation: An fMRI-based Approach	1092
<i>Akshit Pandharkar, Abhiramacheri Vaibhav, Akshata Ashok Gunapache, Aayush Varma</i>	
<i>Vandana M. Ladwani</i>	
Automated EEG Classification for Neurocritical Care: Deep Learning with EfficientNetB2 and ResNet50	1098
<i>Mudundi Venkata Satya Srinivasa Raju, B Ch S N L S Sai Baba</i>	
Spectrum Slicing and Add-Drop Function Using FBGs	1104
<i>Rishika R, Amal Jani, E.S. Shivaleela</i>	
Human Daily Activity Recognition using Spectrogram and 2D-CNN Through Doppler Radar	1109
<i>Sachin Bhingikar, Rishi Raj Sharma</i>	
From Randomness to Predictability - Fine Tuning the Key Parameters of LLM for Better Detection of Hallucination	1115
<i>Deeksha Athreya, Animesh Giri</i>	
High-Performance Optoelectronic Oscillator Using Lithium Niobate Optical Modulator	1121
<i>K Divya Sree, B Renuka, Meena Dasan, Mandeep Singh</i>	

GPU-Accelerated Deep Learning for Enhanced Sentiment Analysis in E-Commerce Product Recommendations	1125
<i>Vishnu Prasad Goranthala, Naresh Padakanti, Naga Venkata Chaitanya Akula, K.Srivarun Reddy Bhanu Chand Addanki, S. Kaliappan</i>	
User Friendly Chatbot for DTC Decoding and Troubleshooting	1131
<i>M Prathyusha, Jb Simha, Shinu Abhi</i>	
Implementation of rapid acceleration algorithm for stepper motor drive control using wireless embedded system	1137
<i>A Rajil Ramesh, M Sajith Sreenivasan, G Murali</i>	
Enhancing Software Requirements Retrieval: A Hybrid Approach Using Semantic Search and Actor-Action Relation Extraction	1142
<i>Sree Lakshmi, M.G. Thushara</i>	
Hydranets: A Unified Framework for Multi-Task Vision Systems using Object Detection and Panoptic Segmentation	1147
<i>Shruti Jaiswal, Gopalan Lakshmi Narasimha, Venkatakrishnan Balan</i>	
AIMS-Net: A Hybrid CNN with Multi-Scale Feature Extraction and Attention Mechanism for Autism Detection	1153
<i>Rutwik S Nainoor, Shreya S Kamalapurkar, R Kavitha Nair</i>	
Emerging Techniques and Advancements in Nanoscale Integration of Field-Effect Transistors for Next Generation Devices	1159
<i>A Harsha Ragini, G Ramana Murthy</i>	
Integrating ARIMA with SHAP for Cryptocurrency Price Prediction	1164
<i>Savita K Shetty, Tanisha Saxena, Shreyash</i>	
Location-Specific Distributed Taxi Repositioning Using Deep Reinforcement Learning	1170
<i>Anushka Anjali, G Tanushree, Raghav S Lingdaur, Shrishti Akshay, Vamsi Krishna Tumuluru</i>	
Medical Chatbot Development: Utilizing Knowledge Graph and Machine Learning Techniques	1176
<i>Prabha G, Lakshmikanth Reddy B, Gowtham Kumar Y, Sai Tarun D, Sohith Reddy C</i>	
Reinforcement Learning-Driven High-Level Drone Navigation with ML-Enhanced PID Stability Control	1181
<i>C Varshah, S Indra Priyadharshni, T Raja Sree</i>	
Deep Learning Based Fatigue Detection for Driver Safety Enhancement	1187
<i>Sagnik Mazumdar, Soham Banerjee, Gagan Narang, Rishabh Malav, Umesh Pal, Patrali Pradhan</i>	
Demagnetization in V-shaped IPMSM: A Fusion of Finite Element Analysis and Machine Learning	1193
<i>S Guru Raghu Raman, S Hari Venkatesh, R Manuprabha, H Renill, N Praveen Kumar</i>	
Optimized Maximum Power Tracking Techniques for Solar Power generation with Partly Shading Condition	1199
<i>Punitha Kumaresa Pillai, G Sivapriya, C Arun Prashath</i>	
Circular Slot Antenna Array: A Design for Ultra-Wideband Applications	1204
<i>A J Sharath Kumar, T P Surekha, H M Nethravathi, R Anusha</i>	

Analyzing the Effect of Imperfect SIC in RIS-Aided NOMA Systems: Optimization and Performance Insights	1208
<i>Helen Sheeba John Kennedy, B S Anjana, R Dipinkrishnan, Vinoth Babu Kumaravelu Satya Kumar Vankayala, Seungil Yoon</i>	
Optimization of Energy Efficiency and Reduction of Carbon Footprint in Implementing LLMs for Large-Scale Data Analysis	1214
<i>R B Hussana Johar</i>	
Automated Guava Fruits Disease Classification using Deep Learning	1219
<i>Prasannahariveeresh Jeyaveerapandian Raji, Rajesh Kannan Meghalingam</i>	
Modelling of 2-port MIMO Antenna for Sub-6 GHz 5G using Parametric Analysis	1225
<i>Rahul Porwal, Nikhil Raj, M. V. Deepak Nair</i>	
Efficient Neural Network Pruning through Causal Weight Identification and Performance Retention	1231
<i>Shalini Joseph, Mayank Gadia, Pratyush Meher, Pramath Srivastava</i>	
Design and Analysis of Microwave Filter	1237
<i>Ayush Bhardwaj, Ved M. Bhanushali, Pratyush Parashar, Dilip Kumar Choudhary</i>	
KCNN: A 1D Kernel Enhanced CNN Aided Feature Fusion Technique for Multi-level Anxiety Detection from Wearable ECG Sensor Signal	1241
<i>Jyeshtha, Arkapravo Dey, Saptarshi Chatterjee</i>	