2026 5th International Conference on Electronics Representation and Algorithm (ICERA 2026)

Yogyakarta, Indonesia
25 July 2026

Pages 1–467

IEEE Catalog Number: CFP26AQ9-POD
ISBN: 979-8-3195-3891-8

Copyright © 2026, 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:	CFP26AQ9-POD
ISBN (Print-On-Demand):	979-8-3195-3891-8
ISBN (Online):	979-8-3195-3890-1

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

Interpretable Machine Learning for State of Health Battery Estimation based on Multi-Stage Feature Selection 1
Idrus Assagaf, Asep Apriana, P Jannus, Muhammad Hidayattullah, Fitri Wijayanti, Ega Edistria Abdul Azis Abdillah, Sulaksana Permana

Comparative Evaluation of SNR and Swarm Intelligence Enhancements for AODV Routing Protocol in Mobile Ad Hoc Networks 7
Ferikho Fatih Azhar, Istikmal, Leanna Vidya Yovita

Adaptive Variable-Step P&O MPPT Using Normalized Power Error for Photovoltaic Systems 13
Ali Jawad Alrubaie, Nasser Ali Hasson Al-Zubaydi, Qusay S. Kadhim, Ibrahim Majid Mohammed Ashraq Mohammed Kadim

QoS Evaluation of Video Conferencing in Hybrid Networks based on Connection and Fairness Bandwidth Management 18
Bongga Arifwidodo, Jafaruddin Gusti Amri Ginting, Eko Fajar Cahyadi

Smart Quail Coop: Real-Time Environmental Automation Using ESP32 for Improved Egg Yields 23
Adelia Octora Pristisahida, Anisa Febriyanti, Irwan Novianto

Indoor Performance Evaluation of IEEE 802.11ah (Wi-Fi HaLow): A Case Study in an Office Building 29
Alfin Hikmaturokhman, Fikri Nizar Gustiyana, I Ketut Agung Enriko, Anna Christina

Lettuce Freshness Classification Using Improved Residual Network (Im-resnet) With Convolutional Block Attention Module (CBAM) 35
Ariyanto, Novy Nur R.A Mokobombang

Retinal Vessel-Driven Deep Learning Framework for Glaucoma Classification Using Segmentation Method 41
Sofia Saidah, Achmad Rizal, Inung Wijayanto, Maula Rifada

An Optimized CNN with Grey Wolf Optimizer and CLAHE for Skin Cancer Detection 47
Shafira Ezza Ervina, Arief Soeleman, Kukuh Imam Eka Wahyu Wibowo, Izza Anisa, Prayoga Mochammad Rafli Samsul Maarif

A Data-Driven Approach for Weekly Restaurant Sales Forecasting: Comparative Analysis of Predictive Models for Operational Decision Support 53
Muhammad, Intan Rahmatillah

User Review-Based Knowledge Discovery Model Using Knowledge Graph to Support Proactive Decision-Making in Digital Banking: A Case Study of Bank XYZ 59
Zainudin Saputra, Afganta Chezar Enhartana, Dana Indra Sensuse, Sofian Lusa, Icha Mailinda, Novi Sofia

A Lightweight Browser-Based Phishing Detection System Using an Optimized Homoglyph Map for Real-Time Protection 68
Muhamad Bion Tadavi, Benfano Soewito

Multivariate LSTM-Based Rainfall Prediction for Operational Risk Mitigation and Enhanced Production Planning Accuracy in Open-Pit Mining 73
Ilham Darmawan, Rarasmaya Indraswari

Optimization of Public Electric Vehicle Charging Stations using the Set Covering Location Problem Approach and Simple Additive Weighting 80
Fauzi Ilhami Amir, Yusri Syam Akil, Elyas Palantei

Factors Influencing E-Commerce Users' Intention to Use Multi-Factor Authentication: A Technology Acceptance Model Approach with Security and Privacy Dimensions 86
Nabila Az Zahra, Rio Guntur Utomo

Students' Perceptions of Artificial Intelligence (AI)-Based Biometric Authentication in FinTech Services Based on Modified Technology Acceptance Model (TAM) 92
Amelia Fitri Novianti, Rio Guntur Utomo

Comparative Study of BERT, RoBERTa, and DistilBERT for Toxic Tweet Classification: Performance and Efficiency Analysis 98
Mustafa Kamal, Zaki Naufal Ali, Priza Pandunata, Dhimas Ferdiansyah

An Empirical Comparison of BM25, Embedding-Based, and Hybrid Retrieval Methods for Financial Question Answering 104
Mustafa Kamal, Qori Afiata Fiddina, Rakyan Rossi, Muhammad Abdiel Arfiansyah

Evaluation of Agentic and Rule-Based Approaches for Smart Home Energy Optimisation 110
Mochammad Haldi Widianto, Iston Dwija Utama, Zalena Mohd, Jollyn Audrey Lee

Cross-Dataset Generalization Analysis of CNN Architectures for Egg Fertility Classification Using Candling Images 115
Ratna Aisuwarya, Kumudri Goonetilleke, Minnah Aamir

An Explainable Ensemble Deep Learning Model for Multi-Class Knee Osteoarthritis Grading 121
Rafi Aldino, Irmawati

A Multi-Backbone Deep Histopathological Intelligence Framework for Discriminative Lung and Colon Cancer Subtype Classification Using Convolutional and Transformer Architectures 127
Md Munsur Khan, Hossain Md Niaze Motaher, Md Ahnaf Tajwar Kamal, Md Shariful Islam Nawfat Kamal Munifa, Md Jahangir Alam

Improving B-Mode Image Quality in Tele-Ultrasonography System Using DnCNN and Residual Learning-Based SRCNN 133
Maria Melisa Rajagukguk, Hesty Susanti, Salsabila Aurellia

Automated Diagnosis of Myocardial Infarction and ST-T Abnormalities Using Hybrid CNN–RNN Models with Ensemble Focal Loss 139
Mohammed Majbah Uddin, Kazi Shaharair Sharif, Touhid Imam, Abdullah Evna Jafar, Md Jahangir Alam A M Arefin Khaled

EEG-Based Arousal Classification Using Gray-Level Co-occurrence Matrix (GLCM) Features with Machine Learning 145
Ayu Sekar Safitri, Achmad Rizal, Inung Wijayanto, Amira J. Zaylaa

Improving Spare-Part Inventory Policy Accuracy Using K-Means Clustering Based on Demand Patterns 151
Felica Jessica Angelina, Ivan Diryana Sudirman

Mapping Customer Satisfaction in E-Commerce Reviews Using Sentiment Analysis and Topic Modeling: Evidence from Shopee Indonesia 157
Elsa Cayla Larasati Lumbantoruan, Ivan Diryana Sudirman

Predictive Modeling of Daily Demand for Perishable Retail Products Using Machine Learning and Time Series 163
Raissa Evania, Intan Rahmatillah

Analysis of Preprocessing Scenarios and Data Balancing in Big Five Personality Classification Based on Social Media Text Using FastText and SVM 169
Reni Kurniah, Ermatita Ermatita, Abdiansah Abdiansah

Automated Extraction and Nutri-Score Calculation from Packaged Food Label using YOLO and OCR 175
Amirah Saleh M Alhumaidhi, Putu Harry Gunawan, Moch Arif Bijaksana

A Data-Driven Machine Learning Framework for Mitigating Assessment Subjectivity Using Integrated Student Achievement Predictors 181
Rahmad Nurfai, Fatimah Putri Jarir, Idha Kristiana

Improving YOLOv13 for Dolphin Detection Through Architectural Modifications on the Dolphin-14k Dataset 187
Moch Rafy Adhipramana Effendy, Rarasmaya Indraswari

EdgeCommerce: Autonomous Self-Optimizing LLM Inference for Real-Time E-Commerce at the Edge 193
Ram Hibane

Generalization and Text Length Bias in Deep Learning for Indonesian Fake News Detection 199
Rhauma Syira Anggina, Irmawati

Customer Experience Analysis from Google Maps Restaurant Reviews Using LDA Based Topic Sentiment and SERVQUAL Benchmarking 205
Azzahra Adinda Cinta Aini Tasya, Ivan Diryana Sudirman

Feature Extraction Analysis for Indonesian Cross-Domain Sentiment Analysis 211
Muhammad Farhan Editya, Donni Richasdy, Prati Hutari Gani

Feature Analysis of Tokenizers in Multi-Category Text Classification 217
Valda Veisa Al Fatih Anandita, Donni Richasdy, Prati Hutari Gani

LLM-Enhanced Topic Modeling for Branch Service Quality Monitoring Using Online Reviews 223
Darren Christopher Widjaja, Christopher Ernest Emanuel Rachmat, Matteo Vasili, Ivan Diryana Sudirman

Assessing Digital and Operational Service Gaps in Hybrid Service Systems Through Topic and Sentiment Analysis 229
Mathew Avelio Halim, Ivan Diryana Sudirman

Forecasting Service Demand Using SARIMA and XGBoost for Workforce Capacity Optimization 235
Sharafina Nayla, Ivan Diryana Sudirman

Sentiment Analysis of Movie Reviews Using CNN and RNN Method 241
Ghinaa Zain Nabiilah, Rifqi Alfinur Charisma

Emotion Detection Using Hybrid Deep Learning to Identify Mental Health Signals in Indonesian Social Media 246
Roderick Kangson, Andry Chowanda

Closed-Loop Network Security Monitoring Architecture for DoS and Brute-Force Attack Detection and Response 254
Irfan Rizqy Aryanto, Bongga Arifwidodo, Jafaruddin Gusti Amri Ginting, Eko Fajar Cahyadi

Improving Video Quality In Tele-USG Using VRES & Hybrid DnCNN Denoising 260
Sultan Muhammad Naufal, Hesty Susanti, Salsabila Aurellia

A Hybrid Machine Learning Approach for Dengue Fever Spread Prediction in Indonesia Using the CRISP-DM Framework 266
Yunita Zhang, Gunawan Wang

GuardGRPC: Priority-Aware Resource Governance for OTLP/gRPC Telemetry Export 272
Sneha Gullapalli, Veera Ravindra Divi, Naga Krishna Reddy Muppidi, Sruthi Rachamalla Subhash Tatavarthi

Extractive Summarization of Indonesian News Using Hybrid Feature Extraction and Graph-Based Redundancy Reduction 278
Ichwanul Muslim Karo Karo, Sri Dewi, Alvi Sahrin Nasution

Machine Learning-Based Prediction of Video Views and Engagement Analysis on YouTube Channels 284
Sugiyatno, Yuli Praptomo Pamungkas Hari Sungkowo

Comparing K-Means and DBSCAN for RFM-Based Customer Segmentation in Multi-Location Wholesale Retail 290
Untung Subagyo, Andri Syafrianto, Aris Badaruddin Thoha

A Maintenance-Oriented Decision Support Framework for QoS-Based Fault Diagnosis in Smart Greenhouse Wireless Sensor Networks 296
Maharani Febhi Atha Ningrum, Yohanes Setiawan, Khodijah Amiroh

Data-Driven Analysis of Maternal and Neonatal Mortality for Sustainable Health Interventions Using Type II Trivariate Zero-Inflated Poisson Generalized Inverse Gaussian Regression 302
Laila Qadrini, Purhadi, Achmad Choiruddin

A Traditional Game from Kalimantan Indonesia, Bagapit Chess Engine Using Negamax Algorithm with Alpha Beta Pruning 310
Dwi Hastuti, Harits Ar Rosyid, M. Zainal Arifin

Comparison of Random Forest, SVM, and XGBoost for Classifying Football Players' Physical Condition Based on GPS Data 316
Rakyan Rossi Basya Ramadhan, Mustafa Kamal, Qori Afiata Fiddina

Comparative Evaluation of Multi-Output Regression Strategies for IoT Greenhouse Actuator Control Under Chronological Validation 322
Adinda Mariasti Dewi, Yohanes Setiawan, Khodijah Amiroh

Identification and Visualization of Chicken Health Diagnosis Results Based on Fecal Images Using Transfer Learning and Firebase Cloud Integration 328
Firda Bintari Putri Aryani, Yohanes Setiawan, Mustafa Kamal

Evaluating a Structure-Aware Retrieval-Augmented Generation Framework for Question Answering over Indonesian Government Regulations 334
Muhammad Abdiel Arfiansyah, Mustafa Kamal, Qori Afiata Fiddina

AI-driven multimodal foundation model and blockchain smart contract for precision oncology in predicting cancer patients prognosis 340
Paradise, Dany Candra Febrianto, Yudha Islami Sulistya, Ahmad Uffi Lestari Ma'Ruf, Nok Nadia

Sentiment Analysis of YouTube Comments on Educational Content Using Dual TF-IDF and a K-Fold Cross-Validated Soft Voting Ensemble 346
Muhammad Hisyam Yasir, Muhammad Iqbal Azzairi, Ghinaa Zain Nabiilah, Eko Setyo Purwanto

LDA-Based Topic Modeling of YouTube Comments: Uncovering Learner Discourse in Indonesian JavaScript Programming Tutorials 352
Syauqi Faris Imtiyaz, Stephany Angelindra Kusuma, Eko Setyo Purwanto, Ghinaa Zain Nabiilah

Beyond Accuracy: A Leakage-Free SMOTE Framework and Decoupled Insight Extraction for Telecom Churn Prediction 358
Lugas Fathur Hamdani, Tegar Rasydan Fakhri, Ghinaa Zain Nabiilah, Eko Setyo Purwanto

Analyzing Public Perception Toward Artificial Intelligence Educational Content on YouTube Using TF-IDF and Support Vector Machine 364
Mikhael Victor Siagian, Kimberley Gretchell Maydelline Sitanggang, Eko Setyo Purwanto Ghinaa Zain Nabiilah

Performance and Accuracy Evaluation of PostgreSQL-pgvector and ChromaDB in Docker Containers 370
Ahmad Rizal, Friena Sellisya Saputri, Nasya Kemal Giffari, Naufal Rifki Ramadhan, Edhy Sutanta Eko Riswanto

Digital Image Transmission Using the LoRa Protocol with Base64 Encoding 376
Puput Dani Prasetyo Adi, Djohar Syamsi, Ike Yuni Wulandari, Alvin Reynaldi Silitonga, Annisa Sarah Budi Agung Sudarmanto, Ajang Sopandi AS

Leveraging Aspect-Based Sentiment from Social Media to Forecast NVIDIA Stock Price: A Temporal Lag Analysis 382
Alisha Deanova Oemar, Dita Pramesti, Hanif Fakhrurroja

Statistical Analysis of Cellular Satellite Interference Mitigation Scenarios Based on SEAMCAT Simulation and MATLAB Post-Processing 388
Wulan Nawwar Haibah, Alfin Hikmaturokhman, Agung Wicaksono, Muhammad Darsono

Student Perceptions of AI Accounting Tasks: A TAM-TTF Study in Indonesian Higher Education 394
Muhammad Faiz Atthallah, Edbert Dwi Putra, Bambang Leo Handoko

A Comparative Analysis of BiLSTM and BiGRU for Stock Price Forecasting 400
Muhammad Syafiq Aqilla, Agung Toto Wibowo, Hilda Fahlena

Analysis Study of Evaporative Cooling Pad Based on Oil Palm Empty Fruit Bunch Fiber for Reducing Energy Consumption and Sustainability 407
Lohdy Diana, Arrad Ghani Safitra, Firman Yunan Saputra, Joke Pratilastiarso

Quantitative System-Level Evaluation of Cellular–Satellite Interference Mitigation Using SEAMCAT–MATLAB-Based Analysis 413
Hanafi Rafli Riyanto, Agung Wicaksono, Alfin Hikmaturokhman

Computational Modeling and Co-Simulation of Interference Mitigation Between Cellular Networks and Satellite Systems Using SEAMCAT and MATLAB 419
Aoura Venia Careciella, Agung Wicaksono, Alfin Hikmaturokhman

Time-To-Next-Incident Forecasting for Predictive Maintenance in IT Operation Center Using LSTM 425
Samudra Prasetio, Gunawan Wibisono

BISECANN-CLEO for DDoS Attack Classification in Network Intrusion Detection 431
Ferry Wahyu Wibowo, Wihayati

GT-TOPSIS: A Graph-Enhanced Multi-Criteria Framework for Next POI Recommendation 438
Andri Syafrianto, Hartatik, Untung Subagyo

Operational-Hour Solar Irradiance Forecasting Using Stacked-LSTM with Hybrid Inter-Day and Intra-Day Temporal Features 444
Vina Oktaviani, Radimas Putra Muhammad Davi Labib, Bagus Tri Kuncoro, Ade Ayu Rahmawati Agam Nizar Dwi Nur Fahmi, Bakti Dwi Waluyo

Hierarchical 1D-CNN with Entropy-Guided Conditional Routing for Multiclass Intrusion Detection in SDN 450
Imam Santoso, Yuli Christyono

Trade-off Analysis and Lightweight Adaptive Parameter Selection for ML-KEM in Resource-Constrained IoT 456
Dimas Alan Wijaya, I Wayan Mustika, Bimo Sunarfri Hantono

Adaptive Multi-Oracle Active Learning using IndoBERT Representations for Efficient Indonesian Sentiment Classification 462
Minarwati, Alvian Putra Hardiadi

Intrusion Detection System Using Stratosphere Linux IPS (SLIPS) and Honeypot with SIEM Visualization 468
Aaron Barrichello Pattinama, Vera Suryani, Aulia Arif Wardana

Depression Severity Classification on Indonesian Social Media: A PHQ-9-Grounded IndoBERT Approach 475
Kirana Adira Syifa, Dita Pramesti, Murahartawaty Arief

Human-Assured Agentic Interoperability for Resilient B2B Systems: A Deterministic Replay Benchmark for Procurement Message Transformation 481
Veera Ravindra Divi, Sneha Gullapalli, Naga Krishna Reddy Muppidi, Sruthi Rachamalla Venkatasatyaravikiran Bikkavolu

IoT-Based Real-Time Foreign Particle Detection System for Tea Manufacturing Using Deep Learning 487
Bhagya Nathalie Silva, Liyanage S.N, De Silva P.S, Shavinda G.M.V, Sooriyaarachchi N.D

Multi-Criteria Framework for Transmission Substation Prioritization in Telecommunication and SCADA Maintenance Scheduling Using Hybrid AHP-PROMETHEE II 493
Annas Budi Prastyawan, Mohammad Isa Irawan

Traceability and Source Authority Guardrails for Agentic RAG-Based Financial Claim Verification 499
Daffa Shidqi Thamrin, Muharman Lubis, Egi Al Fansyah, Ratandi Ahmad Fauzan Muhammad Rizq Dzaki Asyam

An Intelligent Keyword Recommendation System for On-Page SEO Enhancement using Naive Bayes Classifier 505
Wahyu Widodo, Suparyanto, Ma'Ruf

Empirical Performance Limits of Iterative Compressive Sensing for Wearable ECG: A Case for Adaptive Deep Unfolding 511
Anggunmeka Luhur Prasasti, Achmad Rizal, Bayu Erfianto, Indrarini Dyah Irawati, Jangkung Raharjo Nasywa Asshafwah Ala Qanita

Validation Strategy Governs Apparent Generalizability in Multi-Cohort Transcriptomic Classification of Ischemic Stroke: A Leave-One-Dataset-Out Versus Pooled k-Fold Study 518
Aulia Aushaf Abidah, Ghina Mufidah, Nur Ibrahim, Korediantо Usman

Parkinson's Disease Detection Using Proper Orthogonal Decomposition and Stacking Ensemble Classifier with Gait Analysis 524
Hilman Ibnu Assiddiq, Inung Wijayanto, Sugondo Hadiyoso

Emotion Classification from Text Using LSTM with Combined GloVe, Word2Vec, and FastText Word Embeddings 530
Vincentius Yanrie, Abba Suganda Girsang

Hardware-Accelerated VLC-IoT System with FPGA-Based Data Acquisition for Smart Farming 536
Denny Darlis, Angel Lastriani Munthe, Rizki Ardianto Priramadhi, Karina Wahyu Noviyanti Aris Hartaman

Software Defined Radio Technology For Transmitting Image In Smart Ambulance 542
Krisna Bayu Meliala, Wahyu Pamungkas, Agung Wicaksono

MPPT Optimization for PMSG-Based Wind Energy Systems Using P&O and MRFO Algorithms 548
Khairus Shabri Achmad, Syafaruddin, Indar Chaerah Gunadin

Optimization Golden Time in Abnormal Conditions Using Fire and Smoke Detection System with YOLO Algorithm at PT Pertamina Patraniaga Integrated Terminal Surabaya 554
Wahyu Nugroho, Ahmad Muklason, Rarasmaya Indraswari

Enhancing Brain Tumor MRI Classification Using EfficientNetV2 and StyleGAN2 Data Augmentation 561
Rifqi Zumadila Pratama, Anny Yuniarti

Data Quality Assessment and Improvement Using KNN Imputation and Its Impact on Machine Learning Classification Performance 567
Bambang Widoyono, Ristu Saptono, Arif Rohmadi, Akhmad Syaifuddin, Brilyan Hendrasuryawan

PACT: Compliance Reporting in PPE Detection based on Pose-Anchored Body Region Assignment 574
Nabila Putri Azhari, Fathan A. Maulana, M. Rifqi Dzaky Azhad, Ema Rachmawati, Hilya Tsania Ismet

Toward Stereo Face-Relief Liveness on Low-Cost Edge Devices: An Algorithm Comparison and Feasibility Study 580
Tieu Cong Son Long, Vo Minh Sang, Nguyen Minh Truong, Hoang Quoc Anh, Nguyen Van Nam

Genetic Algorithm Feature Selection for BiLSTM-Based Student Graduation Prediction 586
Fendri Martadinata, Ermatita Ermatita, Dian Palupi Rini

A Node-Criticality and Survival-Risk Aware UAV Charging Scheduling Framework for Clustered Wireless Rechargeable Sensor Networks 592
Randa Mahdi Kadhim, Saad Talib Aljebori

Kairos: SLO-Aware Scheduling and a Benchmark for Multi-Tenant LLM Inference Serving under Bursty, Heterogeneous Load 598
Sneha Gullapalli, Veera Ravindra Divi

Containing the Cascade: A Benchmark and Reference Mediator for Failure Propagation in Tool-Using LLM Multi-Agent Systems 604
Veera Ravindra Divi, Sneha Gullapalli, Balajee Asish Brahmandam

EvidenceLake: AI-Guided Evidence-Preserving Tiered Storage and Query Planning for High-Cardinality Cloud Observability Data 610
Sneha Gullapalli

Priority-Aware Edge-to-Cloud IoT Event Streaming for Reliable Proof-of-Delivery in Mission-Critical Logistics 615
Veera Ravindra Divi, Sneha Gullapalli

Design and Implementation of Arrow Speed Measurement System based on Camera for Archery Sports 620
Fadlan Nurul Adha, Achmad Rizal, Iswahyudi Hidayat, Attika Puspitasari

Multi-label Detection of Depression, Anxiety, and Bipolar Symptoms in Indonesian Social Media Texts using IndoBERT 626
Balqis Eka Nurfadisyah, Dita Pramesti, Murahartawaty Arief

GastroVision-4: A Comparative Study of Deep Learning Architectures for Multi-Class Gastrointestinal Endoscopic Image Classification 632
Nawfat Kamal Munifa, Md Ahnaf Tajwar Kamal, Md Shariful Islam, Hossain Md Niaze Motaher Abdullah Evna Jafar, A M Arefin Khaled

GuardedProcure: Validator-Guided Typed Planning for Reliable B2B E-Commerce Interoperability 638
Veera Ravindra Divi, Harish Kumar Thirunagari

Simulation of Charging-Discharging Mechanism of Electric Vehicle in a Vehicle-to-Grid (V2G) System at a Public Electric Vehicle Charging Station 644
Rebecha Sashya Amanda Hutabarat, Syafaruddin Syafaruddin, Andani Achmad

Development of a Retrieval-Augmented Generation-Based Information Service Chatbot for Hallucination Mitigation in Critical Industrial Environments 650
Zaim Fadhil Nashif Mahmud, Bryan, Ismail Azhari Dadas, Idha Kristiana

FMEA-Based Reliability Analysis of Airfield Lighting Electrical Systems 656
Bayu Pratama Putra Katuwu, Salama Manjang, Dewiani Dewiani

An Adaptive Defense Framework with Multi-Attack Vector Detection in NDN 661
Ade Asrining Putri Amerta, Istikmal, Leanna Vidya Yovita

Automated Classification of Body Fluid Images Based on Hand-crafted Features and Artificial Neural Networks 667
Yessi Jusman, Efprilia Nurrahma, Masayu Alya Nur 'Aini, Siti Nurul Aqmariah Mohd Kanafiah Anani Aila Mat Zin

Design and Experimental Evaluation of a Solar-Assisted IoT Mini Weather Station Using NodeMCU ESP8266 673
Agus Putu Abiyasa

Secure Context Cache: Token-Efficient and Least-Privilege Shared Memory for Enterprise Developer Agents 679
Naga Krishna Reddy Muppidi

LLM-Assisted Provenance Enforcement for ECR-Based Container Artifact Promotion Pipelines 685
Naga Krishna Reddy Muppidi

The Influence of Bitcoin News Sentiment Analysis Using Large Language Models on Bitcoin Price Prediction 690
Muhammad Alfian Akmal, Prati Hutari Gani, Donni Richasdy

Multi-Window Evaluation of Transformer Architectures for Stock Price Forecasting Using Walk-Forward Validation and SHAP-Based Explainability 696
Dasril Aldo, Annasya Maulafidatu Zahra, Himam Bashiran, Wisnu Aji Sanjaya Natasya Intan Sukma Jiwanti

Mitigating Protection Blinding in High-PV Distribution Systems Using a Modified Bat Algorithm 702
Alex Sandria Jaya Wardhana, Moh. Khairudin, Rustam Asnawi, Dwinugroho Putro Utomo Eko Swi Damarwan

A Hybrid XGBoost–DDQN Framework for Energy-Efficient and Low-Latency Cognitive Radio Wireless Sensor Networks 708
Zahraa Mohammed Shanan, Mohammed Najm Abdullah, Noor Abdulkhaleq Zughair

Predicting Maternal Health Literacy Levels among Indonesian Pregnant Women Using TAM-Based Technology Perceptions and IT Literacy: A Supervised Machine Learning Study 714
Ikhwan Amiruddin, Rahmat Fauzi, Riska Yanu Fa'rifah

Classification of Chicken Health Conditions Through the Identification of Voc Patterns in Feces Using an Electronic Nose (E-Nose) 720
Mochammad Arif Taufiqurrahman, Helmy Widyantara, Khodijah Amiroh

Enhancing Land Cover Segmentation Accuracy Through Attention Mechanism for Minor Classes and Complex Boundaries 726
Zefanya Delvin Sulistiya, Alexander Agung Santoso Gunawan

Predictive Maintenance for Industrial IoT: Early Fault Detection Using Deep Learning Architectures 732
Pham Minh Hoang, Duong Long Son, Nguyen Hoang Thai, Nguyen Cong Trong, Doan Dam Quan

Evaluating Machine Learning Performance in Sleep Quality Prediction by Adding the Golden Hours Sleeping Timing Parameter 738
Arizsatrio Anggawijaya, Achmad Rizal, Inung Wijayanto, Fakhriadi Rasyaad

Detection of Banana Ripeness Levels Using YOLOv8 and RGB Images Analysis 744
Mega Bunawi, Bedy Purnama, Edward Ferdian

Predictive Analytics for Cigarette Manufacturing Machine Operational Status Using Machine Learning 750
Muhammad Zulfanabil Habi, Amalia Utamima

Prompting Strategies and Model Selection for LLM-Based Labeling of Online Gambling Promotion in Indonesian YouTube Comments 756
Lucky Andreas, Revan Marfrando Cokro, Alexander Agung Santoso Gunawan, Rilo Chandra Pradana

Comparative Analysis of ResNet-50 and EfficientNet Architectures in Detecting AI-Generated Images vs. Real-World Photography 762
Sindy Aulia Putri Hendrawan, Sheren Aura Vi Paramitha, Alexander Agung Santoso Gunawan Rilo Chandra Pradana

An Empirical Study of Temporal Feature Engineering for Multi-State Next-Day AQI Forecasting Using Explainable Machine Learning 768
Isuri Amalsha Ranawaka, Plato Chakma, Md Jahangir Alam, Uchchas Das Gupta, Sharad Chowdhury Al Akhir

A Heterogeneous Computational Intelligence Framework for Kidney X-ray Classification Using Texture–Morphological–Spectral Feature Fusion and Attention-Augmented Learning 774
Imran Ahmad, Nawfat Kamal Munifa, Hossain Md Niaze Motaher, Md Shariful Islam Md Ahnaf Tajwar Kamal, Plato. Chakma

A Computationally Parsimonious Convolutional–Transformer Hybrid Paradigm for Multi-Class Dermatological Pathology Classification Using Hierarchical Spatial–Attentional Feature Representation 780
Imran Ahmad, Md Shariful Islam, Md Ahnaf Tajwar Kamal, Nawfat Kamal Munifa Hossain Md Niaze Motaher, Plato.Chakma

Diagnosis of Thalassemia Disease Using Gabor Features and One-Step Secant Neural Network 786
Yessi Jusman, Masayu Alya Nur 'Aini, Hygra Mahendra Ashari, Tri Wulandari Kesetyaningsih Zefarina Binti Zulkafli, Siti Nurul Aqmariah Mohd Kanafiah, Anani Aila Mat Zin

A Comparative Study of DINO-DETR and CNN-Based Detectors for Underwater Object Detection on the UDD Dataset 792
Arnoldus Bryan Hendry, Bedy Purnama, Edward Ferdian

Ensemble Decision Tree-Based Models Evaluation for Pregnancy Risk Prediction 798
Meiyanto Eko Sulistyo, Faisal Rahutomo, Sutrisno, Subuh Pramono, Muhammad Hamka Ibrahim Joko Hariyono

Landslide Segmentation Using Sentinel-2 Imagery and Topographic Features: A Comparison of U-Net and Transformer-Based Models 803
Komang Ambhara Magnaputra Arnawa, Alexander Agung Santoso Gunawan

Android-Based Dietary Diversity Classification for Pregnant Women Using YOLOv11 809
Bhismo Surya Atmaja, Farah Zakiyah Rahmanti, Yohanes Setiawan

A Compact Back to Back E-Shaped Microstrip Patch Antenna for Wireless Applications at 2.4 GHz 815
Zaid Shakir Kadhim Al-Shammari, Ahmed Sabri Ghazi Behadili, Odai Hassan Raheem Al Soad

Sentiment Classification and Topic Modeling for KoinWorks Peer-to-Peer Lending Risk Profiling 820
Rachel Imanuella Sianturi, Riska Yanu Fa'rifah, Dita Pramesti

A Reconfigurable Intelligent Surfaces Approach to Enhance Message Delivery in Vehicular Communication Networks 826
Zahraa Saad Sabbar, Saad Talib Aljebori

Integrating Demand Forecasting into Inventory Decision Support Systems: A Data-Driven Approach for Plastic Distribution 831
Jocelyne Aurelia, Intan Rahmatillah

Multi-Horizon IDX Composite Forecasting Using Tree-Based Ensemble and Bayesian Hyperparameter Optimization 837
Hakam Raves, Alexander Agung Santoso Gunawan, Budiono

Edge-Cloud Face Recognition Using VGG16 and LBPH for Child Activity Monitoring at Kasih Agape Orphanage 843
Peres Hendri Virgiawan, Muhammad Adib Kamali, Farah Zakiyah Rahmanti

Behavior-Based Customer Segmentation Using K-Means Clustering in Supermarket Retail 849
Ivan Diryana Sudirman, Intan Rahmatillah, Patah Herwanto

Integrating BERTopic and Pareto-Based Topic Reduction for Sentiment-Frequency Topic Mapping 855
Intan Rahmatillah, Ivan Diryana Sudirman, Patah Herwanto

A Comparison of the Performance of Random Forest, SVM, and XGBoost for Malware Family Detection and Classification Using Dynamic Analysis-Based Class Imbalance Handling 861
Salma Zanuba, Yudha Purwanto, Muhammad Faris Ruriawan

IMNA: An AI-Driven Intelligent Network Algorithm for Sustainable Risk–Competitiveness Interdependency Modeling in Industrial Systems 867
Wiky Sabardi, Bambang Syairudin, I Ketut Gunarta

Machine Learning-Based Prediction of Crab Health Conditions Using Water Quality Parameters with Explainable AI 873
Violitta Yesmaya, Evawaty Tanuar, Roikhanatun Nafi'Ah, Suzana Ariff Azizan, Rini Wongso

Improving Daily Stock Decisions in FMCG Retail through Explainable Machine Learning Demand Forecasting 879
Intan Rahmatillah, Patah Herwanto, Ivan Diryana Sudirman

Brand Loyalty vs. Variety Seeker: An Interpretable Machine Learning Approach for Retail Customer Targeting 885
Ivan Diryana Sudirman, Intan Rahmatillah, Patah Herwanto

MORTHA: Ordinal Deep Learning for Thermal Anomaly Severity Assessment Using Multi-Temporal Sentinel-2 Imagery 891
Khawla Ould Mansour, Ghali Benkirane, Yousra Chtouki

Performance Evaluation of PRESENT and Salsa20 Hybrid Cryptography for Key-Wrapping in Resource-Constrained IoT Devices 898
M. Dja'Far Karzein Hafidz Yuntanozra, Hermawan Setiawan, Seto Yudhistiro Hatmojo Muhammad Zuhri Pascananda Aulia, Mohamad Syahral

A Comparative Benchmark and Decision Guide for Edge AI Deployment: Comparative Study of Rule-Based, Cloud, TinyML, and Federated TinyML on Resource-Constrained IMU Sensor Nodes 904
Pham Ngoc Hoa, Do Quang Hiep, Ngo Anh Duc, Trinh Duc Duong, To Thanh Hai

Machine Learning-Based Classification of Instant Beverage Health Levels with Explainable AI and Personalized Daily Energy Needs 910
Mochammad Fadhlan Al-Ghiffari, Murahartawaty Arief, Dita Pramesti

Performance Portability: Overcoming Efficiency loss in Highly-Parallel Program 916
Salma Ayyub, Adnan, Amil Ahmad Ilham

Empirical Studies of Multi-Output Quantile Regression Neural Network on Expenditure-Based Indonesian Inflation Categories 922
Adelia Nur Asmaria, Dedy Dwi Prastyo, Santi Puteri Rahayu

A Comparative Study of Deep Learning Methods Based on Gramian Angular Field (GAF) Transformation for Estimating the Remaining Useful Life (RUL) of 18650 Lithium-ion Battery 928
Kevin Soendoro, Hendra Kusuma, Muhammad Qomaruz Zaman