

2025 8th International Seminar on Research of Information Technology and Intelligent Systems (ISRITI 2025)

**Yogyakarta, Indonesia
11 December 2025**

Pages 1–563

IEEE Catalog Number: CFP25AAH-POD
ISBN: 979-8-3315-5769-0



Copyright © 2025, IEEE

All Rights Reserved

Copyright and Reprint Permissions:

Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP25AAH-POD
ISBN (Print-On-Demand):	979-8-3315-5769-0
ISBN (Online):	979-8-3315-5768-3
ISSN:	2832-1448

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

Enhanced Cyber Attack Clustering Through Multiview Attribute Fuzzy C-Means with Differential Evolution Optimization	1
<i>Alya Fitri Syalsabilla, Nur Iriawan, Muhammad Mashuri</i>	
Evaluation of AEAD Cryptographic Algorithms in an MQTT-Based IoT Tracking System	7
<i>Geva Almer Hariri, Favian Dewanta, Sri Astuti</i>	
A Comparative Analysis of Machine Learning, Ensemble Learning, and Deep Learning Models in Detecting Malicious URLs	13
<i>Octlivatua Patricia Disiulina, Farrel Ardy Ghalyndra, Naisya Aghis Nabila, Aaron Barrichello Pattinama Muhammad Rafi Ediananta, Danu Dwi Sanjoyo</i>	
Mechanistic Interpretability Driven Evaluation Engine for Large Language Models	19
<i>Varsha Shukla, Geoffrey G Parker</i>	
Multilingual Cultural-Grounded Evaluation of Generative AI Models Benchmark with Contextual Anchors	24
<i>Varsha Shukla, Geoffrey G. Parker</i>	
An Interactive Web System for Free Space Optics Bit Error Rate Prediction and Optimization Based on Machine Learning	30
<i>Akhmad Hambali, Aminah Indahsari Marsuki, Ridha Muldina Negara, Jeremia Jordan Marbun Naftali Junita Br Tarigan, Ayuni Rismauli Pandiangan</i>	
TriStack: A Hybrid Machine Learning Model for Phishing Detection	36
<i>Nikita Nikita, Gabriel Gavin Geraldo, Said Achmad, Derwin Suhartono</i>	
Anomaly Detection in Network Traffic Using Ensemble Learning	42
<i>Arya Maulana Shodiqi, Nicolaus Bintang Nathanael, Said Achmad, Derwin Suhartono</i>	
Embodied Meta-Adaptation Engine for Multimodal Generative AI Dynamic Agents	48
<i>Varsha Shukla, Geoffrey G Parker</i>	
Multi-Agent Orchestration Protocol for Generative AI Systems	54
<i>Varsha Shukla, Geoffrey Parker</i>	
Sentiment Analysis of Movie Reviews Using DistilBERT	60
<i>Charis Berlian, Joseph B. Adiputra, Nikita Ananda Putri Masaling, Andry Chowanda</i>	
Real Time Detection of Four Essential Bodybuilding Poses Using YOLOv11-Pose for Athlete Training Systems	66
<i>Bradika Almandin Wisesa, Widyastuti Andriyani, Bambang Dwi Purnomosidi, Satria Agus Darma</i>	
Profit Clues in Environmental, Social, and Governance Trails: Evaluation of Machine and Deep Learning Algorithms	72
<i>Kanisha Prita Addina, Matthew Hendra, Jeffrey Tedjasulaksana, Muhammad Fadlan Hidayat</i>	
Guava Disease Detection Using Machine Learning: A Data-Driven Agriculture Solution	78
<i>Abdul Haris Rangkuti, Taha Arkaan Samiaji, Jason Sebastian, Soni Yora, Muhammad Maulana</i>	

A Deep Learning Approach for Tea Plant Disease Identification Based on Similar Visual Characteristics	84
<i>Johan Muliadi Kerta, Abdul Haris Rangkuti, Jajat Sudrajat, Siti Hajar Mohamad, Raiza Rahman Kenrick Panca Dewanto</i>	
Deep Learning Based Image Retrieval for Strawberry Plant Disease Identification	90
<i>Azhka Syahthoriq Nasution, Abdul Azis Hardy Al-Hakim, Muhammad Edlyn Haryandi Abdul Haris Rangkuti</i>	
IoT-Based Monitoring System for Photovoltaic Performance Evaluation	96
<i>Muhammad Fahmi Hakim, Rahman Azis Prasajo, Rohmanita Duanaputri, Mohammad Noor Hidayat Priya Surya Harijanto, Binar Surya Gumilang, M. Fathur Rahman Alfarisi, Sandi Permadi Dava Restu Zachary, Ferdinan Andre Pratama</i>	
NB-IoT over Non-Terrestrial Networks: Performance Evaluation for MT & MO scenarios	102
<i>Gabriel Miranda Rodrigues, Vivianne de Aquino Rodrigues, Luan Rocha Lopes, Thiago P. de Souza Bruna Maira Da S. Fonseca, Vanessa R. de Amorim, Edilson Ribeiro S.</i>	
The Influence of Social Media Marketing, Customer Reviews, and Electronic Word of Mouth (E-WOM) on the Interest in Purchasing Gadgets on E-Commerce Applications by Gen Z	108
<i>Ful Ranto, Stephanie Surja, Enggal Sriwardiningsih</i>	
Leveraging Intelligent Digital Payment Systems for Tax Compliance Enhancement: Evidence from Indonesia's Motorized Tax Sector using SEM-PLS	114
<i>Suarni Norawati, Muhammad Luthfi Hamzah, Akmal Andri Yantama, M. Zacky, Diva Nazla Zaira</i>	
Design and Development of A Prototype Early Warning System for Landside in Aribaya Village, Pagentan District, Banjarnegara Regency, Based on Low Power Wide Area Network (LPWAN)	121
<i>Bintang Fabian Putra Laksmata, M. Yoka Fathoni, Gunawan Wibisono</i>	
Utilization of Antennas In A Water Level Measuring System with Integrated IoT	127
<i>Deodarma Simarmata, Wellcrown Jeremia Sirait, Gabriel Ebitnego Sinaga Muhammad Panji Kusuma Praja, Petrus Kerowe Goran</i>	
Exploring Text Similarity Metric for Essay Scoring Using Latent Semantic Analysis (LSA)	133
<i>Andharini Dwi Cahyani, Ari Basuki, Muhammad Yusuf, Devie Rosa Anamisa, Ika Oktavia Suzanti Yeni Kustiyahningsih</i>	
Benchmarking Vision Foundation Models for Remote Sensing: Accuracy and Embedding Geometry Perspectives	140
<i>Nahumi Nugrahaningsih, Felicia Sylviana</i>	
Imbalanced Data Handling for Stroke Prediction Using Oversampling and Cost-Sensitive Learning	146
<i>Triyan Agung Laksono, Widyastuti Andriyani</i>	
Paddy Leaf Image Classification Using EfficientNetB5 with Realistic Augmentation	152
<i>Rifqi Alfinnur Charisma, Rico Halim, Ayu Maulina, Kelvin Asclepius Minor, Aerial Nathen</i>	
Forecasting Road Traffic Accidents in the Caraga Region Using Comparative Clustering Techniques: Basis for a Data-Driven Road Safety Intervention Program	158
<i>Imee U. Anton, Cristopher C. Abalorio</i>	
Discrete Dynamic Model of Colorectal Cancer Growth Influenced by Gut Microbiome Interactions	164
<i>Alyssa Imani, Viska Noviantri, Rudi Nirwantono, Bens Pardamean</i>	

Implementation of the Bat Algorithm and Ensemble Methods for Tuberculosis Detection in HIV Patients Based on Gene Expression Data	170
<i>Harnianti Harnianti, Widyastuti Andriyani</i>	
AI and Big Data for Optimizing Indonesia's Oil Trade Balance	176
<i>Jane Ivana, Kyla Aleitta, Khaylanissa Setiyo, Robertus Nugroho Perwiro Atmojo</i>	
Machine Learning-Based Models for Detecting Fake News	182
<i>Yehezkiel Michael Sutara, Michael Kurniawan, Said Achmad, Derwin Suhartono</i>	
Predicting Counter-Strike 2 Match Outcomes Using Machine Learning	188
<i>Benedictus Bellion Leander, Christian Antonio Yotanka Tampubolon, Christopher Darren Muljono Nunung Nurul Qomariyah, Raymond Bahana</i>	
Leveraging LSTM, BLSTM and Time2Vec for Daily High and Low Stock Price Forecasting in Indonesia Mining Industry	194
<i>Davin Edbert Santoso Halim, Yoshua Budiawan Cahyadi, Lili Ayu Wulandhari</i>	
Cross-Domain Evaluation of Feature Selection Methods: Chi-Square, RFE, and LASSO	201
<i>Shofwatul Uyun, Aulia Miftah Razak, Slamet Riyadi</i>	
Classifying Indonesian Tweet Virality with Machine and Deep Learning	208
<i>Jeffrey Junior Tedjasulaksana, Andien Dwi Novika, Almuzhidul Mujhid, Ricky Reynardo Siswanto Willy Kristian, Constantine Amadio Widjaya</i>	
Performance Analysis of MariaDB Galera Cluster with Synchronous Multi-Master Replication on Hybrid Cloud Computing Platform	215
<i>Muhammad Ananta Faturrahman, Muhammad Agung Nugroho, Aulia Desy Nur Utomo</i>	
A Comparative Study of Transformer-Based Models for Aspect-Based Sentiment Analysis on Indonesian Hotel Reviews	221
<i>Rifqi Alfinnur Charisma, Nikita Ananda Putri Masaling, Ayu Maulina, Fiqri Ramadhan Tambunan Leo Andri Yulius Caesar, Roderich Cavine Chow</i>	
Frequency Cepstral Coefficients Feature (MFCC) in 2D-CNN Based Model for Voice Emotion Classification as an Indicator of Bullying	227
<i>Gusti Pangestu, Azani Cempaka Sari, Karto Iskandar, Hanis Amalia Saputri, Nora Fitri Hasyiya Karimah Adlie</i>	
Comparison of Machine Learning Methods for Classifying Graduates' Waiting Time to Obtain Employment	233
<i>Rizkysari Meimaharani, Widowati, Ahmad Abdul Chamid</i>	
Sentiment Analysis of Depok Single Window Application Reviews on Google Play Store Using Deep Learning	238
<i>Annisa Aulia Rahma, Amalia Zahra</i>	
Machine Learning-Based Analysis of Transformer Insulation Failure	245
<i>Zulfiana Safitri Majid, Muh. Imran Bachtiar, Muhira Dzar Faraby, Desi Widyaningsih, Annisa Nurfadhilah Muhammad Ridhwan</i>	
CRISP-DM-Based Comparative Study of Traditional Machine Learning Models to Improve Library Book Borrowing Prediction	251
<i>Thoyyibah T, Rani Puspita</i>	

Bitcoin Price Movement Prediction using Hybrid Model Empirical Mode Decomposition-Skewed GARCH	256
<i>Muhammad Rhifaldy Bhimantara, Nurul Ilmi, Deny Haryadi</i>	
Comparative Machine Learning Analysis for Predicting Container Turnaround Time in ESG-Driven Port Marine Systems	262
<i>Sucianna Ghadati Rabiha, Fajar Kurniawan, Fauzi Khair, Amir Tjolleng, Siti Nurmaya Musa Muhamad Qosim, Afifah Nur Fadiyah</i>	
Integration of Road Damage Segmentation Using U-Net for Route Simulation with the A* Algorithm	267
<i>Zaki Waliyan Isnanto, Deny Haryadi, Hertanto Suryoprayogo</i>	
Fake Job Detection using Bi-GRU Algorithms with Combination Random Over Sampler and Weighted Random Sampler	274
<i>Refael Frances Havergal Sibarani, Rana Zaini Fathiyana, Desi Nurnaningsih</i>	
Hyperparameter Optimization of Random Forest for Detecting Crab Mentality and Team Morale Decline Based on Employee Work Behavior Patterns	280
<i>Margaretha Wahyu Widyarti Tedja, Putu Sugiartawan, Ni Wayan Sumartini Saraswati</i>	
A Pattern-Based Predictive Optimization of E-Shape Antenna Design Using Pre-Simulated Data	287
<i>Yulindon Yulindon, Noor Azah Samsudin, Riswan Efendi</i>	
Internet of Things Based Temperature Monitoring System for Coal Conveyor Using Programmable Logic Controller with Raspberry Pi Gateway and Cloud Integration	292
<i>Joko Sulistyo, Besse Rani, Miranty, Fahrul, Justadi</i>	
CareerForge-AI: Graph Neural Network for Predicting Employee Performance and Personalized Career Paths	298
<i>Sabar Aritonang Rajagukguk</i>	
Stacking Ensemble with Boosting and Hyperparameter Optimization for Breast Cancer Classification	304
<i>Shofwatul Uyun, Ibnu Raju Humam, Slamet Riyadi</i>	
Stress Level Classification Using Random Forest with Hyperparameter Optimization and AUC-ROC Evaluation	310
<i>Maria Susan Anggreainy</i>	
The Implementation of Machine Learning and Deep Learning On Skin Tone Classification	316
<i>Evelyne W, Catheline D, Muhammad F.H</i>	
Comparative Analysis of Gradient-Based Training Algorithms for Heart Disease Prediction Using Artificial Neural Networks	322
<i>Yessi Jusman, Naynava Tigris Amarulita, Masayu Alya Nur 'Aini</i>	
Facial Skin Disease Classification using EfficientNetV2B0 with Attention-Based BiGRU	327
<i>Nurul Ilmi, Siti Zahrotul Fajriyah, Erin Haryani, Ikram Mahesa Daratullah</i>	
Development of Poisonous Plants Classification System using Convolutional Neural Network (CNN)	333
<i>Glorilene M. Masagca, Jocelyn F. Villaverde</i>	

Evaluating Enhancement Methods for Improved Lung Segmentation in Tuberculosis Chest X-Rays Using U-Net	339
<i>Fajar Astuti Hermawati, Bagus Hardiansyah, Mahmud Suyuti, Elly Matul Imah, Anto Satriyo Nugroho Dewi H. Budiarti, Supriana Suwanda, Telly Kamelia, Amanda Restu Eka Pramesti Muhammad Alfian Firdaus</i>	
Comparative Analysis of CNN and Transformer Models for Cigarette and E-Cigarette Detection	345
<i>Tiara Sabrina, Imelda Damayanti, Izzulhaq Mahardika, Muhammad Rafly Arjasubrata Mahmud Dwi Sulistiyo</i>	
EEG-Based Motor Imagery Analysis: Primary and Secondary Band Frequencies Perspectives	351
<i>A. Asni B., Muh Anshar, Intan Sari Areni</i>	
Computer Vision-Based Detection of Aflatoxin in Stacked Corn Kernels Using U-Net	357
<i>Mardawia Mabe Parenreng, Amil Ahmad Ilham, Andani Achmad</i>	
Deep Learning for Fish Species Classification: From Underwater Imaging to Aquaculture Applications	362
<i>Ilvico Sonata</i>	
Power Quality Assessment and Load Profile Analysis in Relation to K-Factor of Dry Transformers	367
<i>Nuha Nadhiroh, Isdawimah, Imam Halimi, Mahmudin, Inzie Laziera, Fikri Arifuddin</i>	
Improving Intruder Detection for Home Security System Using YOLO-v8	372
<i>Joanne Lee, Harris Kristanto, Wendy Oei, Fiqri Ramadhan Tambunan, Derwin Suhartono</i>	
Fault Diagnosis of Bogie Bearings Based on an Attention-Enhanced Multi-Scale Dilated Residual Network	378
<i>Duan Lianzhai, Yaya Heryadi, Ilvico Sonata, Abba Suganda Girsang, Lili Ayu Wulandari</i>	
Automatic Kidney and Tumor Segmentation in CT Images Using U-Net with Multiple CNN Backbones	385
<i>Irmawati Irmawati, Nur Hayati, Monica Pratiwi, Francesco Tony</i>	
Modeling Trust Pathways in AI-Enabled ECommerce: The Impact of AI Service Experience and Security-Privacy Risks on User Continuance Intention	391
<i>Sambudi Hamali, Ika Suhartanti Darmo, Janita S. Meliala</i>	
Evaluating Fine-Tuning Strategies for MobileNetV2 in Apple Ripeness Classification	397
<i>Divya Zahra Sabhira, Febriyanti Sthevanie, Kurniawan Nur Ramadhani</i>	
Automated Grading Assessment of Annona Squamosa L. using YOLOv9	405
<i>Eduard Angelo D. Roque, Kyla May Villanueva, John Paul T. Cruz</i>	
Performance Evaluation of YOLOv11 for Road Pothole Detection Under Diverse Environmental Conditions	410
<i>Andito Rizkyka Rianto, Gamma Kosala</i>	
Car Damage Detection using YOLOv11 and RT-DETR	416
<i>Azmi Rizqullah Rabbani, Gamma Kosala</i>	
Detection of Road Damages and Defects Using YOLOv11	422
<i>Raihan Ahmad Tilmisani, Gamma Kosala</i>	
Cataract Detection System using Deep Learning	428
<i>Niswah Banun Tsaniya, Sofia Saidah, Rita Magdalena</i>	

An Encoder-Only Transformer with Features-as-Tokens for Robust Network Intrusion Detection	433
<i>Mohaned Mohammed Naji Hider, Fayruz Rahma, Arrie Kurniawardhani</i>	
Metaheuristic-Optimized ConvNeXt Architecture for Ultrasound-Based Liver Diseases Classification	440
<i>Tanzilal Mustaqim, Sri Hidayati, Dyah Putri Rahmawati</i>	
Enhancing Anemia Detection with Histogram-Based Gradient Boosting and SMOTE Integration	446
<i>Dimas Chaerul Ekty Saputra, Ighfir Maulana, Pima Hani Safitri, Tri Ratnaningsih, Irianna Futri Alfian Ma'arif</i>	
Grey Wolf Optimization for Feature Selection of Hematological Features	453
<i>Zahid Abdullah Nur Mukhlisin, Dimas Chaerul Ekty Saputra</i>	
Retrieval-Augmented LLMs with Indonesian Clinical Trials Guidelines: A Comparative Study	459
<i>Ella Raputri, Ari Jaya Teguh, Saffanah Nur Hidayah, Andari Karina Anom, Feri Setiawan Nunung Nurul Qomariyah</i>	
IoT-Based Shallot Leaf Disease Classification Using CNN with ESP32-CAM Data Acquisition	465
<i>Henning Titi Ciptaningtyas, Rizka Wakhidatus Sholikah, Muhammad Naufal Pasya, Ridho Rahman Hariadi Annisaa Sri Indrawanti, Irzal Ahmad Sabilla</i>	
Predictive Modeling of BPSK Bit Recovery Using Machine Learning in Underwater Acoustic Communication	472
<i>Hussam Alraie, Abdullah Alraee, Mohammad Albaroudi, Raji Alahmad, Tayfun Nesimoglu</i>	
A Knowledge Graph Approach with Graph Data Science and Hybrid Filtering for Personalized Learning Recommendation System	476
<i>Nurul Arina, Indriana Hidayah, Noor Akhmad Setiawan</i>	
IoT Based Smart Bandage	481
<i>Maharani Ayu Lestari, Elyas Palantei, Intan Sari Areni, Rina Masadah, Dewiani, Merna Baharuddin Andini Dani Achmad, Azran Budi Arief, Asmi Citra Malina</i>	
IoT-Based Precision Irrigation System for Real-time Calculation of VPD, ETo and Crop Water Requirements in Sustainable Agriculture	487
<i>Phaitoon Srinil, Jakkrapan Sreekajon, Pattharaporn Thongnim</i>	
Real-time Irrigation Decision Support System for Mangosteen Cultivation Using VPD, ETo and Growth Stage Crop Coefficients	493
<i>Pattharaporn Thongnim, Jakkrapan Sreekajon, Phaitoon Srinil</i>	
Motorcycle Exhaust Gas Emission and Noise Measurement and Classification System Using ESP32 and IoT Sensor	499
<i>Farhan Syah, Nurul Ilmi, Demi Adidrana</i>	
InvestEasy: Combining Quantitative Data and News Sentiment for Robust Financial Forecasting	505
<i>Abhay A Rao, Abhay Raghavendra Revankar, Riya C S, V R Badriprasad</i>	
Detection System for Illegal Littering on Timah Sungailiat Road using YOLOv11	511
<i>Vivin Mahat Putri, Bradika Almandin Wisesa, Evvin Faristasari, Sirlus Andreanto Jasman Duli Silvia Agustin</i>	
Memory Replay and Knowledge Transfer for Fairness in Continual Learning on Imbalanced Data	517
<i>Ivana Nathania Wijaya, Hidayaturrahman</i>	

SmartECG-CNN: 1D CNN for Heartbeat Classification with SMOTE on Imbalanced ECG Data	524
<i>M. Hizbul Wathan, Rike Pradila, Better Swengky, Indra Irawan, Adinda Islamaya</i>	
Smart Monitoring and Control of Solar Panel Cooling System Using IoT-Integrated Wiper Mechanism	531
<i>Ajeng Bening Kusumaningtyas, Ikhsan Kamil, Adnan Afriadi</i>	
Teaching Transformed: Integrating YOLOv11, GroundingDINO, and SSDMobileNetV3 for Enhanced Monitoring in Video-Based Classrooms	535
<i>Ivan Afrizal, Azani Cempaka Sari</i>	
LSTM-Based Recognition of Indonesian Sign System (SIBI) Alphabet Using MediaPipe Holistic Landmarks	541
<i>Azani Cempaka Sari, Karto Iskandar, Hasyiya Karimah Adli, Almuzhidul Mujhid</i> <i>Christofer Valentinus Kosasih, Clayton Koh</i>	
Performance Accuracy of Modified Hybrid Geometric Brownian Motion Kalman Filter and Markov Switching Methods in Indonesian Stock Prices Forecasting	546
<i>Aldan Maulana Hamdani, Nur Iriawan, Irhamah</i>	
Geographically Weighted Log-Logistic 3-Parameter Regression Model for Stunting Prevalence: A Case Study on Sulawesi Island, Indonesia	552
<i>Nur Mawadah, Purhadi, Shofi Andari</i>	
Hybrid LSTM-ARIMA Model For Forecasting NO ₂ Gas Concentrations in Air Quality Data	558
<i>Maghda Luqyana, M. Yoka Fathoni, Rindi Indah Lestari, Tanzil Aziim</i>	
Analyzing the Factors Contributing to Poverty: Feature Selection and Random Forest Approach in Machine Learning	564
<i>Kania Puti Chairinnisa, Selika Anjani Putri Satiti, Andika Elok Amalia</i>	
Milk Product Recommendation through CatBoostRanker on Tesseract OCR(Optical Character Recognition)-Extracted Nutrition Facts	570
<i>Samuel Ady Sanjaya, Nur Hayati, George Kerry Wijaya, Annabelle Chloe, Yohanes Vincentius</i> <i>Jansen Wiratama</i>	
Interpreting Credit Risk Prediction with XGBoost and SHAP	576
<i>Muhammad Syahid Pebriadi, Tino Kemal Fattah, Putriana Salman</i>	
Forest Fire Prediction using One Dimensional Convolutional Neural Network	583
<i>Rani Rotul Muhima, Ira Puspitasari, Aditya Prana Iswara</i>	
Analysis of a Lightweight and Efficient LASSO Model for Real-Time Software Defect Prediction Using the JM1 Dataset	588
<i>Diki Fakhrizal, Ahmad Abdul Chamid, Rizkysari Meimaharani</i>	
Early Detection Dashboard for Liver Disease Using Machine Learning Classification	594
<i>Sri Hidayati, Tanzilal Mustaqim, Dyah Putri Rahmawati, Hartita Wirastri, Alfonsus Yoga Dewa Saputra</i>	
Clustering Rainfall Patterns in East Java Using Fuzzy C-Medoids Based on Dynamic Time Warping Distance	600
<i>Alicia Indirasari, Agus Sulistya, Sri Hidayati</i>	
Evaluation of GMM Clustering Augmentation and Attention Mechanism Integration in LSTM for Electricity Consumption Forecasting	606
<i>Ni Made Rai Nirmala Santhi, Meiliana</i>	

Clustering of Agricultural Pest Data with Different and Overlapping Characteristics	612
<i>Ferry Wahyu Wibowo, Robert Marco, Muhammad Kopravi, Akhmad Dahlan, Wihayati</i>	
Uncovering Public Discourse on the MBG Program: A Comparison of BERTopic and Top2Vec on Indonesian Tweets	619
<i>Hany Wijaya, Jesslyn Hok, Messya Carment, Edy Irwansyah</i>	
Implementation of LSTM Model for Food Delivery Time Prediction Based on Time Series Analysis	625
<i>Irfan Darmawan, Feyza Putri Aulia Pratami, Widyastuti Andriyani, Alam Rahmatulloh, Erna Haerani Randi Rizal</i>	
Machine Learning Model For Prediction Rice Production Using Algorithm Linear	632
<i>Erna Haerani, Reva Arya Maulana, Widyastuti Andriyani, Alam Rahmatulloh, Randi Rizal, Irfan Darmawan</i>	
Machine Learning-Assisted Screening of Pyrimidine-Pyrazole Derivatives as Steel Corrosion Inhibitors in Hydrochloric Solution	638
<i>Jaka Fajar Fatriansyah, Muhammad Ali Yafi Rizky, Rio Sudwitama Persadanta Kaban Muhammad Rakha Alfarabi, Sharen Ardyana Khintani, Rayhan Hagel Safa</i>	
Comparative Analysis of Single Nucleotide Polymorphism Processing Methods for Eye Color Prediction	644
<i>Anggun Winursito, Risanuri Hidayat, Igi Ardiyanto</i>	
Ensemble Learning for Robust Anomaly Detection in Banking Fraud	649
<i>Agung Nugroho, Muhtajuddin Danny, Ismasari Nawangsih</i>	
Comparative Evaluation of Feature Selection and Classification Algorithms for Disease Diagnosis Modeling	655
<i>Maftahatul Hakimah, Ira Puspitasari, Miswanto Miswanto</i>	
Software Defect Detection Using Optimized Support Vector Machine Based on RW-GWO-WOA	661
<i>Maulana Alirridlo, Rryanarto Sarno, Dwi Sunaryono, Abdullah Faqih Septiyanto, Irzal Ahmad Sabilla</i>	
GraphLawPH: Graph-Based Representation and Analysis of Philippine Republic Acts Using GraphSAGE	667
<i>Zaldy G. San Pedro, Melvin A. Ballera</i>	
Clustering-Based Profiling of Relational Database Performance	673
<i>Hironimus Leong, Andi W.R. Emanuel, Djoko Budiyanto SHR</i>	
A Vision-Language Career Chatbot with LLAMA and Explainable AI for Transparent Job Matching under Hallucination Mitigation Approaches	678
<i>Rizki Elisa Nalawati, Malisa Huzaiifa, Asep Taufik Muharram, Noorlela Marcheta Muhammad Yusuf Bagus Rasyiidin</i>	
Robust Early Breast Cancer Classification Using Optimized LightGBM with ADASYN and Calibration-Aware Evaluation	684
<i>Oktavia Putri Handayani, Purwono Purwono, Alfian Ma'Arif, Iswanto Suwamo</i>	
Enhanced Hill Cipher Using Rectangular Key Matrix to Expand Key Space for Digital Image Encryption	689
<i>Supiyanto, Ira Puspitasari, Rimuljo Hendradi</i>	

Implementation of Role-Based Access Control using Identity-Based Encryption for Secure Internet of Vehicle Data Communications	695
<i>Septian Ridho Syah Putra, Mike Yuliana, Amang Sudarsono</i>	
Merging Quantum Entropy with Classical Speed: Design and Evaluation of a Hybrid Random Number Generator for Secure Encryption	701
<i>Verren Angle Ng, Marshia Haunafi, Andira Dinda Larasathi, Yohan Muliono</i>	
Detection of Distributed Denial of Service (DDoS) Attack on EV Charging Station using XGBoost Algorithm	707
<i>Muhammad Iqbal Januari, Syifa Nurgaida Yutia, Nurul Ilmi</i>	
The Application of Zstandard Compression and Advanced Encryption Standard Methods for Optimizing Data Transmission and Security in Cloud Computing	714
<i>Yuha Safira Ramadani, Syifa Nurgaida Yutia, Rana Zaini Fathiyana</i>	
Reducing Handover and Ping-Pong Events in LTE Networks via Q-Learning and Subtractive Clustering	719
<i>K M Istiaque, Shafayet Sadik Sowad, M M Sadman Shafi, Mohammad Tawhid Kawser</i>	
Malicious URL Analysis and Detection Bot on Discord Platform using Temporal Convolutional Networks	725
<i>Muhammad Alif Erfareta, Syifa Nurgaida Yutia, Nurul Ilmi</i>	
Development of Automated Testing Scripts Using Robot Framework to Detect SQL Injection Vulnerabilities in APIs	731
<i>Erin Haryani, Syifa Nurgaida Yutia, Nurul Ilmi</i>	
Distributed Power Control in Heterogeneous Networks: A Game Theory Perspective	737
<i>Abda Fauzan, Anggun Fitrian Isnawati, Wahyu Pamungkas</i>	
Digital Modulation Schemes in Ultra-Gigabit Inter-Satellite Optical Wireless Communication	743
<i>Anggun Fitrian Isnawati, Fauza Khair, I Wayan Mustika, Sevia M. Idrus, Fakhriy Hario, Fauzi Khair</i>	
Optimizing Machine Learning Models for Imbalanced Datasets A SMOTE and Grid Search Approach*	751
<i>Mohamed Osman Omar, Mohamed Elmi Ahmed</i>	
Enhanced Conformational Clustering Evaluation Using the RMSD Distance Function in K-Means Method	760
<i>Dwi Taufik Hidayat, Ira Puspitasari, Febdian Rusydi</i>	
Privacy-Preserving YouTube Spam Comment Detection Using a Federated LSTM Network	766
<i>Nicholas Kenny Hendrawan, Louis Oktovianus, Shania Priccilia, Ricky Reynardo Siswanto, Samuel Philip</i>	
Integration of Spatial Analysis, Random Forest, and Clustering for Mapping and Predicting Sustainable Fisheries Activities	772
<i>Devi Fitriana, Maria Susan Anggreainy, Zabika Dinda Istnaeni, Mohammad Faisal Riftiarrasyid</i>	
Analysis of Frequency and Voltage Stability Due to Disconnection of the Jenepono Steam Power Plant	778
<i>Marwan Marwan, Sakinah Putriani Syamri, Sofyan Sofyan, Muhira Dzar Faraby, Andarini Asri Wisna Saputri Alfira W S</i>	
Indonesian Food Detection with YOLO and Calorie Estimation Using Lightweight LLMs	784
<i>Maulin Nasari, Gabriel Asael Tarigan, Nikita Ananda Putri Masaling, Setiawan Joddy Kelvin Asclepius Minor</i>	

Enhancing Bone Fracture Detection in X-ray Images Using Faster R-CNN with EfficientNetV2	790
<i>Gading Aditya Perdana, Maulin Nasari, Muhammad Alfhi Saputra, Rico Halim, Kelvin Asclepius Minor</i>	
Design and Implementation of Inlet/Return Units Via Integrated SCADA/PLC S7-1200 using TIA Portal	796
<i>Luay Mahdi Kadhum, Samir Jasim Mohammed, Qais Al-Gayem</i>	
Artificial Intelligence-Based System for Word Recognition and Extraction in Indonesian Sign Language Videos	802
<i>Marvel Martawidjaja, Richie Darylson Tandiono, Lili Ayu Wulandhari</i>	
Vision-Based Adaptive Signal Control: A Comparative Study of YOLOv9, SSD, and Faster R-CNN	809
<i>Jovinto Ferdinand Kusniawan, Jeremy Ardhito Sulle, Nicholas Tjandra, Fiqri Ramadhan Tambunan, Derwin Suhartono</i>	
Performance Analysis and Edge Implementation of YOLOv5 for Grasshopper Pest Detection in Lettuce Cultivation	815
<i>Dimas Cahya Dinata, Indra Hermawan, Ayu Rosyida Zain, Iik Muhamad Malik Matin, Okta Gabriel Sinsaku Sinaga</i>	
Towards Zero Defect Manufacturing: An End-to-End MobileNetV2 Pipeline for Corrugated Asbestos Surface Defects	821
<i>Yustina Suhandini Tjahjningsih, Moses L. Singgih, Putu Dana Karningsih, Chastine Fatichah</i>	
Blockchain-Enabled Secure Federated Learning for Electronic Medical Records: A Scalable and Privacy-Preserving Framework	827
<i>Indra Yatini B., Kuindra Iriyanta, Hendra, B.T. Sutrisno. SP., Heri Muhrial, Edy Prayitno</i>	
Hybrid Post-Quantum Cryptography (PQC) for Patient-Centric EHR	834
<i>Edy Prayitno, Noor Alis Setiyadi, Erma Sofiani, Edi Iskandar, Basuki Heri Winarno, Sri Setyowati</i>	
InterQ: a Job Interview Training Platform Using Facial Expression Detection and Answer Scoring	841
<i>Yoshiven Boer, Amelia Cantika Permatasari, Kevin Kevin, Gabriel Asael Tarigan, Derwin Suhartono</i>	
Predicting Stroke Disease Factors with Stacking Classifier: Leveraging Ensemble Machine Learning Techniques	847
<i>Randi Rizal, Mochamad Renaldi, Widyastuti Andriyani, Alam Rahmatulloh, Erna Haerani, Irfan Darmawan</i>	
Comparative Analysis of Spatial and Channel-Wise Feature Enhancement in VGG16 for Skin Cancer Classification	854
<i>Santy, Abram Setyo Prabowo, Simeon Yuda Prasetyo, Melkamu Hunegnaw Asmare, Clarissa Aditjakra, Clarawita</i>	
Implementation of IoT for Real-Time Power Quality Monitoring in Low Voltage Distribution Systems	860
<i>Isdawimah, Nuha Nadhiroh, Fikri Arifuddin, Renita Ramdani, Reyhana Mazhab Islami, Imam Halimi</i>	
Decision Models for Marketing Strategies in Engineering Industries: An Autoencoder-Based Deep Learning Approach for Customer Behavioral Segmentation	865
<i>Said Almaqbali, Asmaa H. Marhoubi, Oualid Ali</i>	
Hardware-Friendly Decision Tree Optimization for EMG Signal Classification	871
<i>Toka Abdulhameed Fathi, Basil Shukr Mahmood, Mohammed A. M. Abdullah</i>	
Performance Assessment of Solar Panel Tilt Angles under Charging and Load Conditions	878
<i>Muchlishah, Dezetty Monika, Fiqi Muthiah, Rahmatu Soleha, Nuha Nadhiroh, Mutiar</i>	

Toward Emotion-Aware and Personality-Driven Mental Health Chatbots Using Large Language Models	884
<i>Fina Keiza Arismana, Rizka Wakhidatus Sholikhah, Raden Venantius Hari Ginardi</i>	
Harnessing Solar Energy Via Dye-Sensitized Solar Cell Using Saba Banana (<i>Musa acuminata</i> x <i>balbisiana</i>) Leaf	890
<i>Christian Rey G. Marino, Reena D. Samson, John Christian Y. Nicdao</i>	
Android Malware Classification based on Image Feature Extraction using CNN and LightGBM	898
<i>William Paul Gustav, Nurul Ilmi, Syifa Nurgaida Yutia</i>	
A Statistical Evaluation of GRU4Rec, NARM, and STAMP Models for Sequential Recommendation on the Sephora Dataset	904
<i>Agung Toto Wibowo, Hasmawati, Hani Nurrahmi, Imtitsal Ulya Salsabila</i>	
Multi-class Imbalanced Data Classification on Statlog (Shuttle) with Gradient Boosting, SMOTE, and Random Forest	910
<i>Triyan Agung Laksono, Bambang Purnomosidi Dwi Putranto, Dini Fakta Sari, Deborah Kurniawati Ali Impran, Adi Kusjani</i>	
Knowledge-Based Music Recommendation System Based On Human Activities	915
<i>Matthew Lim, Louis Oktovianus, Shania Priccilia, Ricky Reynardo Siswanto, Samuel Philip</i>	
Information Extraction and Standardization from Scanned Medical Reports using Vision Language Models	920
<i>Mohamed Mehoud Bouh, Abdullah Al Noman, Prajat Paul, Forhad Hossain, Ashir Ahmed</i>	
Improving Stock Price Prediction Utilizing Anomaly Detection and Handling for Top 3 LQ45 Financial Company in Indonesia	926
<i>Nicholas Irvin Suhendi, Lili Ayu Wulandhari</i>	
The Next Generation Avionics Transition: Optimization Techniques and Challenges Utilizing Machine Learning	932
<i>Shreyas Yadaveerappa Kouty, Luis C Martinez</i>	
Intent Recognition for ENT-Related Questions in a Closed-Domain Medical Chatbot using TinyBERT-BiLSTM	938
<i>Djoni Haryadi Setiabudi, Olivia Tantana, Steven Christando</i>	
A Weighted Ensemble of Multi-Scale Fusion CNNs for Melanoma Classification	943
<i>Yanal Idrees, Heba Abdel-Nabi</i>	
Interpretable Healthcare Cost Prediction Using XGBoost with Dual Explainable AI Framework	949
<i>Ammar Pavel Zamora Siregar, Achmad Udin Zailani, Nurul Ilmi</i>	
Sugarcane Disease Classification Using MobileNetV3	955
<i>Justine David B. Cadacio, Gabriel A. Ferrer, Ernesto M. Vergara</i>	
Potato Size Classification Using ResNet152V2	961
<i>Sander R. Demdam, Aaron Guiller B. Turado, Carlos C. Hortinela</i>	
Student Grade Prediction Using Machine Learning Model in Computer Science Education	966
<i>Violitta Yesmaya, Ford Lumban Gaol, Haryono Soeparno, Yuliani Arifin</i>	

Development of AI and Human Based Artwork Classification System for Vision Transformer	971
<i>Muhammad Khairul Luthfi Hadi, Nurul Ilmi, Desi Nurnaningsih</i>	
Comparative Analysis of YOLO Algorithm Performance in Firearm Detection on Static Images	977
<i>I Gusti Ngurah Agus Rama Putra, I Putu Agus Eka Darma Udayana, Aniek Suryanti Kusuma</i>	
Comparative Analysis of LSTM and 1D-CNN Models for Indonesian Sign Language (SIBI) Recognition Using MediaPipe Landmarks	983
<i>Ani Isnaeni, Rojali</i>	
Short-Term Hourly Electricity Load Forecasting Using LSTM-Based Deep Learning on Historical Consumption Data	989
<i>Indah Permatasari, Nur Afifah Zen, Irmayatul Hikmah</i>	
Comparative Analysis of Neural Networks and Traditional Machine Learning Models in Federated Learning for Multi-Class Classification	994
<i>Sri Astuti, Aloysius Adya Pramudita, Favian Dewanta</i>	
Imbalance Data Handling using Class Incremental Learning with Knowledge Distillation and Rehearsal Learning	1000
<i>Hidayaturrahman, Setiawan Joddy, Indra Prawira</i>	
AI-Driven Prediction of ICU Admission After Left Heart Catheterization: A Machine Learning Approach	1006
<i>Ardian Prima Atmaja, Chastine Fatichah, Ratih Nur Esti Anggraini, Wijayanti Nurul Khotimah</i>	
Local Interpretable Model-Agnostic Explanations (LIME) Based Analysis on Carabao Mango Grading Misclassification	1012
<i>Arianne Mae R. Apolinario, Garwilh Honey O. Botin, Rosemarie V. Pellegrino</i>	
An Evaluation of the GRU4Rec Model for Sequential Recommendation in the Music Domain	1018
<i>Imtitsal Ulya Salsabila, Agung Toto Wibowo</i>	
Taming Ambiguity: A Unified Approach for Aleatoric and Epistemic Uncertainty in Speech-Text Emotion Recognition	1024
<i>Daniel Yohanes, Andry Chowanda</i>	
Application of the Cascade Method in the Integration of Whisper and Ensemble NLP for Speech Summarization	1030
<i>Kenneth Filbert, Andry Chowanda</i>	
Deep Learning Model Development Using a Super-Resolution Approach for Age and Gender Recognition in Low-Resolution Facial Images	1036
<i>Jonathan Adrian, Gede Putra Kusuma, Ariadi Nugroho</i>	
Deep Learning Based Spatio-Temporal Modeling for Flood Risk Prediction in Jakarta	1042
<i>Putri Adistia Ramadhani, Vini Indriasari</i>	
Hybrid LSTM–Random Forest Model for Forecasting Lettuce Leaf Growth in Hydroponic Systems During the Rainy Season	1048
<i>Ahmad Fauzi Zayandra, Deny Haryadi, Demi Adidrana</i>	
IndoBERT and IndoBERT-Lite Models in YouTube Comment Sentiment Analysis to Assess All-Age Viewing Suitability	1054
<i>Muhammad Genta Syamsutizar, Deny Haryadi, Rana Zaini Fathiyana</i>	

Classification of Eye Diseases Based on Eye Fundus Images Using the YOLO11 Algorithm	1060
<i>Muhammad Dzaky Taqillah, Nurul Ilmi, Hertanto Suryoprayogo</i>	
Evaluating Hybrid Feature Selection Quality and Efficiency Trade-Off in DRL-Based Intrusion Detection Systems	1066
<i>Satriadi Putra Santika, Ford Lumban Gaol, Yulyani Arifin, Haryono Soeparno</i>	
Enhancing Clinical Interpretability in BI-RADS Classification: Segmentation-Assisted Approach Using U-Net and ResNet50 for Mammography	1072
<i>Maryam Laurannisa Williams, Desi Nurnaningsih, Deny Haryadi</i>	
Implementation of YOLOv11 and MobileNetV3 for Road Damage Detection on Image Data	1078
<i>Jaya Saputra, Kurniawan Nur Ramadhani</i>	
Early Detection of Autism Spectrum Disorder in Toddlers Based on XGBoost and SHAP	1084
<i>Yenny Margareta Wijaya, Nurul Ilmi, Hertanto Suryoprayogo</i>	
Implementation of YOLOv8 and ResNet-50 for PPE Usage Detection in Work Environment	1090
<i>Ade Ikmal Maulana, Kurniawan Nur Ramadhani</i>	
Classification of Ulos Batak Toba Motifs Using a Convolutional Neural Network (CNN) And HN Adam	1097
<i>Hizkia Anju Pasaribu, Deny Haryadi, Nurul Ilmi</i>	
Masking-Augmentation on Mel-Spectrogram and MFCC for White-crowned Sparrow Vocalization Variants Classification	1103
<i>Abdurrahman Zufar, Sari Widya Sihwi, Herdito Ibnu Dewangkoro</i>	
NER for Medical Component Classification in Doctor's Responses Using BERT-CRF	1109
<i>Nurti Ananda, Deny Haryadi, Rana Zaini Fathiyana</i>	
Expert System for Computer Damage Diagnosis with Hybrid Natural Language Processing and Knowledge Base	1115
<i>Gede Adhitya Bayu Pramana, Putu Sugiartawan, I Putu Agus Eka Darma Udayana</i>	
An Agentic Approach to Synthetic Data Generation: Building and Benchmarking a COPA Dataset for Indonesian Language and Dialects	1120
<i>I Gusti Bagus Ramadha Saverian Ranuh, Violitta Yesmaya</i>	