

2025 International Conference on Applied Artificial Intelligence, Data Engineering and Sciences (ICAIDES 2025)

**Jakarta, Indonesia
11-12 December 2025**

IEEE Catalog Number: CFP250AG-POD
ISBN: 979-8-3315-6499-5



Copyright © 2025, IEEE

All Rights Reserved

Copyright and Reprint Permissions:

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

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

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

IEEE Catalog Number:	CFP250AG-POD
ISBN (Print-On-Demand):	979-8-3315-6499-5
ISBN (Online):	979-8-3315-6498-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA

Phone:	(845) 758-0400
Fax:	(845) 758-2633
E-mail:	curran@proceedings.com
Web:	www.proceedings.com

TABLE OF CONTENTS

Proposing Deep Learning Models for Vietnamese Medical Prescription Information Extraction	1
<i>Dung Lai Tri, Bang Nguyen Anh, Hiep Van Hoang, Phat Huu Nguyen</i>	
Production Planning Based on Artificial Neural Network Forecasting and Business Intelligence Analysis for An Oil Equipment Manufacturing Company	6
<i>Amanda Nurhafizah, Lina Gozali, Lamto Widodo</i>	
Stress Detection Using Multimodal Feature Engineering and Ensemble Learning	10
<i>V.Gowri Priyaa, B. Bhuvaneshwari, V. Sowmya</i>	
COSTAR: Cloud-Observed Safety and Trust-Aware Agentic Reasoning for Enterprise Workflows	15
<i>Sowjanya Pandruju</i>	
Influencing Factors on AI Use Intention of Undergraduates in Can Tho City	20
<i>Tuan-Kiet H.V. Truong, Dang Vo Gia Le</i>	
Benefits and Learning Experience for University Students via AI Application in Can Tho, Vietnam	25
<i>Tuan-Kiet H.V. Truong, Thang Hong Vo</i>	
Predicting the Impact Likelihood of Factors on Higher Education Learners' AI Usage Readiness in Can Tho, Vietnam	30
<i>Tuan-Kiet H.V. Truong, Dang Vo Gia Le</i>	
Multimodal Hate Speech Detection and Classification in Malayalam	35
<i>Raees A Ahmed, Aakash Sudhi, P.S Sreeja</i>	
Application of the Methontology Method to the Lombok Tourism Ontology Model with Chatbot Integration Using Apache Jena Fuseki	40
<i>Hartono Wijaya, Helna Wardhana, Anthony Anggrawan</i>	
Implementation of an End-to-End Indonesian Medical Text Simplification System Using IndoT5	45
<i>Shannon Andrea, Ernawati, Bagus Mulyawan, Janson Hendryli</i>	
Comparative Analysis of Loss Functions in Deep Learning Models for Water Level Forecasting	50
<i>Tuan-Minh Do, Ngoc-Bao-Quang Nguyen, Cong-Tam Phan, Thi-Thu-Hong Phan</i>	
Adaptive vs Static Hyperparameter Optimization Across CNN and Transformer Models	55
<i>Nam-Thuan Trinh, Phi-Hung Hoang, Thi-Thu-Hong Phan</i>	
Evaluating the Impact of Throttle-Aware Data on Conditional Imitation Learning for Autonomous Driving	60
<i>Endang Rusiana, Angga Rusdinar, Inung Wijayanto, Thalita Dewi Rahmianar</i>	
Smart Movement: Identifying Factors Impact on Purchase Intention of E-Motorcycle in Vietnam	65
<i>Tuan-Kiet H.V. Truong, Thang Hong Vo</i>	
Gaussian Support Vector Machine Models Based Texture Analysis using Gabor Filter for Concrete Crack Classification	72
<i>Yessi Jusman, Ahmad Zaki, Agil Priambada, Abi Arga Gumilang</i>	

PID-Based Charging Control for Depth of Discharge Management in Lithium-Ion Battery Energy Storage Systems: A Simulation Study	78
<i>Akka Rafif Sirajuddin, Iwan Setiawan, Mochammad Facta</i>	
Lightweight Deep Learning Model Optimization for Apple Disease Classification Application	83
<i>M. Aldiki Febriantono, Nasywa Hilmi Cahyono, Brian Marcellino</i>	
HUSHHH: An Immersive 3D Puzzle-Solving Game for Sign Language Learning	89
<i>Jia Min Ng, Luke Chee Chien Lee, Ying Mei Leong</i>	
Blockchain Technology Model to Support Career Management for a Global Company	95
<i>Inayatulloh, Hamsinah, Imam Zaenuddin, Dessy Adelin, Siti Julianingsih Nurfitriyani Muhammad Rizki Sani</i>	
Integrating the Prophet Method to Enhance SARIMA Performance in Shallot Price Forecasting	100
<i>Muhammad Pandu Wirakusuma, Inung Wijayanto, Helni Mutiarsih Jumhur</i>	
Utilizing Arithmetic Meta-Learning Method for Unsupervised Learning Purposes	106
<i>Erfan Arzhmand, Fatemeh Hosseini, Hossein Rashid</i>	
ReAct-Powered Chatbots for Real-Time Information Access: Case Study on Cultural SMEs	111
<i>Widya Khaerunnisyah, Bagus Mulyawan, Viny Christanti Mawardi</i>	
Feature-level vs. Decision-level Ensemble Learning for Automated Tomato Quality Assessment	118
<i>Nguyen Tran Dinh Ho, Thi-Thu-Hong Phan</i>	
Small-Signal Stability Analysis of PV-Penetrated SMIB Systems Considering Control Measurement Delays	123
<i>Aditia Dermawan, Husni Rois Ali, Avrin Nur Widiastuti, Naval Rudiyanto</i>	
Deterministic Compressed Imaging and Efficient Reconstruction for Underwater Target Classification	129
<i>K Manohar, M. Sabarimalai Manikandan</i>	
Improving Usability Augmented Reality With Code Complexity and Maintainability Index	134
<i>Hendriyana, Haryono Soeparno, Yulyani Arifin, Ford Lumban Gaol</i>	
Service Innovation in the Hospitality Sector: The Role of Digital Leadership, Capability of Digital Information Systems, and Digital Ecosystem	139
<i>Dicky Hida Syahchari, Nila Astiti, Arif. Zulkarnain, Silverius Constantino Johannes M Lake Abdul Rauf Ridzuan, Dino Gustaf Leonandri</i>	
MFCC-Based Multilingual Speech Processing for Depression Classification	145
<i>Monica Pratiwi, Nur Hayati, Alvin Yohanes Kristianto</i>	
A Comparative Failure Analysis of Object Detection in Orthopantomography	151
<i>Hizkia Imanuel Septianto, Tatiya Sucitta, David Zefanya Malau, Abram Setyo Prabowo, S. Kom</i>	
Blockchain-Based Traceability of Product Ingredients and Labeling to Combat Overclaiming in the Indonesian Cosmetics Industry	157
<i>Aurelia Lisdy Nandiya, Herry Irawan, Andry Alamsyah</i>	
Comparing Attention-Based Architectures for Advanced Vehicle Detection	163
<i>Cetta Maulana Andhika, Surya Michrandi Nasution, Reza Rendian Septiawan, Saichand Raghupatirini</i>	

Comparative Analysis of Technical Indicators' Effect on Forecasting Models for LQ45 Stock Prices	168
<i>Daniel Kevin Jhon Feko Wahyudi, Emmanuel Daniel Widhiarto, Felicia Natania Lingga, Andry Chowanda</i>	
Performance Evaluation of Statistical Time Series Models Across Different Stock Volatility Categories	174
<i>Louis Oktovianus, Ivan Sebastian Edbert, Andry Chowanda</i>	
HorizonTSD: A Unified Platform for Adaptive Time Series Forecasting	180
<i>Dmitrii Vasenin, Anastasia Shakhova, Nikita Savvin, Bulat Khuzin, Tatyana Gutsulyak, Dmitry Anikushin</i>	
Sentiment Analysis of Public Perception Towards Indonesia's Free Meal Program (MBG) from X Data Using VADER and IndoBERT	186
<i>Derren Malaka, Kelsten Wuisan, Rani Puspita</i>	
ShuffleNetV2-LSTM: An Efficient Spatio-Temporal Model for Video Deepfake Detection	193
<i>Arya Krisna Putra, Ford Lumban Gaol, Yulyani Arifin, Haryono Soeparno</i>	
A Hybrid Evaluation Framework Combining Quantitative and Qualitative Approach for Enhanced User Experience	198
<i>Alvina Aulia, Haryono Soeparno, Ford Lumban Gaol, Yulyani Arifin</i>	
Machine Learning Driven-Prediction of Digital Transformation Readiness	204
<i>Rhisa Adika Putri, Harco Leslie Spits Warnars, Yohannes Kurniawan, Harijanto Prabowo, Sfenrianto</i>	
The Hook-in-CBEWS Framework: A Behavioral Design Framework for Enhancing Engagement in Community-Based Early Warning Systems	209
<i>Dimas Budianto, Lukito Edi Nugroho, Azkario Rizky Pratama</i>	
Air-to-Ground Channels in Tropical Archipelagos:A Systematic Review for In-Flight Connectivity over Eastern Indonesia	215
<i>Iswidodo, Fadli Sirait, Setiyo Budiyanto</i>	
5W1H Information Extraction Using Indobert Name Entity Recognition for Sports News	222
<i>George Wielianto, Novario Jaya Perdana, Jeanny Pragantha</i>	
Adaptive Insurance Claim Inference Modeling: Multi-agent RAG with Chain-of-thought Optimization	227
<i>Dennis Tandelon, Nur Afny Catur Andryani, Yandi Ariffudin, Eka W. Pujiharto</i>	
A BOOSTER PACK FOR IT EDUCATION: A Program Evaluation for Information Technology Education in Higher Education Institutions	233
<i>Noel E. Estrella, Rosalyn Galvez</i>	
Immersive Educational Technologies for Empowering Students with Disabilities: A Systematic Review	237
<i>Jusia Amanda Ginting, Danny Manogga, Irwan Sembiring, Theophilus Wellem, Raphael Benedict Manuel</i>	
Characterization and Modeling of Conducted Noise Overlap in Multiple Automotive Power Converters	242
<i>Hyuga Yanagisawa, Katsuma Kubo, Wataru Kitagawa</i>	
Performance Comparison of Scaled Conjugate Gradient and Levenberg-Marquardt Algorithms for Pap Smear Pathological Cell Classification	248
<i>Yessi Jusman, Itsnaini Noor Latif Ismail, Ihsas Nur Alam, Maryza Intan Rahmawati</i>	
Student's attitudes toward artificial intelligence and its impact on academic procrastination: A selfefficacy mediation test	254
<i>Pamela Hendra Heng, Regine Caitlyn Suwu, Nivia, Reni Juniarsa Pranata, Nikole Edmonda Yapputro Henny Triyani</i>	

Enhanced Vision-Based Object Detection on a Hexapod Robot Using YOLOv5 and Image Filtering Techniques	259
<i>Khairul Fajri, Aris Triwiyatno, Iwan Setiawan</i>	
Adaptive Droop Control Based on SoC Deviation for Communication-Free Battery Balancing in DC Microgrids	265
<i>Moh. Salahudin, Trias Andromeda, Iwan Setiawan</i>	
A Preliminary Investigation of a Mathematics Educational Game (Math Planet) for Supporting Slow Learners in Mathematics: Exploring the Potential of AI Integration	270
<i>Wong Joe Ying, Danakorn Nincarean Eh Phon, Nor Saradatul Akmar Zulkifli, Suhaizal Hashim Nor Hidayah Che Lah, Nor Hannani Izzati Abdullah</i>	
Implementation of Cost-Sensitive Learning and Fine-Tuning IndoBERTweet for Hate Speech Detection	275
<i>Briliona Briliona, Viny Christanti Mawardi, Manatap Dolok Lauro</i>	
CORA-MARL: Cost-and Resource-Aware MultiAgent Reinforcement Learning Framework	280
<i>Raghu K Para</i>	
Evaluation Planning for Academic Self-service University Management System ISDT Product Aspect	286
<i>Muhamad Idaham Umar Ong, Mohamed Ariff Ameen, Ngahzaifa Ab Ghani</i>	
An Information System Design Product Theory for Final-Year Project Management System: A Case Study Evaluation	291
<i>Muhamad Idaham Umar Ong, Danakorn Nincarean Eh Phon, Ngahzaifa Ab Ghani</i>	
Enhancing Robustness in Food Image Classification with Data Augmentation Strategies	296
<i>Joel Nathan, Lucas Salvacio Husada, Anderies</i>	
Trends, Issues, and Ethical Challenges In The Use of Artificial Intelligence In Social Sciences: A Bibliometric Analysis	302
<i>Priskardus Hermanto Candra, Ludovikus Bomans Wadu, Romanus Piter</i>	
Two-Stage Converter for Small Wind Turbines: Full-Bridge DC-DC Plus Three-Leg Inverter Using Arduino Mega 2560	307
<i>Jonathan Wijaya, Leonardus Heru Pratomo</i>	
Leveraging the Ensemble Method to Improve Abstractive Summarization	312
<i>Saymen, Abba Suganda Girsang</i>	
Optimizing Tropical Mine Dewatering Using IoT-Enabled Hybrid Diesel-Solar PV Pumping with Real-Time Data Integration	318
<i>Miftahul Fadillah, Erkata Yandri</i>	
Comparative Analysis of MPLS LDP and Segment Routing on Nokia 7750 Using BGP Auto-Discovery	325
<i>Christ Geofany, Imelda Uli Vistalina Simanjuntak, Lukman Medriavin Silalahi, Dwi Harinitha</i>	
Experimental Detection of Thermal Degradation in MV Underground Cable Joints Using Combined Electrical and Thermal Diagnostics	330
<i>Ahmad Luqman Che Rani, Tze Mei Kuan, Mohamed Ansari Mohamed Nainar, Azrul Mohd Ariffin Miszaina Osman, Wong Jee Keen Raymond</i>	
Electricity Consumption Forecasting for Agency Electricity Purchasing Based on LSTM Networks	337
<i>Wenjie Sun, Fangmei Bie, Jun Yang, Fuzhang Wu, Yafang Tong, Ting Hu</i>	

Intelligent Management Parking Using YOLO: Optimizing Space at Universitas Syiah Kuala	343
<i>Muhammad Nebiel Wareth, Melinda Melinda, Yunidar Yunidar, Muhammad Irhamsyah Rizka Miftahujannah, Siti Rosdiana</i>	
Blockchain-Enabled Disaster Resilience: A Paradigm for Enhancing Transparency, Securing Funds, and Optimizing Aid Delivery	348
<i>Moez Krichen, Mariam Lahami, Mohamed S. Abdalzaher, Mostafa Shaaban</i>	
Implementation of Long Short Term Memory Algorithm in Building Wind Speed Prediction Model: Case Study in Banda Aceh	355
<i>Dedek Ismail, Suriadi Suriadi, Tarmizi Tarmizi, Melinda Melinda</i>	
Proportional-Integral-Derivative (PID) Control Simulation for Buck Converter in Battery Phone Charging Application	360
<i>Siti Solihat Jam'a Dinniyah, Ary Syahriar, Dwi Astharini</i>	
Digital Twin for Strategic Carbon Policies Management in Logistic Networks	365
<i>Manuele Favero, Ece Şirvancı, Chiara Schiavo</i>	
Predicting Vehicle Lifecycle Emissions and Hidden Carbon Tax via Multitask TabNet	371
<i>Christopher Immanuel Widjaja, Ir. Yulyani Arifin, S. Kom</i>	
Improving Convolutional Neural Network Accuracy with Data Augmentation in Rice Leaf Disease Detection	378
<i>Fiddin Yusfida A'La, Nurul Ngaeni, Akas Bagus Setiawan, Riza Akhsani Setyo Prayoga, Helmi Imaduddin Anik Nur Hidayati</i>	
A Weighted Hybrid Approach for Recommender Systems Using Alternating Least Squares and CatBoost	383
<i>Fiddin Yusfida A'La, Nurul Firdaus, Helmi Imaduddin</i>	
Stock Price Forecasting Using a Complete Ensemble Empirical Mode Decomposition with Adaptive Noise and Recurrent Neural Networks	388
<i>Kadek Imelda Anindra Eraswati, Prilyandari Dina Saputri</i>	
Implementation of Mask Region-Based Convolutional Neural Network for Web-Based Waste Classification	393
<i>Tegar Arifin Prasetyo, Rudy Chandra, Herimanto Pardede, Amalia Nur Alifah, Maranatha Siahaan Eka Syahputra Lumbanraja, Nania Avantika Oligiviana Pangaribuan</i>	
Computer Vision-Based Indonesian Sign Language Recognition System Using MediaPipe and SVM on Raspberry Pi	398
<i>Ivan Alexander, Endra, Muhammad Mirza, Daniel Geraldo</i>	
Development and Evaluation of a Web-Based Document Processing System for Students of Cavite State University	403
<i>Jake R. Ersando, Jason L. Baskiñas, Lorientel R. Macabacyao, James Angelo V. Aves, Mark Philip M. Sy Ria Clarisse M. Sy</i>	
Multi-scale Deep Learning-based Specific Emitter Identification with Dynamic IoT Environments	408
<i>Sayantika Mandal, Udit Satija, Jimson Mathew, Hugeng Hugeng, Choo W. R. Chiong</i>	
Solar Panels Defect Detection and Classification Based on ResNet50	414
<i>Abdelhak Mehadjbia, Fouad Slaoui-Hasnaoui, Ala Eddine Kaddour Amraoui</i>	

Towards Smart and Green Agro-Marine Manufacturing in Coastal SEZs: An AI and Data Science-Enabled Conceptual Framework	420
<i>Erkata Yandri, Ambo Tuwo, Winanrni Dien Monoarfa</i>	
Impact of Various Substrate Types on Antenna Total Gain with Edge Feeder through Simulation	425
<i>Imelda Uli Vistalina Simanjuntak, Sulistyaningsih, Lukman Medriavin Silalahi, Dwi Harinitha</i>	
Transforming Education with AI: A Concise Overview	431
<i>Filbert H. Juwono, Regina Reine</i>	
Predictive Cost Estimation Using Machine Learning for Proactive Cost Overrun Mitigation in Project Management (Case Study: PT XYZ)	437
<i>Afganta Chezar Enhartana, Teguh Raharjo, Anita Nur Fitriani</i>	
A Novel GAN-Augmented EEG Classification Framework Using Graph Convolutional Networks for Autism Spectrum Disorder Detection	443
<i>Melinda Melinda, Yuwaldi Away, Syahrul Gazali, W.K. Wong, Kaysa Marisa, Muhammad Mirza Rahmat</i>	
A Robust System for Face-Based Ethnicity Classification	448
<i>Gülden Eleyan, Sherif Said, Karim Youssef, Samer AlKork, Alaa Eleyan</i>	
Rolling ARIMA vs Transformer for Megathrust Seismic Magnitude Forecasting: A Two-Region Benchmark on Aceh (ID) and Tohoku (JP)	453
<i>Herianto, Eka Yuni Astuty, Gibran Qolil Tabrani</i>	
Machine Learning Approaches for Smart Meter Condition Monitoring in Metropolitan Environments	458
<i>Hau Kin Tsang, Kam Tim Woo, Ka Lun Lam</i>	
AI-Driven Competency Pattern Mining for Digital Literacy in Adaptive Learning Environments	463
<i>Yeni Anistyasari, Suparji, Ekohariadi, Shintami C Hidayati, Agus Wiyono, Awwalia Arofatur Nikmah</i>	
Proposing Deep Learning Models for Vietnamese Medical Prescription Named Entity Recognition	468
<i>Dung Lai Tri, Bang Nguyen Anh, Hiep Van Hoang, Phat Huu Nguyen</i>	
Comparative Study of Noise Reduction Techniques in Audio Data Using PESQ and STOI	473
<i>Angelica Trifosa, Meirista Wulandari</i>	
Signcryption Scheme Using the Schmidt Samoa Cryptosystem and Ong-Schnorr Shamir Digital Signature to Ensure the Security of Digital Text	479
<i>Dian Rachmawati, Mohammad Andri Budiman, Amer Sharif, Muhammad Haikal Rahman</i>	