

ICCRAIDS 2026

ICCRAIDS

International Conference on Current Research in Artificial
Intelligence and Data Science

Program Book

Host:



Co-Host:



Sponsored by:



Universitas AMIKOM Purwokerto

2026

PROCEEDINGS

**2026 International Conference on Current
Research in Artificial Intelligence and Data
Science (ICCRAIDS)**

**10-11 April 2026
Universitas Amikom Purwokerto,
Banyumas, Indonesia**

COPYRIGHTS

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS)

Copyright ©2026 by Institute of Electrical and Electronics Engineers, Inc. All rights reserved.

Copyright and Reprint Permission:

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 Centre, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint, or reproduction requests should be emailed to IEEE Copyrights Manager at pubs-permissions@ieee.org. All rights reserved. Copyright ©2026 by IEEE.

IEEE Catalog Number : CFP262AX-ART
ISBN : 979-8-3315-6808-5

Additional copies of this publication is available from

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

+1 845 758 0400
+1 845 758 2633 (FAX)
Email: curran@proceedings.com

1. WELCOME MESSAGE



Praise be to God for His blessings and guidance. On behalf of Universitas AMIKOM Purwokerto, I am honored to welcome all distinguished speakers, researchers, authors, and participants to the International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) 2026.

This conference serves as an important platform for academics, researchers, professionals, and students from around the world to exchange ideas and share recent advances in artificial intelligence, data science, and related fields. As these technologies continue to transform many aspects of society, collaboration and knowledge sharing are increasingly essential to addressing complex challenges and creating innovative solutions for the future.

ICCRAIDS 2026 aims to promote high-quality research and foster interdisciplinary collaboration among scholars and practitioners. Through keynote lectures, technical paper presentations, and academic discussions, we hope the conference contributes to cutting-edge research and encourages meaningful dialogue that advances artificial intelligence and data science.

Universitas AMIKOM Purwokerto remains committed to supporting research, innovation, and academic collaboration that strengthen the role of higher education in technological development and digital transformation. We believe events such as ICCRAIDS not only advance scientific knowledge but also build strong international networks for future collaboration.

I would like to express my sincere appreciation to the organizing committee, technical program committee, reviewers, partners, and sponsors for their time and expertise in making this conference possible. I also extend my gratitude to all authors and participants for sharing their valuable research and insights.

I wish all participants a productive and inspiring conference, and I hope ICCRAIDS 2026 provides valuable experiences, fruitful discussions, and new opportunities for collaboration.

Thank you.

Assoc. Prof. Dr. Berlilana, M.Kom., M.Si.

Rector

Universitas AMIKOM Purwokerto

2. MESSAGE FROM THE GENERAL CHAIR



On behalf of the organizing committee, it is my great pleasure to welcome you to the International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) 2026. We are delighted to bring together researchers, academics, practitioners, and students from various institutions and countries to share their latest research and ideas in the rapidly evolving fields of artificial intelligence and data science.

Artificial intelligence and data-driven technologies have become central to innovation across many sectors, including healthcare, education, industry, finance, and public services. As these technologies continue to advance, it is increasingly important to create opportunities for researchers and professionals to exchange knowledge, discuss emerging challenges, and collaborate on future solutions. ICCRAIDS is designed to serve as a platform that facilitates such meaningful interaction and collaboration.

This conference features keynote talks from distinguished speakers, technical paper presentations, and academic discussions covering a wide range of topics related to artificial intelligence, machine learning, data analytics, and intelligent systems. We hope that the discussions and presentations during this conference will stimulate new ideas and encourage further research and collaboration among participants.

I would like to express my sincere appreciation to the Program Committee, reviewers, organizing committee members, sponsors, and partners for their dedication and hard work in making this conference possible. Their efforts in reviewing submissions and organizing the event have ensured the quality and success of ICCRAIDS 2026.

Finally, I would like to thank all authors and participants for their valuable contributions and for being part of this conference. I wish you a productive and inspiring conference experience, and I hope that ICCRAIDS 2026 will provide an excellent opportunity for knowledge exchange and future collaboration.

Thank you.

Prof. Dr. Taqwa Hariguna, S.T., M.Kom.
General Chair

3. MESSAGE FROM THE PROGRAM CHAIR



It is my great pleasure to welcome you to the International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) 2026. As the Program Chair, I am honored to present a program that highlights current research developments and innovative applications in artificial intelligence and data science. The goal of ICCRAIDS 2026 is to provide a forum where researchers, scholars, and practitioners can present and discuss their latest research findings. The conference received submissions from various institutions and research communities, reflecting the growing interest and rapid progress in AI and data science. Each submitted paper underwent a peer-review process conducted by members of the Technical Program Committee and expert reviewers to ensure the quality and relevance of the accepted contributions.

The technical program includes keynote speeches by distinguished experts as well as parallel sessions featuring selected research papers. These sessions cover a variety of topics, including machine learning, data analytics, intelligent systems, and other emerging areas related to artificial intelligence and data science. We believe that the program will offer valuable insights and inspire further research and collaboration among participants.

I would like to extend my sincere gratitude to the members of the Technical Program Committee and reviewers for their time, expertise, and dedication in evaluating the submissions. I also thank the organizing committee and all contributors who have worked diligently to prepare this conference program.

We hope that ICCRAIDS 2026 will provide a stimulating academic environment for sharing knowledge, discussing ideas, and building new collaborations. I wish you an engaging and rewarding conference experience.

Thank you.

Prof. Dr. Eng. Ir. Imam Tahyudin, M.M.

Program Chair

4. SPECIAL MESSAGE



It is my great pleasure to extend warm greetings to the organizers, distinguished speakers, and participants of the International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) 2026.

The rapid advancement of artificial intelligence and data science is reshaping many aspects of modern life, offering new opportunities to address complex societal challenges while driving innovation across various sectors. Conferences such as ICCRAIDS play an important role in bringing together researchers, academics, practitioners, and industry professionals from different parts of the world to exchange ideas, share knowledge, and foster meaningful collaboration that advances technology and research.

I am particularly pleased to see this international academic gathering associated with Banyumas and the city of Purwokerto. Banyumas Regency, located in the southwestern part of Central Java, is known for its strong educational environment and vibrant academic community. Supported by several universities and research institutions, the region continues to grow as a center for learning, research, and innovation that contributes to regional and national development. We welcome initiatives that promote knowledge exchange and international collaboration, as they help strengthen the role of education and research in supporting sustainable development. I hope that the presence of scholars and participants from various institutions and countries will not only enrich academic discussions but also open opportunities for future cooperation.

I would like to express my sincere appreciation to the organizing committee for their dedication in preparing this conference. May ICCRAIDS 2026 provide valuable insights, productive discussions, and meaningful partnerships that contribute to the advancement of artificial intelligence and data science for the benefit of society.

Thank you.

Dr. Agus Nur Hadie, S.Sos., M.Si.

Regional Secretary of Banyumas Regency

Table of Contents

GPU-Accelerated Resilient Control: Experimental Validation and Performance Benchmarking for Autonomous Systems	1
<i>Tejas Pravimbhai Patel, Chaitanya Kulkarni, Rajesh Purushothaman, Deepak Kole, Milan Parikh and Rakesh Keshava</i>	
What Factors' Gen Z Acceptance of AI Learning as Powered Study Assistants	8
<i>Bellion Tianto, Gavind Beckham Loka, Nigel Benaya Christianto and Ratna Sari</i>	
Early-Stage Robustness of Knowledge Tracing Models under Constrained Interaction Budgets	15
<i>Nurfaizah Nurfaizah, R Rizal Isnanto and Imam Tahyudin</i>	
Spatial Analysis of Earthquakes in Indonesia Using A Deep Learning Model to Support Seismic Disaster Mitigation	22
<i>Agustinus Fritz Wijaya, Mega Kartika Sari, Merryana Lestari, Teady Matius Surya Mulyana and Donny Avianto</i>	
A Systematic Review of Deep Learning Approaches for Drowning Detection	28
<i>Taufik Krisdiyanto, Igi Ardiyanto and Sunu Wibirama</i>	
Real-Time Post-Processing Framework for Enhancing Visibility in X-Band FMCW Weather Radar	35
<i>Muhammad Farras Archi, Dadang Gunawan and Ajib Setyo Arifin</i>	
An Evaluation of Few-Shot Learning Strategies for Essential Oil Classification: Balancing Data Augmentation and Meta-Learning	42
<i>Ranggi Praharaningtyas Aji, Bayu Priya Mukti, Primandani Arsi, Aulia Safira Putri and Gilang Satria Mahardhika</i>	
ViolenceVIT-TM: A Hybrid EfficientViT-LSTM Architecture for Video-Based Violence Detection	48
<i>Rudi Limantara, Darren Wibisono, Arya Athaullah Rafi, Christopher Andreas, Satria Adi Nugraha and Daniel Heulwen Yuwono</i>	
Explainable Stacking Ensembles for Multiclass Wildfire Risk Classification under Class Imbalance in Indonesia	54
<i>Fidela Jovita Kanedi, Amalia Utamima, Retno Aulia Vinarti and Faizal Mahananto</i>	
A Low-Power Retrofit RFID-Vibration-GSM Security System for Traditional Motorcycles: Design, Implementation, and Experimental Evaluation	61
<i>Habibie Nugroho, Nila Natalia, Ady Nugroho, Aditia Hamid, Rosyid Al-Hakim, Ade Putra, Christosie Wahyudi, Muhammad Yusro and Rikawarastuti Rikawarastuti</i>	
Buzzer Detection on TikTok: A Comparative Study of Machine Learning and IndoBERT During the August 2025 Indonesian Protests	68
<i>Natasha Kayla Cahyadi, William Darma Wijaya, Henry Lucky, Noviyanti Tri Maretta Sagala and Rilo Chandra Pradana</i>	

Learning Experience, Smart Technology, Artificial Intelligence, Robotics and Algorithms (STARA) Competency, and Work Readiness in the AI Era: The Moderating Role of Self-Efficacy.....	75
<i>Nurul Lestari, Pratiwi Pratiwi, Adriani Gunawan, Hana Dessy Natalina and Ika Triana</i>	
Comparative Analysis of Expert and User Based Usability Evaluation in Travel Booking Apps.....	81
<i>Angelina Fredlin and Sulisty Heripracoyo</i>	
BRIDGING BIG DATA ANALYTICS AND RISK GOVERNANCE: A SYSTEMATIC REVIEW THE ROLE OF AHP IN FINANCIAL INSTITUTION	88
<i>Nurwita Widyastuti, Taqwa Hariguna and Dhanar Intan Surya Saputra</i>	
A Comparative Study of Deep Learning Algorithm Performance for Drowsiness Detection While Driving	94
<i>Dhammiko Dharmawan and Theresia Ratih Dewi Saputri</i>	
Contextual Models for Indonesian Abbreviation Disambiguation and Expansion	101
<i>Hansen Halim and Aurelia Yap</i>	
Local LLM Augmentation for Long-Tail Fine-Grained Text Classification.....	107
<i>Gilang Aulia Muhamad and Zaky Al Fatih Nata Imam</i>	
Operationalizing IEC 62443 through NIST SP 800 82 Revision 3: A Localized OT Security Framework for Indonesia's Energy Sector	113
<i>Dyah Ayu Citra Maharani and Septia Ulfa Sunaringtyas</i>	
Comparative Evaluation of SARIMA, FB Prophet, and LSTM for Hourly Demand Forecasting in Saudagar Kopi	120
<i>Kevina Syahla Aqila, Revaldy Arya Kusuma, Muhamad Reynaldi Alisafitrah, Rahma James Galliano Setiardi, Tuga Mauritsius and Eka Miranda</i>	
Optimization of cVEP Classification Approaches for 3D VR Based Brain Computer Interfaces	126
<i>Gouret Alix, Victor Woelffel, Alexandre Delaux, Solène Le Bars and Hazar Zilelioglu</i>	
ChangeMambaVision: Adapting MambaVision for Building Change Detection	133
<i>Thomas Gozalie, Andrea Stevens Karnyoto, Edy Irwansyah and Bens Pardamean</i>	
Multi-Task Transformer-Based Aspect Sentiment Analysis for Indonesian Energy and Mining Discourse.....	140
<i>Satria Adi Nugraha, Jessica Laurentia Tedja, Heidy Mudita Sutedjo, Nathalia Minoque Kusuma Salma Rasyid Jr., Rudi Limantara and Christopher Andreas</i>	
Bullying Detection Using MediaPipe CNN Feature Fusion and Bi-LSTM Attention	146
<i>Lutfiah Tri Syahyaningsih, Salsa Dillah, Muhammad Fajar B, Jumadi Mabe Parenreng, Dyah Darma Andayani, Fhatiah Adiba and Andi Baso Kaswar</i>	
Examining the Role of Entrepreneurial Orientations and AI Capabilities in Driving Green Performance.....	153
<i>Abdullah Abdulaziz-Alhumaidan, Abdullah Abdulaziz-Alhumaidan and Abdullah Abdulaziz-Alhumaidan</i>	

AI-Generated Marketing Content and Consumer Trust: Examining the Role of AI Disclosure.....	159
<i>Agung Stefanus Kembau, I Gede Wisnu Satria Chandra Putra, Felliks Feiters Tampinongkol, Arief Perdana Kumaat, Julius Sutrisno and Ali Wardhana</i>	
A User-Centered Gamified Interaction Framework for Interactive Financial Management Systems.....	165
<i>Kevin Fernaldy and Yana Erlyana</i>	
Interactive Tool for Javanese Script Transliteration and Corpus Construction.....	172
<i>A'La Syauqi, Aji Prasetya Wibawa and Anik Nur Handayani</i>	
Effect of Heuristic Bias on Crypto Asset Trading Decision Mediated by Risk Tolerance ...	179
<i>Bambang Leo Handoko, Arbyn Danendra, Muhammad Rizky and Ang Swat Lin Lindawati</i>	
MaleoScribe: An Evaluation of Deep Learning-Based ASR for Spoken Doctor's Note in Bahasa Indonesia	185
<i>Selfi Stendafity, Azhar Rafiq and Almer Deta Tarandha</i>	
Hybrid CEEMDAN-EWT-Transformer-GAN Framework for Very-Short-Term Wind Power Forecasting.....	192
<i>Pandu Wicaksono, Panji Arisaputra, Anindhita Dewabharata, Sulistyo Heripracoyo and Gabriella Angelina Widjaja</i>	
Design of a Gamified Mobile Application for Preventive Student Mental Health Support ..	199
<i>Mega Kartika Sari, Merryana Lestari, Agustinus Fritz Wijaya, Donny Avianto, Robin William Awi and Harun Bless Kanaan Simamora</i>	
Smart IoT Health Monitoring Using Spectral HRV Analysis for Early Stress and Autonomic Imbalance	206
<i>Hasyifah Karsa, Khairul Azzam, Raniah Syarif, Khalisha Bambang, Aniq Ardhiansyah and Dedi Rimantho</i>	
Artificial Intelligence-Driven Marketing Strategies for Enhancing Customer Engagement in Digital Islamic Banking Services within the Indonesian Digital Economy: A PLS-SEM Modelling Studies	212
<i>Rini Kurnia Sari and Muhammad Alfarizi</i>	
Comparative Analysis of IndoBERT, BiLSTM, and Ensemble Techniques for Indonesian Online Gaming Toxicity Detection	219
<i>Cynthia Anne Ramali, Stacie Monica, Jeffrey Junior Tedjasulaksana, Noviyanti Tri Maretta Sagala and Lili Ayu Wulandhari</i>	
Analysis of DCE Iterations Using ResNetDCE for Low-Light Enhancement	225
<i>Riyadi Jimmy Iskandar, Chastine Fatichah and Anny Yuniarti</i>	
From Twitter to Reddit: Cross-Domain Indonesian Sarcasm Detection with Pretrained Transformers.....	232
<i>Auryn Larissa Sabrina, Darren Cornelius Citra Wijaya and Meiliana Meiliana</i>	
Hybrid Multi-Object Tracking Framework Using YOLO-Based Detection, Optical Flow, and Depth Estimation.....	237
<i>Muhammad Fajar B, Fitriyanty Dwi Lestary and Jumadi Mabe Parenreng</i>	

Classification of Normal Sinus Rhythm, Arrhythmia, and Congestive Heart Failure from Single-Lead ECG using 1D-CNN + BiLSTM	244
<i>Gabriel Alvaro and Hendra Tjahyadi</i>	
Performance Evaluation of YOLOv8 for Automatic Bullet Impact Detection and Scoring on Shooting	249
<i>Erdiyan Ariyanda, Moehammad Sarosa, Sapto Wibowo, Wahyu Nur Hidayat, Yunia Mulyani Azis and Isa Mahfudi</i>	
A Forensic-Based Prevention Framework for Web Defacement Attacks via WordPress REST API and Social Engineering	256
<i>Khairunnisak Nur Isnaini, Didit Suhartono, Azhari Shouni Barkah, Fadia Nur Annisa and Anisaa Qothrunnada Khoirunnita</i>	
Explainable Artificial Intelligence (XAI) and Human Cognitive Factors: A Systematic Review	263
<i>Zulfian Rahmadiansyah, Ahmad Ataka Awwalur Rizqi and Sunu Wibirama</i>	
Building Footprint Extraction from High-Resolution Satellite Imagery: Evaluating SAM and Lightweight Segmentation Models on xBD Dataset	269
<i>Shanna Fernlie and Nur Andryani</i>	
A Cultural Prompt Alignment Framework for Mitigating Cross-Lingual Bias in Healthcare and Education with Multilingual LLMs	275
<i>Agustinus Bimo Gumelar, Adi Suryaputra Paramita, Paul L Tahalele, Khamim Thohari, Afid Kurniawan and Ageng Salmanarrizqie</i>	
Breast Cancer Microarray Classification using Ensemble Feature Selection and Bagging Histogram Gradient Boosting	283
<i>Akmal Zaki Asmara, Defiano Dhio Bimantara, Fitra Agung Diassyah Putra and Nanik Suciati</i>	
How Trust and Technology Acceptance Shape Luxury Purchase Intention in Recommender System Contexts	290
<i>Valenthresia Valenthresia, Jonathan Jonathan, Gilbert Gilbert and Raden Ajeng Dyah Wahyu Sukamingsih</i>	
Motorcycle Parking Slot Estimation in Unmarked Environments Using YOLOv8n and Empirically Calibrated Dynamic Gap Analysis	296
<i>Bagus Fatkhurrohman, Rafi Muhammad Hibban, Kukuh Lintang Fajar, Astri Novianty, Umar Ali Ahmad and Wildan Panji Tresna</i>	
Bridging Standards and Experience: Digital Service Accessibility for People with Disabilities	302
<i>Muhammad Bambang Firdaus, Apol Pribadi Subriadi and Reny Nadlifatin</i>	
A Focused Review of Multimodal CTR Prediction for Cold-Start Recommendation	309
<i>Sharm Fernando and Nethmi Wijesinghe</i>	
A Combined Evaluative Framework using Black Box Testing and Heuristic Evaluation for Legacy Academic Information Systems	316
<i>Adam Anderson Yuniarto, Cahya Damarjati, Slamet Riyadi and Annisa Divayu Andriyani</i>	

Design and Implementation of an Edge-Based Smart Parking System for Campus Environments	322
<i>Rafi Muhammad Hibban, Bagus Fatkhurrohman, Kukuh Lintang Fajar, Astri Novianty, Umar Ali Ahmad and Wildan Panji Tresna</i>	
Real-Time Probabilistic Enemy Decision Making in Survival Games using Bayesian Networks and Behavior Trees	328
<i>Feby Akliji Rofiah and Hanny Haryanto</i>	
Surrogate-Based Optimization of Open-Die Forging Using Reinforcement Learning and Simulated Annealing	334
<i>Christian Linder, Martin Feistle and Syed Irtiza Ali</i>	
Conceptual Model of Risk Based Artificial Intelligence Management System In Financial Technology	340
<i>Merryana Lestari, Melkior Nn Sitokdana, Mega Kartika Sari, Agustinus Fritz Wijaya, Bhustomy Hakim and Rangga Putra Gunawan</i>	
Deep Learning for Indonesian Sign Language Recognition: Methods, Trends, and Public Dataset	348
<i>Elvin Sestomi, Kunchayo Setyo Nugroho and Bens Pardamean</i>	
Implementation of Battery Charging Energy Prediction System Using Machine Learning in Hybrid Photovoltaic System for Public Street Lighting with Web-Based Monitoring Display	355
<i>Feri Adriyanto, N.D.M. Said, Maulida Nabilah Badriah and Yusuf Athallah Adriyansyah</i>	
Mitigating Class Imbalance for Neural Networks via Balanced Mini-Batch Training	360
<i>Tintrim Dwi Ary Widhianingsih, Adatul Mukarromah and Muhamad Syukron</i>	
Redesigning ITS Integrated Library System Web Interface Using User-Centered Design Methods	365
<i>Hasna Lathifah Purbaningdyah, Neisa Hibatillah Alif, Wijayanti Nurul Khotimah, Eva Mursidah and Anny Yuniarti</i>	
MentalBERT with Contrastive Learning for Mental Disorder Classification from Social Media: A Comparative and Explainable Study	372
<i>Alfiyah Qothrunnada Zulfa, Syukron Abu Ishaq Alfarozi, Sri Kusrohmaniah and Sunu Wibirama</i>	
Design of an Experimental Model for Transportation Process Analysis of People with Sensory Disabilities using Process Mining	379
<i>Hanung Nindito Prasetyo, Bayu Rima Aditya and Ferra Arik Tridaleatari</i>	
A Machine-Learning Emulator Framework for Multi-Objective Policy Scenario Simulation and Optimization	386
<i>Varun Viswapriyan</i>	
Classification Quality of Air with Real Time IOT Based Air Monitoring Device Analysis ..	393
<i>Alya Ramli, Rifqi Hanif, Panglima Syakura, Muhammad Hairul, Andi Seylo Irawan and M. Saleh</i>	

SPAM-Polyp: Shadow Prior Auxiliary Module for Polyp Segmentation	399
<i>Sijie Ren, Zhenping Li, Bohao Lv, Raymond Sidharta, Richie Cedrick Adrian, Hantang Liu and Bin Wang</i>	
A Counterfactual-Aware Training Framework for Improving Explanation Quality	406
<i>Mayuri Bhandari and Jyoti Yadav</i>	
IndoBERT Embeddings vs. Fine-Tuning: An Optimized Approach for Sentiment Analysis of Indonesian Public Service Reviews	412
<i>Nadya Awalia Putri, Rujianto Eko Saputro, Bayu Priya Mukti and Dhanar Intan Surya Saputra</i>	
Trust, Enjoyment, and Engagement in AI-Generated Marketing Content: The Conditional Role of AI Familiarity	418
<i>Agung Stefanus Kembau, I Gede Wisnu Satria Chandra Putra, Felliks Feiters Tampinongkol, Arief Perdana Kumaat, Antonius Felix and Francka Sakti Lee</i>	
Comparative Analysis of Zero-Shot Voice Cloning for Digital Sibling AI	425
<i>Hanif Nugroho Jati, Ridi Ferdiana and Risanuri Hidayat</i>	
Comparative Analysis of Large Language Model Performance in News Content Classification	432
<i>Kendricko Adrio and Yaya Heryadi</i>	
Out-of-Fold Stacking for Reliable Transformer Ensembles in Indonesian Depression/Anxiety Indicator Detection	439
<i>Muhammad Aji Perdana, Bimo Sunarfri Hantono and Ridi Ferdiana</i>	
Design and Evaluation of a Competency-Grounded RAG Pipeline for Role-Based Software Engineering Education	446
<i>Hery Dian Septama, Ridi Ferdiana and Adhistya Erna Permanasari</i>	
Vehicle Detection with Size-Based Categorization Using YOLO Models for Traffic Lane Prioritization	452
<i>Hendry Chandra, Gede Kusuma and Pandu Wicaksono</i>	
Predicting Competitive Programming Problem Tags and Ratings from Tutorials using BERT-based Models	459
<i>Albert Yulius Ramahalim, Christoffer Edbert Karuniawan and Tjeng Wawan Cenggoro</i>	
Family Based Character Education through Meta AI: A WebQual and IPA Study	466
<i>Herlina Herlina, Hendy Tannady, Johannes Fernandes Andry and Franca Sakti Lee</i>	
Evaluation of Optimized LSTM and Moving Average in SME Inventory Forecasting and Simulation	472
<i>Intan Rahmatillah, Patah Herwanto and Ivan Diryana Sudirman</i>	
Decentralized Radio Access Network Virtualization via Distributed Ledger Technology ...	477
<i>Ahmed Sarwar Mohammed</i>	
Performance Evaluation of Neural Network Control for Ćuk Converter-Based Active Battery Cell Balancing	486
<i>Akhmad Mursidan Al Farizi, Oyas Wahyunggoro, Adha Imam Cahyadi and Abdillah Aziz Muntashir</i>	

Understanding ChatGPT Adoption Among Older Adults: A Senior Technology Acceptance Model (STAM) Perspective	493
<i>Vierly Joynaden and Wanda Wandoko</i>	
Computer Vision-Driven Mitigation of <i>Marasmius palmivorus</i> in Oil Palm Plantations	500
<i>Nirsal Nirsal, Indrabayu Indrabayu and Novy N.R.A. Mokobombang</i>	
Benchmarking Time Series Forecasting Models on Seasonal and Non-Seasonal Data: A Case Study of PM10 Air Pollution and IDX Composite.....	507
<i>Christopher Andreas, Yohana Jocelyn Guntur, Felicia Joshlyn Purnomo, Rudi Limantara and Satria Adi Nugraha</i>	
Applying Gradient Penalty in Neural Ratio Estimation to Obtain Calibrated Posterior Estimator in Small Simulation Budgets.....	514
<i>Chrystian Dwi Putra Yunus, Syukron Abu Ishaq Alfarozi and Indriana Hidayah</i>	
Efficient rPPG via Hybrid SSM-Attention: A Global Context, Periodic Focus Approach ..	521
<i>Rinaldi Anwar Buyung, Alhadi Bustamam, Hendri Murfi, Harum Ananda Setyawan and Widi Nugroho</i>	
A Server-Authoritative and AI-Enhanced Architecture for Secure Online Examinations ...	528
<i>Yustus Eko Oktian and Thi-Thu-Huong Le</i>	
Design and Prototype Development of a Dual-MCU Wireless IoT System for Multi-Gas Air Quality Monitoring in Poultry Environments	534
<i>Marzuki Sinambela, Pugu Hiskiawan, Tonny Wahyu Aji, Yobel Eliezer Mahardika, Ahmad Meijlan Yasir and Aviv Maghridlo</i>	
A Taxonomy of Adaptive Interfaces for Human-CPS Interaction	541
<i>Sann Lwin Moe, Malathy Batumalay, G Jegadeeswari and Karthick Manoj Ravichandran</i>	
Clustering-Based Analysis of User Interaction Patterns in Remote Usability Testing on E-Commerce Website	546
<i>Tenia Wahyuningrum, Hamidatun Nisa and Rajermani Thinakaran</i>	
Synthetic Data Generation with GANs to Boost CNN Accuracy in Plasmodium Species and Lifecycle Stage Detection	552
<i>Galih Bagaskoro, Rujianto Eko Saputro and Azhari Shouni Barkah</i>	
MFA-UNet for Segmentation of Near-Infrared Arm Vein.....	557
<i>Kurnia Chairunnisa, Syukron Abu Ishaq Alfarozi, Hanung Adi Nugroho and Erika Loniza</i>	
Optimizing Project Management through Real-Time Collaboration System Development Using Visualization Dashboards	564
<i>Hery Hery, Franky Franky, Andree Emmanuel Widjaja, Calandra Alencia Haryani and Arnold Aribowo</i>	
Explainable AI for Eye Tracking-Based Prediction: A Systematic Literature Review	571
<i>Tio Eko Prabowo, Warsun Najib and Sunu Wibirama</i>	
AutoNetFlow: An Intelligent Reinforcement Learning Framework for Adaptive Process Automation in Network Traffic Control.....	578
<i>Anurag Bhargav Gandrakota</i>	

A Human-Centered Analysis of AI Awareness: Investigating User Vulnerabilities to Deepfakes and Voice Cloning	584
<i>Felix Jerome Hidajat and Yana Erlyana</i>	
The Unpredictability of the Traffic Sources Model on Instagram Content Using Tree-Based Models Machine Learning Algorithms	591
<i>Bima Setyo Nugroho, Hujjatullah Fazlurrahman, Restu Eri Adinata, Novita Aprilia, Devangga Putra Adhitya Pratama, Thusy Tiara Saraswat, Reza Ayu Palupi, Noris Bagus Mulyo and Amirusholihin Amirusholihin</i>	
A Systematic Review of Plant Bioelectrical Potential Acquisition Systems for Edge Sensing	597
<i>Arif Mu'Amar Wahid and Hidetaka Nambo</i>	
Sentiment Analysis of Generative AI Usage in Indonesia using LSTM and BERT Models .	603
<i>Axell Prita Aurelie Atmojo, Nadine Aulyaa Arienaldi, Dian Jannati Kusuma and Said Achmad</i>	
A Miniature Model for Smart Road Access Management Based on Traffic Density and Emergency Response.....	610
<i>Muhammad Aldo Ghiffari, Irfan Hera Nurrohman, John Christianto and Ivan Edbert</i>	
Large Language Model Chatbot with Retrieval-Augmented Generation and Function Calling for Indonesian Article 21 Withholding Tax Support.....	617
<i>Verren Angelina Saputra, Marvella Shera Devi, Ethelind Septiani Metta, Rhio Sutoyo and Mahda Karina</i>	
AutoScaleDL: An Automated Framework for Scalable Distributed Training in Deep Learning Systems	624
<i>Anurag Bhargav Gandrakota</i>	
Dimensions of the E-Commerce System Success (ESS) Model and Augmented Reality (AR) that Affect User Satisfaction and Repeat Usage Intent on the Shopee App in Indonesia	630
<i>Rebekka Ledyana, Celia Marleen Kardijaya, Winna Michelle and Arta Moro Sundjaja</i>	
Sentiment Analysis Meets Auto Shows: Evaluating Transformer Models on Post-GIIAS 2025 Indonesian EV Discussions.....	637
<i>Clarissa Beatrice Kosasih, Marcelline Cathrine Wilison, Noviyanti Tri Mareta Sagala and Lili Ayu Wulandhari</i>	
When Usefulness Meets Emotion: A Unified Framework of Long-Term Social Media Engagement.....	644
<i>Adele B L Mailangkay, Yulia Ery Kurniawati, Sudiana Sudiana, Hendry Hartono and Muhammad Shabir Shaharudin</i>	
Streaming Fixed-Point FPGA Preprocessing and Feature Preparation for QCM Sensor Signals on a SoC Platform	651
<i>Adharul Muttaqin, Setyawan Purnomo Sakti, Valentino Delviery Butarbutar, Agus Naba, Panca Mudjirahardjo and Nanang Sulistiyanto</i>	

Integrating Neurosymbolic AI for Pneumonia Diagnosis Using Chest X-Rays: A Synergistic Approach.....	658
<i>Sethma Weerasinghe, Sampath Deegalla, Eranga Dharmarathne, Rajitha Thennakoon and Damayanthi Herath</i>	
Disconnect Between AI Satisfaction and Technostress: An Empirical Study.....	665
<i>Joseph Immanuel Suprayogi, Muhammad Maulana Alamsyah, Dinda Putri Astrilia and Okta Prihatma Bayu Putra</i>	
Adaptive Shell Scripting with Quine Programs and Large Language Models.....	672
<i>Ali Mohammad Saghiri</i>	
Design of a Compliance-Driven Explainable AI Architecture for AML/CFT Decision Support in Financial Institutions.....	679
<i>Kevin Sugandi and Sasmoko</i>	
Building Trust in Academic AI Chatbots to Support Sustainable Quality Higher Education.....	686
<i>Okky Putra Barus, Ade Maulana, Andree Emmanuel Widjaja, Nicholas Calim, Arosochi Yosua Daeli and Kemal Armağan</i>	
Explainable Reinforcement Learning for Adaptive Energy Dispatch in Tropical Microgrids	691
<i>Puguh Hiskiawan, Srava Chrisdes Antoro, I Gede Agus Purwa, Ferdiantono Ferdiantono and Chellynia Cristabel</i>	
Evaluating AI-Powered Chatbot Acceptance in Indonesian Skincare E-Commerce: An Extended Technology Acceptance Model Approach.....	698
<i>Brianna Sanjaya, Mikael Bryan Ciputra, Joseph Setiawan, Antonius Felix, Julius Sutrisno and Johanes Fernandes Andry</i>	
Stock Market Price Prediction Using a Hybrid LSTM–Transformer Model.....	705
<i>Andrew Lie and Tjeng Wawan Cenggoro</i>	
Evaluating User Trust and Acceptance of AI-Based Interactive Systems in Digital Business Environments.....	711
<i>Julius Sutrisno, Reynard J.N Makarawung, Devi Yurisca Bernanda, Agung Stefanus Kembau, Antonius Felix and Rafaela Marsyel Dermawan</i>	
Explainable Risk Modeling for Heart Attack Prediction via CatBoost–MLP Comparative Learning.....	718
<i>Heru Supriyanto, Taqwa Hariguna and Azhari Shouni Barkah</i>	
Real-Time Flood Prediction System for Ciliwung River using XGBoost Machine Learning	724
<i>Christopher M. M. Gijoh, Jennifer Jennifer, Yoel Soengkono, Irene Astuti Lazarusli, Feliks V. P. Samosir and Aditya R. Mitra</i>	
A Python-Based Framework for Integrating Multi-Modal AI in Automated Video Production Workflows: A Strategic Business Perspective.....	729
<i>Antonius Felix, Julius Sutrisno, Selly Swandari, Devi Yurisca Bernanda, Agung Stefanus Kembau and Vincentius Leonardo</i>	
Assessment of P-Care Information System in Indonesian Chronic Disease Management Program Using Mixed-Methods.....	736
<i>Mochamad Iqbal Nurmansyah, Rahmi Imanda and Riastuti Kusuma Wardani</i>	

Digital Transformation of Education: The Role of Artificial Intelligence (AI) in Improving Learning Quality – Systematic Literature Review	742
<i>Tarisa Larasati and Hanny Juwitasary</i>	
AI-Enabled Competence-Based Learning: An Integrated Framework for Assessment, Adaptation, and Organizational Decision Support	748
<i>Ruktin Handayani, Udisubakti Ciptomulyono and Ratna Sari Dewi</i>	
Hate Speech Detection on Social Media Using a Hybrid IndoBERT and Graph Convolutional Network Model	756
<i>Salsabillah Putri Harlin and Fitriyani F.</i>	
Mapping Political Ideologies on Social Media Using Text Mining and Deep Learning	763
<i>Octavius Sandriago, Jonathan Christopher Gani, Noviyanti Tri Maretta Sagala and Lili Ayu Wulandhari</i>	
DrowsyGuard: A Low Cost Personalized IoT Wearable for Real-Time Driver Drowsiness Detection	769
<i>Yuwono Marta Dinata, Vebrillia Santoso, Agustinus Bimo Gumelar and Andreas Jodhinata</i>	
A Comparative Analysis of CNN and Vision Transformer Architectures for Visual Defect Classification Under Data Augmentation	777
<i>Kevin Julian Tan and Tuga Mauritsius</i>	
Physics-Informed ResUNet for Global Floating Algae Detection from MODIS/Aqua Imagery	784
<i>Bashirul Islam, Md Tanvir Hossain, Sadika Islam Sneha, Md Mahmud Hasan Tamim, Shekh Maruf and Moinul Islam</i>	
Explainable Student Performance Models from Student–VLE Interaction Networks Using Centrality Signals with Permutation Importance and SHAP Analysis	791
<i>Ai Irma Sumiati, Taqwa Hariguna and Azhari Shouni Barkah</i>	
A Comparative Topic Modeling Study of MobileJKN Application Reviews Using LDA, LSA, NMF, and BerTopic	798
<i>Eirene Michella Tjhan, Cheryl Aurellia Valencia, Lili Ayu Wulandari, Jeffrey Junior Tedjasulaksana and Noviyanti Tri Mareta Sagala</i>	
Robust Dominant Color Extraction using Saliency-Weighted K-Means with Power-Law Modulation for Complex Backgrounds	805
<i>Eric Julianto, Dian Alhusari and Safrizal Ardana Ardiyansa</i>	
Hybrid Deep Learning-Based Sentiment Analysis for Stock Market Euphoria: A Review of Recent Advances	810
<i>Michael Sanjaya, Matthew Martianus Henry, Kuncahyo Setyo Nugroho, Bens Pardamean and Vera Intanie Dewi</i>	
UAV-Based Pothole Segmentation for Area Quantification: A Comparative Study of Mask R-CNN and YOLOv11	817
<i>Syarifah Fitrah Ramadhani, Indrabayu Indrabayu and Novy Nur R.A Mokobombang</i>	

A Comparative Study of Deep Learning and Classical Image Segmentation Methods for Damaged Flower Image Analysis	825
<i>Shofwatul Uyun, Subhan Ghufroon, Abdul Mukrim, Hanny Handayani Sucinta and Bahar Nurullah</i>	
Exploring the Cinderella Complex in Digital Narratives: An Unsupervised Text Mining Study	832
<i>Ni Komang Gayatri Kusuma Wardhani, Audrey Theodora Phang, Lili Ayu Wulandari and Noviyanti Tri Mareta Sagala</i>	
Kidney Cancer Classification Using DenseNet-121 Architecture	839
<i>Salman Luthfi Sugiarto, Slamet Riyadi, Qodri Aziz and Khairun Nisa</i>	
Automated Competency Mapping for Lecturer Recruitment Using Machine Learning and Multi-Source Professional Data	845
<i>Fransiskus Adikara, Alaniah Nisrina and Eko Wahyu Prasetyo</i>	
Leveraging Artificial Intelligence Generated Content (AIGC) for Digital Content Marketing Strategy: A Case Study of a Pre-Launch Skincare Brand in Indonesia	851
<i>Mikael Bryan Ciputra, Brianna Sanjaya, Joseph Setiawan, Antonius Felix, Akbar Lufi Zulfikar and Selly Swandari</i>	
A Deep Learning Data Fusion Approach for Prostate MRI Zonal Segmentation Using Dual-Channel U-Net with T2 and ADC Images	858
<i>Puguh Hiskiawan, Mega Kartika Sari, Refanthi Eunike Siregar, Nikita Amelia Valencia and Theresia Puspa Wijayanti</i>	
Leveraging Generative AI for Creative Education: A Data-Driven Study of Design Creativity and Usability	865
<i>Yana Erlyana, Jing Yi Lim, M Garry Saputra and Abiel Yisrel Panggula</i>	
Computational Analysis of Multi-Category Astrological Symbolism in German Esoteric Literature	872
<i>Arwa Nurul Hanjani and Imam Yuadi</i>	
Structured Visual Summarization of Biomedical Articles with biomindBERT: A SciBERT-based and Hierarchical Clustering Approach	879
<i>Edward Engelbert Wiguna and Feliks Victor Parningotan Samosir</i>	
Design and Critical Evaluation of a Postmodern-Aware Chatbot Using Retrieval-Augmented Generation and Discourse Metrics	886
<i>Feri Agustian Sukarno Agustian Sukarno, Puguh Hiskiawan, Jason Jesse Joel Polii, Marco Stefanus Indarwan and Theresia Puspa Wijayanti</i>	
Evaluating the Performance–Efficiency Trade-off of Transformer and Tree-Based Models for Multiclass DDoS Attack Detection	893
<i>Kenneth Riady and Hadi Syahril</i>	
Diagnostic Case Study: Client-Side and Ecosystem Barriers in Integrating Post-Quantum Cryptography Kyber768 into TLS 1.3	899
<i>Didit Suhartono, Khairunnisak Nur Isnaini, Azhari Shouni Barkah and Syifalita Hidawani</i>	

Building a Customer Voice Impact Matrix from Game Reviews Using BERT-Based Sentiment and Topic Modeling	904
<i>Ivan Diryana Sudirman and Intan Rahmatillah</i>	
The Extreme Gradient Boosting (XGBoost) Model with Bayesian Optimization for Rainfall Forecasting in Ibu Kota Nusantara (IKN)	909
<i>Made Dwijottama Raditya and Hartono Hartono</i>	
Uncovering the Drivers of TikTok Virality: Feature Importance Analysis of Hashtags Using Machine Learning	916
<i>Miecel Angel J, Malvin Tanzil, Noviyanti Sagala and Lili Wulandhari</i>	
The Role of AI Influencer Characteristics in Shaping Consumer Purchase Behavior in Digital Marketing	923
<i>Krystin Prisda Oetari Sihombing Sihombing, Lathifah Salsabila, Stefanus Rumangkit and Christopher Joshua Leksana</i>	
Imbalanced Multiclass Intrusion Detection on CICIDS2017 Under Low False-Positive Constraints: TSTR-Selected Synthetic Augmentation with Model Benchmarking	929
<i>Darmono, Rujianto Eko Saputro and Azhari Shouni Barkah</i>	
From Biometric Surfaces to Contextual Intelligence: A Comprehensive Survey of Multimodal Authentication and the Trimodal Fusion Paradigm	935
<i>Nurdin Nurdin, Armin Lawi and Syamsuddin Toaha</i>	
Data-Driven Analysis of Social Media Content and Engagement Patterns in Electric Vehicle Brand Campaigns	941
<i>Ravly Gumelar and Erni Martini</i>	
Fair Automatic Labeling for Software Defined Network Controller Selection from Performance metrics Using Analytic Hierarchy Process	947
<i>Julian Daffa Dzaky and Maria Susan Anggreainy</i>	
Classification of Hotspot Conditions in 20 kV Power Distribution Equipment Using Infrared Thermogram Image Features and Data Mining Techniques	953
<i>Andre Damanik and Imam Yuadi</i>	
Vision-Language Guided Pseudo-Labeling for Multi-Label Waste Classification	960
<i>Billy Eden William Asrul, Indrabayu Indrabayu and Syafruddin Syarif</i>	
A Training-Free Leaf Disease Lesion Segmentation Method Using HSV Color and Adaptive Thresholding	968
<i>Shofwatul Uyun, Haerul Anam, Baiq Titik Haerani and Latifatul Mujahidah</i>	
Short-Term Photovoltaic Energy Forecasting Using Long Short-Term Memory Network: A Comparative Study with Statistical Baselines	974
<i>Fery Antony, Zainuddin Nawawi, Bhakti Yudho Suprpto and Sukemi</i>	

6. PARTNERS AND SUPPORT

6.1. Host Institution

Universitas AMIKOM Purwokerto



The International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) 2026 is hosted by Universitas AMIKOM Purwokerto, Indonesia. Through its Faculty of Computer Science, the university actively promotes research, innovation, and international collaboration in the fields of artificial intelligence, data science, and digital technologies. As the host institution, Universitas AMIKOM Purwokerto plays a central role in organizing the conference and fostering a global academic platform for knowledge exchange and technological advancement.

6.2. Co-Host Institutions

ICCRAIDS 2026 is organized in collaboration with several partner universities that contribute to the academic development and international reach of the conference. The participation of these institutions reflects a shared commitment to advancing research and innovation in Artificial Intelligence and Data Science. The co-host institutions include:

Universitas Pelita Harapan (UPH)



Universitas Ciputra



Universitas Bunda Mulia (UBM)



INTI International University



Through this collaboration, ICCRAIDS aims to strengthen international academic networking and encourage interdisciplinary research cooperation among universities across the region and beyond.

6.3. Co-Sponsors

IEEE Indonesia Section



ICCRAIDS 2026 is financially co-sponsored by the IEEE Indonesia Section, one of the regional sections of the Institute of Electrical and Electronics Engineers (IEEE). The involvement of IEEE Indonesia Section supports the conference in maintaining high academic standards, ensuring a rigorous peer-review process, and facilitating the dissemination of accepted papers through internationally recognized publication platforms.

7. COMMITTEES

7.1. Steering Committee

Name	Affiliation
Prof. Dr. Chung Wen Hung	Southern Taiwan University of Science and Technology, Taiwan
Prof. Dr. Hidetaka Nambo	Kanazawa University, Japan
Prof. Dr. Ibrahim M. M. El Emary	King Abdulaziz University, Kingdom of Saudi Arabia
Prof. Dr. Jalel Ben-Othman	University of Paris 13, France
Prof. Dr. Lee Jeong Bae	Sun Moon University, Republic of Korea
Prof. Dr. Ir. Untung Rahardja, M.T.I., MM., SMIEEE	Universitas Raharja, Indonesia
Assoc. Prof. Dr. Berlilana, M.Kom., M.Si.	Universitas AMIKOM Purwokerto, Indonesia
Prof. Dr. Agung Dharmawan Buchdadi, M.M.	Universitas Negeri Jakarta, Indonesia
Prof. Dr. Henderi, M.Kom.	Universitas Raharja, Indonesia
Prof. Dr. Suherman, M.Si.	Universitas Negeri Jakarta, Indonesia
Prof. Dr. Johaness Fernandes A., S.T., M.Kom.	Universitas Bunda Mulia, Indonesia

7.2. Organizing Committee

Role	Name	Affiliation
General Conference Chair	Prof. Dr. Taqwa Hariguna, S.T., M.Kom.	Universitas AMIKOM Purwokerto, Indonesia
Technical Program Chair	Prof. Dr. Eng. Ir. Imam Tahyudin, M.M.	Universitas AMIKOM Purwokerto, Indonesia
Secretary and Treasurer	Arif Mu'amar Wahid, M.Kom.	Kanazawa University, Japan
Publication Chair	Bayu Priya Mukti, M.Kom.	Universitas AMIKOM Purwokerto, Indonesia

7.3. Technical Program Committee and Reviewers

The success of ICCRAIDS 2026 relies on the valuable contributions of the Technical Program Committee and reviewers who have devoted their expertise and time to the rigorous peer-review process. Their efforts ensure the scientific quality and relevance of the accepted papers.

7.4. Senior Program Committee

Name	Affiliation
Prof. Dr. Chung Wen Hung	Southern Taiwan University of Science and Technology, Taiwan
Prof. Dr. Debotosh Bhattacharjee	Jadavpur University, India
Prof. Dr. Taqwa Hariguna	Universitas AMIKOM Purwokerto, Indonesia
Prof. Dr. Yongrok Choi	Inha University, Republic of Korea

Assoc. Prof. Athapol Ruangkanjanases, Ph.D.	Chulalongkorn University, Thailand
Assoc. Prof. Dr. A'ang Subiyakto, M.Kom.	UIN Syarif Hidayatullah Jakarta, Indonesia
Assoc. Prof. Dr. Deshinta Arrova Dewi	INTI International University, Malaysia
Assoc. Prof. Dr. Eng. Ir. Imam Tahyudin, M.M.	Universitas AMIKOM Purwokerto, Indonesia
Assoc. Prof. Dr. Husni Teja Sukmana, M.Sc.	UIN Syarif Hidayatullah Jakarta, Indonesia
Assoc. Prof. Dr. Manal Abdel Aziz Ali Abdullah	King Abdulaziz University, Saudi Arabia
Assoc. Prof. Dr. Mohammed Fawzi Mahmoud Al-Hunaity	Balqa Applied University, Jordan
Assoc. Prof. Dr. Mohd Sanusi Azmi	Universiti Teknikal Malaysia Melaka, Malaysia
Assoc. Prof. Abdul Azis, M.Kom.	Universitas AMIKOM Purwokerto, Indonesia
Assoc. Prof. Dwi Krisbiantoro, M.Kom.	Universitas AMIKOM Purwokerto, Indonesia
Assoc. Prof. Sarmini, M.MSI.	Universitas AMIKOM Purwokerto, Indonesia

7.5. Program Committee Members and Reviewers

Name	Affiliation
Dr. Arsalan Hadaeghi	Hitachi Energy, Sweden
Dr. Adi Suryaputra Paramita	Universitas Ciputra, Indonesia
Dr. Agung Budi Prasetyo	Institut Teknologi Tangerang Selatan, Indonesia
Dr. Aulia Akhrian Syahidi	Thai-Nichi Institute of Technology, Thailand
Dr. Chandra Lukita	Universitas Catur Insan Cendekia, Indonesia
Dr. Elly Hasan Sadeli	Universitas Muhammadiyah Purwokerto, Indonesia
Dr. Eric Pardede	La Trobe University, Australia
Dr. Essa Mohamed Ali Gohal	Jazan University, Saudi Arabia
Dr. Evi Triandini	STIKOM Bali, Indonesia
Dr. Fandy Setyo Utomo	Universitas AMIKOM Purwokerto, Indonesia
Dr. Geeta Sandeep Nadella	University of the Cumberland, USA
Dr. Giat Karyono	Universitas AMIKOM Purwokerto, Indonesia
Dr. Hindayati Mustafidah	Universitas Muhammadiyah Purwokerto, Indonesia
Dr. Hoang Thi Thanh Ha	University of Danang, Vietnam
Dr. Nurul Hidayat	Universitas Jenderal Soedirman, Indonesia
Dr. Po Abas Sunarya	Universitas Raharja, Indonesia
Dr. Purwadi	Universitas AMIKOM Purwokerto, Indonesia
Dr. Qurotul Aini	Universitas Raharja, Indonesia
Dr. Rahmadya Trias Handayanto	Universitas Islam 45 Bekasi, Indonesia
Dr. Rujianto Eko Saputro	Universitas AMIKOM Purwokerto, Indonesia
Dr. Sandy Kosasi	STMIK Pontianak, Indonesia
Dr. Satrya Fajri Pratama	University of Hertfordshire, United Kingdom
Dr. Shih-Chih Chen	National Kaohsiung University of Science and Technology, Taiwan
Dr. Sonia Kherbachi	University of Bejaia, Algeria
Dr. Tenia Wahyuningrum	Telkom University, Indonesia
Dr. Y. Johny W. Soetikno	Universitas DIPA Makassar, Indonesia

Dr. Yusuf Durachman

UIN Syarif Hidayatullah Jakarta, Indonesia

Additional reviewers and program committee members from universities, research institutions, and industry worldwide also contributed to the review process and the success of ICCRAIDS 2026.

Author Index

Abdulaziz-Alhumaidan, Abdullah	153, 153, 153
Achmad, Said	603
Adiba, Fhatiah	146
Adikara, Fransiskus	845
Adinata, Restu Eri	591
Aditya, Bayu Rima	379
Adrio, Kendricko	432
Adriyansyah, Yusuf Athallah	355
Adriyanto, Feri	355
Agung Diassyah Putra, Fitra	283
Agus Purwa, I Gede	691
Agustian Sukarno, Feri Agustian Sukarno	886
Aji, Ranggi Praharaningtyas	42
Al Farizi, Akhmad Mursidan	486
Al-Hakim, Rosyid	61
Alamsyah, Muhammad Maulana	665
Alfarizi, Muhammad	212
Alfarozzi, Syukron Abu Ishaq	372, 514
Alhusari, Dian	805
Ali Ahmad, Umar	296, 322
Ali, Syed Irtiza	334
Alif, Neisa Hibatillah	365
Alisafitrah, Muhamad Reynaldi	120
Alix, Gouret	126
Alvaro, Gabriel	244
Amirusholihin, Amirusholihin	591
Anam, Haerul	968
Andayani, Dyah Darma	146
Andreas, Christopher	48, 140, 507
Andriyani, Annisa Divayu	316
Andry, Johaness Fernandes	466, 698
Andryani, Nur	269
Angel J, Mieccl	916
Angelina Widjaja, Gabriella	192
Anggreainy, Maria Susan	947
Anne Ramali, Cynthia	219
Annisa, Fadia Nur	256
Antony, Fery	974
Antoro, Srava Chrisdes	691
Aprilia, Novita	591
Aqila, Kevina Syahla	120
Archi, Muhammad Farras	35
Ardana Ardiyansa, Safrizal	805
Ardhiansyah, Aniq	206

Ardiyanto, Igi	28
Aribowo, Arnold	564
Arienaldi, Nadine Aulyaa	603
Arifin, Ajib Setyo	35
Arisaputra, Panji	192
Ariyanda, Erdiyan	249
Armağan, Kemal	686
Arsi, Primandani	42
Asrul, Billy Eden William	960
Astrilia, Dinda Putri	665
Atmojo, Axell Prita Aurelie	603
Avianto, Donny	22, 199
Awi, Robin William	199
Ayu Wulandhari, Lili	219, 637
Azis, Yunia Mulyani	249
Aziz, Qodri	839
Azzam, Khairul	206
Badriah, Maulida Nabilah	355
Bagaskoro, Galih	552
Bambang, Khalisha	206
Barkah, Azhari Shouni	256, 552, 718, 791, 899, 929
Barus, Okky Putra	686
Batumalay, Malathy	541
Beatrice Kosasih, Clarissa	637
Bernanda, Devi Yurisca	711, 729
Bhandari, Mayuri	406
Bustamam, Alhadi	521
Butarbutar, Valentino Delviery	651
Buyung, Rinaldi Anwar	521
Cahyadi, Adha Imam	486
Calim, Nicholas	686
Cathrine Wilison, Marcelline	637
Cedrick Adrian, Richie	399
Cenggoro, Tjeng Wawan	459, 705
Chairunnisa, Kurnia	557
Chandra Pradana, Rilo	68
Chandra, Hendry	452
Christianto, John	610
Christianto, Nigel Benaya	8
Ciptomulyono, Udisubakti	748
Ciputra, Mikael Bryan	698, 851
Cornelius Citra Wijaya, Darren	232
Cristabel, Chellynia	691
Daeli, Arosochi Yosua	686
Damanik, Andre	953

Damarjati, Cahya	316
Danendra, Arbyn	179
Darma Wijaya, William	68
Darmono,	929
Deegalla, Sampath	658
Delaux, Alexandre	126
Dermawan, Rafaela Marsyel	711
Deta Tarandha, Almer	185
Devi, Marvella Shera	617
Dewabharata, Anindhita	192
Dewi, Ratna Sari	748
Dewi, Vera Intanie	810
Dharmarathne, Eranga	658
Dharmawan, Dhammiko	94
Dhio Bimantara, Defiano	283
Dillah, Salsa	146
Dinata, Yuwono Marta	769
Dzaky, Julian Daffa	947
Edbert, Ivan	610
Eliezer Mahardika, Yobel	534
Erlyana, Yana	165, 584, 865
F., Fitriyani	756
Fajar B, Muhammad	146, 237
Fatichah, Chastine	225
Fatkhurrohman, Bagus	296, 322
Fazlurrahman, Hujjatullah	591
Feistle, Martin	334
Felix, Antonius	418, 698, 711, 729, 851
Ferdiana, Ridi	425, 439, 446
Ferdiantono, Ferdiantono	691
Fernaldy, Kevin	165
Fernando, Sharm	309
Fernlie, Shanna	269
Firdaus, Muhammad Bambang	302
Franky, Franky	564
Fredlin, Angelina	81
Gandrakota, Anurag Bhargav	578, 624
Gani, Jonathan Christopher	763
Ghiffari, Muhammad Aldo	610
Ghufron, Subhan	825
Gijoh, Christopher M. M.	724
Gilbert, Gilbert	290
Gozalie, Thomas	133
Gumelar, Agustinus Bimo	275, 769
Gumelar, Ravly	941

Gunawan, Adriani	75
Gunawan, Dadang	35
Gunawan, Rangga Putra	340
Guntur, Yohana Jocelyn	507
Haerani, Baiq Titik	968
Hairul, Muhammad	393
Hakim, Bhustomy	340
Halim, Hansen	101
Hamid, Aditia	61
Handayani Sucinta, Hanny	825
Handayani, Ruktin	748
Handoko, Bambang Leo	179
Hanif, Rifqi	393
Hanjani, Arwa Nurul	872
Hantono, Bimo Sunarfri	439
Hariguna, Taqwa	88, 718, 791
Harlin, Salsabillah Putri	756
Hartono, Hartono	909
Hartono, Hendry	644
Haryani, Calandra Alencia	564
Haryanto, Hanny	328
Henry, Matthew Martianus	810
Herath, Damayanthi	658
Heripracoyo, Sulisty	81, 192
Herlina, Herlina	466
Herwanto, Patah	472
Hery, Hery	564
Heryadi, Yaya	432
Hidajat, Felix Jerome	584
Hidawani, Syifalita	899
Hidayah, Indriana	514
Hidayat, Risanuri	425
Hidayat, Wahyu Nur	249
Hiskiawan, Puguh	534, 691, 858, 886
Hossain, Md Tanvir	784
Imam, Zaky Al Fatih Nata	107
Imanda, Rahmi	736
Indrabayu, Indrabayu	500, 817, 960
Irawan, Andi Seylo	393
Irwansyah, Edy	133
Ishaq Alfarozi, Syukron Abu	557
Islam, Bashirul	784
Islam, Moinul	784
Isnaini, Khairunnisak Nur	256, 899
Isnanto, R Rizal	15

Jegadeeswari, G	541
Jennifer, Jennifer	724
Jimmy Iskandar, Riyadi	225
Jodhinata, Andreas	769
Joel Polii, Jason Jesse	886
Jonathan, Jonathan	290
Joynaden, Viery	493
Julian Tan, Kevin	777
Julianto, Eric	805
Junior Tedjasulaksana, Jeffrey	219
Juwitasary, Hanny	742
Kanedi, Fidela Jovita	54
Kardijaya, Celia Marleen	630
Karina, Mahda	617
Karnyoto, Andrea Stevens	133
Karsa, Hasyifah	206
Karuniawan, Christoffer Edbert	459
Kaswar, Andi Baso	146
Kayla Cahyadi, Natasha	68
Kembau, Agung Stefanus	159, 418, 711, 729
Keshava, Rakesh	1
Khoirunnita, Anisaa Qothrunnada	256
Khotimah, Wijayanti Nurul	365
Kole, Deepak	1
Krisdiyanto, Taofik	28
Kulkarni, Chaitanya	1
Kumaat, Arief Perdana	159, 418
Kurnia Sari, Rini	212
Kurniawan, Afid	275
Kurniawati, Yulia Ery	644
Kusrohmaniah, Sri	372
Kusuma, Dian Jannati	603
Kusuma, Gede	452
Kusuma, Revaldy Arya	120
Larasati, Tarisa	742
Lawi, Armin	935
Lazarusli, Irene Astuti	724
Le Bars, Solène	126
Le, Thi-Thu-Huong	528
Ledyana, Rebekka	630
Lee, Franca Sakti	466
Lee, Francka Sakti	418
Leksana, Christopher Joshua	923
Leonardo, Vincentius	729
Lestari, Merryana	22, 199, 340
Lestari, Nurul	75

Lestary, Fitriyanty Dwi	237
Li, Zhenping	399
Lie, Andrew	705
Lim, Jing Yi	865
Limantara, Rudi	48, 140, 507
Lindawati, Ang Swat Lin	179
Linder, Christian	334
Lintang Fajar, Kukuh	296, 322
Liu, Hantang	399
Loka, Gavind Beckham	8
Loniza, Erika	557
Lucky, Henry	68
Ly, Bohao	399
Maghridlo, Aviv	534
Mahananto, Faizal	54
Maharani, Dyah Ayu Citra	113
Mahardhika, Gilang Satria	42
Mahfudi, Isa	249
Mailangkay, Adele B L	644
Makarawung, Reynard J.N	711
Martini, Erni	941
Maruf, Shekh	784
Maulana, Ade	686
Mauritsius, Tuga	120, 777
Meijlan Yasir, Ahmad	534
Meiliana, Meiliana	232
Metta, Ethelind Septiani	617
Michelle, Winna	630
Miranda, Eka	120
Mitra, Aditya R.	724
Moe, Sann Lwin	541
Mohammed, Ahmed Sarwar	477
Mokobombang, Novy Nur R.A	817
Monica, Stacie	219
Mudjirahardjo, Panca	651
Muhamad, Gilang Aulia	107
Muhammad Hibban, Rafi	296, 322
Mujahidah, Latifatul	968
Mukarromah, Adatul	360
Mukrim, Abdul	825
Mukti, Bayu Priya	42, 412
Mulyana, Teady Matius Surya	22
Mulyo, Noris Bagus	591
Muntashir, Abdillah Aziz	486
Murfi, Hendri	521
Mursidah, Eva	365
Muttaqin, Adharul	651

N.R.A. Mokobombang, Novy	500
Naba, Agus	651
Nadlifatin, Reny	302
Najib, Warsun	571
Nambo, Hidetaka	597
Natalia, Nila	61
Natalina, Hana Dessy	75
Nawawi, Zainuddin	974
Nirsal, Nirsal	500
Nisa, Hamidatun	546
Nisa, Khairun	839
Nisrina, Alaniah	845
Novianty, Astri	296, 322
Nugraha, Satria Adi	48, 140, 507
Nugroho Jati, Hanif	425
Nugroho, Ady	61
Nugroho, Bima Setyo	591
Nugroho, Habibie	61
Nugroho, Hanung Adi	557
Nugroho, Kuncahyo Setyo	810
Nugroho, Widi	521
Nur Handayani, Anik	172
Nurdin, Nurdin	935
Nurfaizah, Nurfaizah	15
Nurmansyah, Mochamad Iqbal	736
Nurrohman, Irfan Hera	610
Nurullah, Bahar	825
 Oktian, Yustus Eko	 528
 Palupi, Reza Ayu	 591
Panggula, Abiel Yisrel	865
Panji Tresna, Wildan	296, 322
Paramita, Adi Suryaputra	275
Pardamean, Bens	133, 348, 810
Parenreng, Jumadi Mabe	146, 237
Parikh, Milan	1
Patel, Tejas Pravinbhai	1
Perdana, Muhammad Aji	439
Permanasari, Adhistya Erna	446
Phang, Audrey Theodora	832
Prabowo, Tio Eko	571
Prasetya Wibawa, Aji	172
Prasetyo, Eko Wahyu	845
Prasetyo, Hanung Nindito	379
Pratama, Devangga Putra Adhitya	591
Pratiwi, Pratiwi	75

Purbaningdyah, Hasna Lathifah	365
Purnomo, Felicia Joshlyn	507
Purushothaman, Rajesh	1
Putra, Ade	61
Putra, I Gede Wisnu Satria Chandra	159, 418
Putra, Okta Prihatma Bayu	665
Putri, Aulia Safira	42
Putri, Nadya Awalia	412
Raditya, Made Dwijottama	909
Rafi, Arya Athaullah	48
Rafiq, Azhar	185
Rahmadiansyah, Zulfian	263
Rahmatillah, Intan	472, 904
Ramadhani, Syarifah Fitrah	817
Ramahalim, Albert Yulius	459
Ramli, Alya	393
Rasyid Jr., Nathalia Minoque Kusuma Salma	140
Ravichandran, Karthick Manoj	541
Ren, Sijie	399
Riady, Kenneth	893
Rikawarastuti, Rikawarastuti	61
Rimantho, Dedi	206
Riyadi, Slamet	316, 839
Rizky, Muhammad	179
Rizqi, Ahmad Ataka Awwalur	263
Rofiah, Feby Akliji	328
Rumangkit, Stefanus	923
Sabrina, Auryn Larissa	232
Sagala, Noviyanti	916
Sagala, Noviyanti Tri Mareta	798
Sagala, Noviyanti Tri Maretta	763, 832
Saghiri, Ali Mohammad	672
Said, N.D.M.	355
Sakti, Setyawan Purnomo	651
Saleh, M.	393
Salmanarrizqie, Ageng	275
Salsabila, Lathifah	923
Samosir, Feliks V. P.	724
Samosir, Feliks Victor Parningotan	879
Sandriago, Octavius	763
Sanjaya, Brianna	698, 851
Sanjaya, Michael	810
Santoso, Vebrillia	769
Saputra, Dhanar Intan Surya	412
Saputra, M Garry	865
Saputra, Verren Angelina	617

Saputri, Theresia Ratih Dewi	94
Saputro, Rujianto Eko	412, 552, 929
Saraswat, Thusy Tiara	591
Sari, Mega Kartika	22, 199, 340, 858
Sari, Ratna	8
Sarosa, Moehammad	249
Sasmoko,	679
Septama, Hery Dian	446
Sestomi, Elvin	348
Setiardi, Rahma James Galliano	120
Setiawan, Joseph	698, 851
Setyawan, Harum Ananda	521
Setyo Nugroho, Kunchayo	348
Shaharudin, Muhammad Shabir	644
Sidharta, Raymond	399
Sihombing, Krystin Prisdia Oetari Sihombing	923
Simamora, Harun Bless Kanaan	199
Sinambela, Marzuki	534
Siregar, Refanthi Eunike	858
Sitokdana, Melkior Nn	340
Sneha, Sadika Islam	784
Soengkono, Yoel	724
Stefanus Indarwan, Marco	886
Stendafity, Selfi	185
Subriadi, Apol Pribadi	302
Suciati, Nanik	283
Sudiana, Sudiana	644
Sudirman, Ivan Diryana	472, 904
Sugandi, Kevin	679
Sugiarto, Salman Luthfi	839
Suhartono, Didit	256, 899
Sukemi,	974
Sulistiyanto, Nanang	651
Sumiati, Ai Irma	791
Sunaringtyas, Septia Ulfa	113
Sundjaja, Arta Moro	630
Suprayogi, Joseph Immanuel	665
Supriyanto, Heru	718
Surya Saputra, Dhanar Intan	88
Sutedjo, Heidy Mudita	140
Sutoyo, Rhio	617
Sutrisno, Julius	159, 698, 711, 729
Swandari, Selly	729, 851
Syahrial, Hadi	893
Syahyaningsih, Lutfiah Tri	146
Syakura, Panglima	393
Syarif, Raniah	206
Syarif, Syafruddin	960

Syauqi, A'La	172
Syukron, Muhamad	360
Tahalele, Paul L	275
Tahyudin, Imam	15
Tamim, Md Mahmud Hasan	784
Tampinongkol, Felliks Feiters	159, 418
Tannady, Hendy	466
Tanzil, Malvin	916
Tedja, Jessica Laurentia	140
Tedjasulaksana, Jeffrey Junior	798
Thennakoon, Rajitha	658
Thinakaran, Rajermani	546
Thohari, Khamim	275
Tianto, Bellion	8
Tjahyadi, Hendra	244
Tjhan, Eirene Michella	798
Toaha, Syamsuddin	935
Tri Maretta Sagala, Noviyanti	68, 219, 637
Triana, Ika	75
Tridaleatari, Ferra Arik	379
Utamima, Amalia	54
Uyun, Shofwatul	825, 968
Valencia, Cheryl Aurellia	798
Valencia, Nikita Amelia	858
Valenthresia, Valenthresia	290
Vinarti, Retno Aulia	54
Viswapriyan, Varun	386
Wahid, Arif Mu'Amar	597
Wahyu Aji, Tonny	534
Wahyu Sukamingsih, Raden Ajeng Dyah	290
Wahyudi, Christosie	61
Wahyunggoro, Oyas	486
Wahyuningrum, Tenia	546
Wandoko, Wanda	493
Wang, Bin	399
Wardani, Riastuti Kusuma	736
Wardhana, Ali	159
Wardhani, Ni Komang Gayatri Kusuma	832
Weerasinghe, Sethma	658
Wibirama, Sunu	28, 263, 372, 571
Wibisono, Darren	48
Wibowo, Sapto	249
Wicaksono, Pandu	192, 452
Widhianingsih, Tintrim Dwi Ary	360

Widjaja, Andree Emmanuel	564, 686
Widyastuti, Nurwita	88
Wiguna, Edward Engelbert	879
Wijaya, Agustinus Fritz	22, 199, 340
Wijayanti, Theresia Puspa	858, 886
Wijesinghe, Nethmi	309
Woelffel, Victor	126
Wulandari, Lili Ayu	798, 832
Wulandhari, Lili	916
Wulandhari, Lili Ayu	763
Yadav, Jyoti	406
Yap, Aurelia	101
Yuadi, Imam	872, 953
Yudho Suprpto, Bhakti	974
Yuniarti, Anny	225, 365
Yuniarto, Adam Anderson	316
Yunus, Chrystian Dwi Putra	514
Yusro, Muhammad	61
Yuwono, Daniel Heulwen	48
Zaki Asmara, Akmal	283
Zilelioglu, Hazar	126
Zulfa, Alfiyah Qothrunnada	372
Zulfikar, Akbar Lufi	851

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

- Proceedings
- All Proceedings
- Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026

Search within results



Items Per Page

Export

Email Selected Results

Showing 1-25 of 157

Author	☐	Front Cover Page			
		Publication Year: 2026 , Page(s): 1 - 1			
Affiliation	☐	Half Title Page			
		Publication Year: 2026 , Page(s): 1 - 1			
	☐	Copyright Page			
		Publication Year: 2026 , Page(s): 1 - 1			
	☐	Welcome Message			
		Publication Year: 2026 , Page(s): 4 - 7			
	☐	Partners and Support			
		Publication Year: 2026 , Page(s): 12 - 13			
	☐	Committees			
		Publication Year: 2026 , Page(s): 14 - 16			
	☐	Table of Contents			
		Publication Year: 2026 , Page(s): 1 - 12			
	☐	Author Index			
		Publication Year: 2026 , Page(s): 1 - 12			
	☐	GPU-Accelerated Resilient Control: Experimental Validation and Performance Benchmarking for Autonomous Systems			
		Tejas Pravinbhai Patel; Chaitanya Kulkarni; Rajesh Purushothaman; Deepak Kole; Milan Parikh; Rakesh Keshava			
		Publication Year: 2026 , Page(s): 1 - 7			



©



©

©

©



©



©

©



©

©



Habibie Satrio Nugroho; Nila Natalia; Ady Setyo Nugroho;
Aditia Putra Hamid; Rosyid Ridlo Al-Hakim;
Ade Muhammad Syamkirana Putra; Christosie Immanuel Wahyudi;
Muhammad Yusro; Rikawarastuti
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  

- ☐ **Buzzer Detection on TikTok: A Comparative Study of Machine Learning and IndoBERT During the August 2025 Indonesian Protests** 

Natasha Kayla Cahyadi; William Darma Wijaya; Henry Lucky;
Noviyanti Tri Maretta Sagala; Rilo Chandra Pradana
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  

- ☐ **Learning Experience, Smart Technology, Artificial Intelligence, Robotics and Algorithms (STARA) Competency, and Work Readiness in the AI Era: The Moderating Role of Self-Efficacy** 

Nurul Sukma Lestari; Pratiwi; Adriani Gunawan;
Hana Dessy Natalina; Ika Triana
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  

- ☐ **Comparative Analysis of Expert and User Based Usability Evaluation in Travel Booking Apps** 

Angelina Fredlin; Sulistyo Heripracoyo
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  

- ☐ **Bridging Big Data Analytics and Risk Governance: A Systematic Review the Role of AHP in Financial Institution** 

Nurwita Widyastuti; Taqwa Hariguna; Dhanar Intan Surya Saputra
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  

- ☐ **A Comparative Study of Deep Learning Algorithm Performance for Drowsiness Detection While Driving** 

Dhammiko Dharmawan; Theresia Ratih Dewi Saputri
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  

- ☐ **Contextual Models for Indonesian Abbreviation Disambiguation and Expansion** 

Hansen Halim; Aurelia Yap; Lili Ayu Wulandhari;
Noviyanti Tri Maretta Sagala
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  

- ☐ **Local LLM Augmentation for Long-Tail Fine-Grained Text Classification** 

Gilang Aulia Muhamad; Zaky Al Fatih Nata Imam
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  

IEEE Personal Account	Purchase Details	Profile Information	Need Help?	Follow
CHANGE USERNAME/PASSWORD	PAYMENT OPTIONS VIEW PURCHASED DOCUMENTS	COMMUNICATIONS PREFERENCES PROFESSION AND EDUCATION TECHNICAL INTERESTS	US & CANADA: +1 800 678 4333 WORLDWIDE: +1 732 981 0060 CONTACT & SUPPORT	   

[About IEEE Xplore](#) | [Contact Us](#) | [Help](#) | [Accessibility](#) | [Terms of Use](#) | [Nondiscrimination Policy](#) | [IEEE Ethics Reporting](#)  | [Sitemap](#) | [IEEE Privacy Policy](#)

A public charity, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2026 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

- Proceedings
- All Proceedings
- Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026

Items Per Page

Email Selected Results

Showing 26-50 of 157

Author

Affiliation

- Quick Links
- Search for Upcoming Conferences
 - IEEE Publication Recommender
 - IEEE Author Center

Proceedings

The proceedings of this conference will be available for purchase through Curran Associates.

67816-ICCRAIDS, 2026 (PRT)

Print on Demand [Purchase at Partner](#)

- ☐ **Operationalizing IEC 62443 Through NIST SP 800 82 Revision 3: A Localized OT Security Framework for Indonesia's Energy Sector** 
Dyah Ayu Citra Maharani; Septia Ulfa Sunaringtyas
Publication Year: 2026 , Page(s): 1 - 7

Abstract HTML  
- ☐ **Comparative Evaluation of SARIMA, FB Prophet, and LSTM for Hourly Demand Forecasting in Saudagar Kopi** 
Kevina Syahla Aqila; Revaldy Arya Kusuma; Muhamad Reynaldi AliSafitrah; Rahma James Galliano Setiardi; Tuga Mauritsius; Eka Miranda
Publication Year: 2026 , Page(s): 1 - 6

Abstract HTML  
- ☐ **Optimization of cVEP Classification Approaches for 3D VR Based Brain Computer Interfaces** 
Alix Gouret; Victor Woelffel; Alexandre Delaux; Solène Le Bars; Hazar Zilelioglu
Publication Year: 2026 , Page(s): 1 - 7

Abstract HTML  
- ☐ **ChangeMambaVision: Adapting Mambavision for Building Change Detection** 
Thomas Gozalie; Andrea Stevens Karnyoto; Edy Irwansyah; Bens Pardamean
Publication Year: 2026 , Page(s): 1 - 7

Abstract HTML  
- ☐ **Multi-Task Transformer-Based Aspect Sentiment Analysis for Indonesian Energy and Mining Discourse** 
Satria Adi Nugraha; Jessica Laurentia Tedja; Heidy Mudita Sutedjo; Nathalia Minoque Kusuma Salma Rasyid; Rudi Limantara; Christopher Andreas
Publication Year: 2026 , Page(s): 1 - 6

Abstract HTML  
- ☐ **Bullying Detection Using Mediapipe CNN Feature Fusion and Bi-LSTM Attention** 
Lutfiah Tri Syahyaningsih; Salsa Dillah; Muhammad Fajar B; Jumadi Mabe Parenreng; Dyah Darma Andayani; Fhatiah Adiba;

Andi Baso Kaswar

Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **Examining the Role of Entrepreneurial Orientations and AI Capabilities in Driving Green Performance** 

Abdullah Abdulaziz-Alhumaidan

Publication Year: 2026 , Page(s): 1 - 6

✓ Abstract [HTML](#)  

- ☐ **AI-Generated Marketing Content and Consumer Trust: Examining the Role of AI Disclosure** 

Agung Stefanus Kembau; I Gede Wisnu Satria Chandra Putra;
Felliiks Feiters Tampinongkol; Arief Perdana Kumaat; Julius Sutrisno;
Ali Wardhana

Publication Year: 2026 , Page(s): 1 - 6

✓ Abstract [HTML](#)  

- ☐ **A User-Centered Gamified Interaction Framework for Interactive Financial Management Systems** 

Kevin Fernaldy; Yana Erlyana

Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **Interactive Tool for Javanese Script Transliteration and Corpus Construction** 

A'la Syauqi; Aji Prasetya Wibawa; Anik Nur Handayani

Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **Effect of Heuristic Bias on Crypto Asset Trading Decision Mediated by Risk Tolerance** 

Bambang Leo Handoko; Arbyn Danendra; Muhammad Rizky;
Ang Swat Lin Lindawati

Publication Year: 2026 , Page(s): 1 - 6

✓ Abstract [HTML](#)  

- ☐ **MaleoScribe: An Evaluation of Deep Learning-Based ASR for Spoken Doctor's Note in Bahasa Indonesia** 

Selfi Stendafity; Azhar Rafiq; Almer Deta Tarandha

Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **Hybrid CEEMDAN-EWT-Transformer-GAN Framework for Very-Short-Term Wind Power Forecasting** 

Pandu Wicaksono; Panji Arisaputra; Anindhita Dewabharata;
Sulistyo Heripracoyo; Gabriella Angelina Widjaja

Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **Design of a Gamified Mobile Application for Preventive Student Mental Health Support** 

Mega Kartika Sari; Merryana Lestari; Agustinus Fritz Wijaya;
Donny Avianto; Robin William Awi; Harun Bless Kanaan Simamora

Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **Smart IoT Health Monitoring Using Spectral HRV Analysis for Early Stress and Autonomic Imbalance** 
Hasyifah Maritza Karsa; Khairul Azzam; Raniah Syifa Kamila Syarif;
Khalisha Mayori Bambang; Anika Putri Ladisya Ardhiansyah;
Dedi Rimantho
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Artificial Intelligence-Driven Marketing Strategies for Enhancing Customer Engagement in Digital Islamic Banking Services Within the Indonesian Digital Economy: A PLS-SEM Modelling Studies** 
Rini Kurnia Sari; Muhammad Alfarizi
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **Comparative Analysis of IndoBERT, BiLSTM, and Ensemble Techniques for Indonesian Online Gaming Toxicity Detection** 
Cynthia Anne Ramali; Stacie Monica; Jeffrey Junior Tedjasulaksana;
Noviyanti Tri Maretta Sagala; Lili Ayu Wulandhari
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Analysis of DCE Iterations Using ResNetDCE for Low-Light Enhancement** 
Riyadi Jimmy Iskandar; Chastine Fatichah; Anny Yuniarti
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **From Twitter to Reddit: Cross-Domain Indonesian Sarcasm Detection with Pretrained Transformers** 
Aurny Larissa Sabrina; Darren Cornelius Citra Wijaya; Meiliana
Publication Year: 2026 , Page(s): 1 - 5

▼ Abstract

[HTML](#)  
-
- ☐ **Hybrid Multi-Object Tracking Framework Using YOLO-Based Detection, Optical Flow, and Depth Estimation** 
Muhammad Fajar B; Fitriyanty Dwi Lestary; Jumadi Mabe Parenreng
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **Classification of Normal Sinus Rhythm, Arrhythmia, and Congestive Heart Failure from Single-Lead ECG Using 1D-CNN + BiLSTM** 
Gabriel Alvaro; Hendra Tjahyadi
Publication Year: 2026 , Page(s): 1 - 5

▼ Abstract

[HTML](#)  
-
- ☐ **Performance Evaluation of YOLOv8 for Automatic Bullet Impact Detection and Scoring on Shooting Targets** 
Erdiyan Ariyanda; Moechammad Sarosa; Sapto Wibowo;
Wahyu Nur Hidayat; Yulia Mulyani Azis; Isa Mahfudi
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **A Forensic-Based Prevention Framework for Web Defacement Attacks via WordPress REST API and Social Engineering** 
Khairunnisak Nur Isnaini; Didit Suhartono; Azhari Shouni Barkah;
Fadia Nur Annisa; Anisaa Qothrunnada Khoirunnita
Publication Year: 2026 , Page(s): 1 - 7

☐

Explainable Artificial Intelligence (XAI) and Human Cognitive Factors: A Systematic Literature Review of Domains, Techniques, and Impacts

Zulfian Rahmadiansyah; Ahmad Ataka Awwalur Rizqi; Sunu Wibirama

Publication Year: 2026 , Page(s): 1 - 6



☐

Building Footprint Extraction from High-Resolution Satellite Imagery: Evaluating SAM and Lightweight Segmentation Models on xBD Dataset

Shanna Carlynda Fernlie; Nur Afny Catur Andryani

Publication Year: 2026 , Page(s): 1 - 6



IEEE Personal Account	Purchase Details	Profile Information	Need Help?	Follow
CHANGE USERNAME/PASSWORD	PAYMENT OPTIONS	COMMUNICATIONS PREFERENCES	US & CANADA: +1 800 678 4333	   
	VIEW PURCHASED DOCUMENTS	PROFESSION AND EDUCATION	WORLDWIDE: +1 732 981 0060	
		TECHNICAL INTERESTS	CONTACT & SUPPORT	

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

Proceedings | All Proceedings | Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026

Search within results  Items Per Page Export Email Selected Results

Showing 51-75 of 157

Author 
Affiliation 

Quick Links
[Search for Upcoming Conferences](#)
[IEEE Publication Recommender](#)
[IEEE Author Center](#)

Proceedings
The proceedings of this conference will be available for purchase through Curran Associates.

67816-ICCRAIDS, 2026 (PRT)

Print on Demand [Purchase at Partner](#)

- ☐ **A Cultural Prompt Alignment Framework for Mitigating Cross-Lingual Bias in Healthcare and Education with Multilingual LLMs** 
Agustinus Bimo Gumelar; Adi Suryaputra Paramita; Paul L Tahalele; Khamim Thohari; Afid Kurniawan; Ageng Salmanarrizqie
Publication Year: 2026 , Page(s): 1 - 8
 Abstract [HTML](#)  
- ☐ **Breast Cancer Microarray Classification Using Ensemble Feature Selection and Bagging Histogram Gradient Boosting** 
Akmal Zaki Asmara; Defiano Dhio Bimantara; Fitra Agung Diassyah Putra; Nanik Suciati
Publication Year: 2026 , Page(s): 1 - 7
 Abstract [HTML](#)  
- ☐ **How Trust and Technology Acceptance Shape Luxury Purchase Intention in Recommender System Contexts** 
Valenthresia; Gilbert; Jonathan; Dyah Wahyu Sukmaningsih
Publication Year: 2026 , Page(s): 1 - 6
 Abstract [HTML](#)  
- ☐ **Motorcycle Parking Slot Estimation in Unmarked Environments Using YOLOv8n and Empirically Calibrated Dynamic Gap Analysis** 
Bagus Fatkhurrohman; Rafi Muhammad Hibban; Kukuh Lintang Fajar; Astri Novianty; Umar Ali Ahmad; Wildan Panji Tresna
Publication Year: 2026 , Page(s): 1 - 6
 Abstract [HTML](#)  
- ☐ **Bridging Standards and Experience: Digital Service Accessibility for People with Disabilities** 
Muhammad Bambang Firdaus; Apol Pribadi Subriadi; Reny Nadlifatin
Publication Year: 2026 , Page(s): 1 - 7
 Abstract [HTML](#)  

- ☐ **A Focused Review of Multimodal CTR Prediction for Cold-Start Recommendation** 
Sharm Fernando; Nethmi Wijesinghe
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **A Combined Evaluative Framework Using Black Box Testing and Heuristic Evaluation for Legacy Academic Information Systems** 
Adam Anderson Yuniarto; Cahya Damarjati; Slamet Riyadi;
Annisa Divayu Andriyani
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Design and Implementation of an Edge-Based Smart Parking System for Campus Environments** 
Rafi Muhammad Hibban; Bagus Fatkhurrohman;
Kukuh Lintang Fajar; Astri Novianty; Umar Ali Ahmad;
Wildan Panji Tresna
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Real-Time Probabilistic Enemy Decision Making in Survival Games using Bayesian Networks and Behavior Trees** 
Feby Akliji Rofiah; Hanny Haryanto
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Surrogate-Based Optimization of Open-Die Forging using Reinforcement Learning and Simulated Annealing** 
Christian Linder; Martin Feistle; Syed Irtiza Ali
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Conceptual Model of Risk Based Artificial Intelligence Management System in Financial Technology** 
Merryana Lestari; Melkior N.N. Sitokdana; Mega Kartika Sari;
Agustinus Fritz Wijaya; Bhustomy Hakim; Rangga Putra Gunawan
Publication Year: 2026 , Page(s): 1 - 8

▼ Abstract

[HTML](#)  
-
- ☐ **Deep Learning for Indonesian Sign Language Recognition: Methods, Trends, and Public Dataset** 
Elvin Sestomi; Kuncahyo Setyo Nugroho; Bens Pardamean
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **Implementation of Battery Charging Energy Prediction System Using Machine Learning in Hybrid Photovoltaic System for Public Street Lighting with Web-Based Monitoring Display** 
Feri Adriyanto; N.D.M. Said; Maulida Nabilah Badriah;
Yusuf Athallah Adriyansyah
Publication Year: 2026 , Page(s): 1 - 5

▼ Abstract

[HTML](#)  
-
- ☐ **Mitigating Class Imbalance for Neural Networks via Balanced Mini-Batch Training** 
Tintrim Dwi Ary Widhianingsih; Adatul Mukarromah;
Muhamad Syukron
Publication Year: 2026 , Page(s): 1 - 5

©

©



©

©



©



©

©

©

©

- ☐ **Trust, Enjoyment, and Engagement in AI-Generated Marketing Content: The Conditional Role of AI Familiarity** 
Agung Stefanus Kembau; I Gede Wisnu Satria Chandra Putra;
Felliks Feiters Tampinongkol; Arief Perdana Kumaat; Antonius Felix;
Francka Sakti Lee
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Comparative Analysis of Zero-Shot Voice Cloning for Digital Sibling AI** 
Hanif Nugroho Jati; Ridi Ferdiana; Risanuri Hidayat
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Comparative Analysis of Large Language Model Performance in News Content Classification** 
Kendricko Adrio; Yaya Heryadi
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML





< 1 2 3 4 5 6 7 >

IEEE Personal Account

CHANGE
USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS

VIEW PURCHASED
DOCUMENTS

Profile Information

COMMUNICATIONS
PREFERENCES

PROFESSION AND
EDUCATION

TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800
678 4333

WORLDWIDE: +1 732
981 0060

CONTACT & SUPPORT

Follow

About IEEE *Xplore* | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | IEEE Ethics Reporting  | Sitemap | IEEE Privacy Policy

A public charity, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2026 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

- Proceedings
- All Proceedings
- Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026

Search within results



Items Per Page

Export

Email Selected Results

Showing 76-100 of 157

- Author 
- Affiliation 

- Quick Links
- [Search for Upcoming Conferences](#)
 - [IEEE Publication Recommender](#)
 - [IEEE Author Center](#)

Proceedings

The proceedings of this conference will be available for purchase through Curran Associates.

67816-ICCRAIDS, 2026 (PRT)

Print on Demand [Purchase at Partner](#)

- ☐ **Out-of-Fold Stacking for Reliable Transformer Ensembles in Indonesian Depression/Anxiety Indicator Detection** 
Muhammad Aji Perdana; Bimo Sunarfri Hantono; Ridi Ferdiana
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Design and Evaluation of a Competency-Grounded RAG Pipeline for Role-Based Software Engineering Education** 
Hery Dian Septama; Ridi Ferdiana; Adhistya Erna Permanasari
Publication Year: 2026 , Page(s): 1 - 6

Abstract

HTML




- ☐ **Vehicle Detection with Size-Based Categorization Using YOLO Models for Traffic Lane Prioritization** 
Hendry Anastacia Chandra; Gede Putra Kusuma; Pandu Wicaksono
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Predicting Competitive Programming Problem Tags and Ratings from Tutorials Using BERT-Based Models** 
Albert Yulius Ramahalim; Christoffer Edbert Karuniawan; Tjeng Wawan Cenggoro
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Family Based Character Education through Meta AI: A WebQual and IPA Study** 
Herlina; Hendy Tannady; Johanes Fernandes Andry; Francka Sakti Lee
Publication Year: 2026 , Page(s): 1 - 6

Abstract

HTML




- ☐ **Evaluation of Optimized LSTM and Moving Average in SME Inventory Forecasting and Simulation** 
Intan Rahmatillah; Patah Herwanto; Ivan Diryana Sudirman
Publication Year: 2026 , Page(s): 1 - 5

Abstract

HTML




- ☐ **Decentralized Radio Access Network Virtualization via Distributed Ledger Technology** 

✓ Abstract [HTML](#)  

-
- ☐ **Performance Evaluation of Neural Network Control for Ćuk Converter–Based Active Battery Cell Balancing** 
- Akhmad Mursidan Al Farizi; Oyas Wahyunggoro;
Abdillah Aziz Muntashir; Adha Imam Cahyadi
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

-
- ☐ **Understanding ChatGPT Adoption Among Older Adults: A Senior Technology Acceptance Model (STAM) Perspective** 
- Vierly Joynaden; Wanda Wandoko
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

-
- ☐ **Computer Vision-Driven Mitigation of Marasmius Palmivorus in Oil Palm Plantations** 
- Nirsal; Indrabayu; Novy NRA Mokobombang
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

-
- ☐ **Benchmarking Time Series Forecasting Models on Seasonal and Non-Seasonal Data: A Case Study of PM10 Air Pollution and IDX Composite** 
- Christopher Andreas; Yohana Jocelyn Guntur;
Felicia Joshlyn Purnomo; Rudi Limantara; Satria Adi Nugraha
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

-
- ☐ **Applying Gradient Penalty in Neural Ratio Estimation to Obtain Calibrated Posterior Estimator in Small Simulation Budgets** 
- Chrystian Dwi Putra Yunus; Syukron Abu Ishaq Alfarozi;
Indriana Hidayah
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

-
- ☐ **Efficient rPPG via Hybrid SSM-Attention: A Global Context, Periodic Focus Approach** 
- Rinaldi Anwar Buyung; Alhadi Bustamam; Hendri Murfi;
Harum Ananda Setyawan; Widi Nugroho
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

-
- ☐ **A Server-Authoritative and AI-Enhanced Architecture for Secure Online Examinations** 
- Yustus Eko Oktian; Thi-Thu-Huong Le
Publication Year: 2026 , Page(s): 1 - 6

✓ Abstract [HTML](#)  

-
- ☐ **Design and Prototype Development of a Dual-MCU Wireless IoT System for Multi-Gas Air Quality Monitoring in Poultry Environments** 
- Marzuki Sinambela; Puguh Hiskiawan; Tonny Wahyu Aji;
Yobel Eliezer Mahardika; Ahmad Meijlan Yasir; Aviv Maghridlo
Publication Year: 2026 , Page(s): 1 - 7

✓ Abstract [HTML](#)  

- ☐ **A Taxonomy of Adaptive Interfaces for Human-CPS Interaction** 
Sann Lwin Moe; Malathy Batumalay; G. Jegadeeswari;
Karthick Manoj Ravichandran
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  
-
- ☐ **Clustering-Based Analysis of User Interaction Patterns in Remote Usability Testing on E-Commerce Website** 
Tenia Wahyuningrum; Hamidatun Nisa; Rajermani Thinakaran
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  
-
- ☐ **Synthetic Data Generation with GANs to Boost CNN Accuracy in Plasmodium Species and Lifecycle Stage Detection** 
Galih Bagaskoro; Rujianto Eko Saputro; Azhari Shouni Barkah
Publication Year: 2026 , Page(s): 1 - 5

▼ Abstract [HTML](#)  
-
- ☐ **MFA-Unet for Segmentation of Near-Infrared Arm Vein** 
Kurnia Chairunnisa; Syukron Abu Ishaq Alfarozi;
Hanung Adi Nugroho; Erika Loniza
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  
-
- ☐ **Optimizing Project Management through Real-Time Collaboration System Development Using Visualization Dashboards** 
Hery; Franky; Andree Emmanuel Widjaja; Calandra Alencia Haryani;
Arnold Aribowo
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  
-
- ☐ **Explainable AI for Eye Tracking-Based Prediction: A Systematic Literature Review** 
Tio Eko Prabowo; Warsun Najib; Sunu Wibirama
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  
-
- ☐ **AutoNetFlow: An Intelligent Reinforcement Learning Framework for Adaptive Process Automation in Network Traffic Control** 
Anurag Bhargav Gandrakota
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  
-
- ☐ **A Human-Centered Analysis of AI Awareness: Investigating User Vulnerabilities to Deepfakes and Voice Cloning** 
Felix Jerome Hidajat; Yana Erlyana
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract [HTML](#)  
-
- ☐ **The Unpredictability of the Traffic Sources Model on Instagram Content Using Tree-Based Models Machine Learning Algorithms** 
Hujjatullah Fazlurrahman; Bima Setyo Nugroho; Restu Eri Adinata;
Novita Aprilia; Devangga Putra Adhitya Pratama;
Thusy Tiara Saraswati; Reza Ayu Palupi; Noris Bagus Mulyo;
Amirusholihin A.
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract [HTML](#)  
-



▼ Abstract

©

© Copyright 2026 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

- Proceedings
- All Proceedings
- Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026

Items Per Page

Export

Email Selected Results

Showing 101-125 of 157

- Author
- Affiliation

- Quick Links
- [Search for Upcoming Conferences](#)
 - [IEEE Publication Recommender](#)
 - [IEEE Author Center](#)

Proceedings

The proceedings of this conference will be available for purchase through Curran Associates.

67816-ICCRAIDS, 2026 (PRT)

Print on Demand [Purchase at Partner](#)

- ☐ **Sentiment Analysis of Generative AI Usage in Indonesia using LSTM and BERT Models** 
Axell Prita Aurelie Atmojo; Dian Jannati Kusuma;
Nadine Aulyaa Arienaldi; Said Achmad
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **A Miniature Model for Smart Road Access Management Based on Traffic Density and Emergency Response** 
Muhammad Aldo Ghiffari; Irfan Hera Nurrohman;
Ivan Sebastian Edbert; John Devin Christianto
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Large Language Model Chatbot with Retrievalaugmented Generation and Function Calling for Indonesian Article 21 Withholding Tax Support** 
Verren Angelina Saputra; Marvella Shera Devi;
Ethelind Septiani Metta; Rhio Sutoyo; Mahda Karina
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **AutoScaleDL: An Automated Framework for Scalable Distributed Training in Deep Learning Systems** 
Anurag Bhargav Gandrakota
Publication Year: 2026 , Page(s): 1 - 6

Abstract

HTML




- ☐ **Dimensions of the E-Commerce System Success (ESS) Model and Augmented Reality (AR) That Affect User Satisfaction and Repeat Usage Intent on the Shopee App in Indonesia** 
Rebekka Ledyana; Celia Marleen Kardijaya; Winna Michelle;
Arta Moro Sundjaja
Publication Year: 2026 , Page(s): 1 - 7

Abstract

HTML




- ☐ **Sentiment Analysis Meets Auto Shows: Evaluating Transformer Models on Post-GIIAS 2025 Indonesian EV Discussions** 
Clarissa Beatrice Kosasih; Marcelline Cathrine Wilison;
Noviyanti Tri Maretta Sagala; Lili Ayu Wulandhari
Publication Year: 2026 , Page(s): 1 - 7

©



©

©



©



©



©

©

©

©

- ☐
- Evaluating AI-Powered Chatbot Acceptance in Indonesian Skincare E-Commerce: An Extended Technology Acceptance Model Approach**
- 
- Brianna Sanjaya; Mikael Bryan Ciputra; Joseph Setiawan;
Antonius Felix; Julius Sutrisno; Johannes Fernandes Andry
- Publication Year: 2026 , Page(s): 1 - 7
- ▼ Abstract

HTML





- ☐
- Stock Market Price Prediction Using a Hybrid LSTM-Transformer Model**
- 
- Andrew Lie; Tjeng Wawan Cenggoro
- Publication Year: 2026 , Page(s): 1 - 6
- ▼ Abstract

HTML





- ☐
- Evaluating User Trust and Acceptance of AI-Based Interactive Systems in Digital Business Environments**
- 
- Julius Sutrisno; Reynard J.N Makarawung; Devi Yurisca Bernanda;
Agung Stefanus Kembau; Antonius Felix; Rafaela Marsyel Dermawan
- Publication Year: 2026 , Page(s): 1 - 7
- ▼ Abstract

HTML





- ☐
- Explainable Heart Attack Risk Modeling with CatBoost and Multilayer Perceptron Under a Unified SMOTE-SHAP Framework**
- 
- Heru Supriyanto; Taqwa Hariguna; Azhari Shouni Barkah
- Publication Year: 2026 , Page(s): 1 - 6
- ▼ Abstract

HTML





- ☐
- Real-Time Flood Prediction System for Ciliwung River Using XGBoost Machine Learning**
- 
- Christopher M. M. Gijoh; Jennifer; Yoel Soengkono;
Irene A. Lazarusli; Feliks V. P. Samosir; Aditya R. Mitra
- Publication Year: 2026 , Page(s): 1 - 5
- ▼ Abstract

HTML





- ☐
- A Python-Based Framework for Integrating Multi-Modal AI in Automated Video Production Workflows: A Strategic Business Perspective**
- 
- Antonius Felix; Julius Sutrisno; Selly Swandari;
Devi Yurisca Bernanda; Agung Stefanus Kembau;
Vincentius Leonardo
- Publication Year: 2026 , Page(s): 1 - 7
- ▼ Abstract

HTML





- ☐
- Assessment of P-Care Information System in Indonesian Chronic Disease Management Program Using Mixed-Methods**
- 
- Mochamad Iqbal Nurmansyah; Rahmi Imanda;
Riastuti Kusuma Wardani
- Publication Year: 2026 , Page(s): 1 - 6
- ▼ Abstract

HTML





- ☐
- Digital Transformation of Education: The Role of Artificial Intelligence (AI) in Improving Learning Quality – Systematic Literature Review**
- 
- Tarisa Rahma Larasati; Hanny Juwitasary
- Publication Year: 2026 , Page(s): 1 - 6
- ▼ Abstract

HTML





- ☐
- AI-Enabled Competency-Based Learning: An Integrated Framework for Assessment, Adaptation, and Organizational**
- 

Decision Support

Ruktin Handayani; Udisubakti Ciptomulyono; Ratna Sari Dewi

Publication Year: 2026 , Page(s): 1 - 8

Abstract HTML PDF CC BY

☐ Hate Speech Detection on Social Media Using a Hybrid Indobert and Graph Convolutional Network Model

Salsabillah Putri Harlin; Fitriyani

Publication Year: 2026 , Page(s): 1 - 7

Abstract HTML PDF CC BY

☐ Mapping Political Ideologies on Social Media Using Text Mining and Deep Learning

Octavius Sandriago; Jonathan Christopher Gani; Lili Ayu Wulandhari;

Noviyanti Tri Mareta Sagala

Publication Year: 2026 , Page(s): 1 - 6

Abstract HTML PDF CC BY

< 1 2 3 4 5 6 7 >

IEEE Personal Account

CHANGE
USERNAME/PASSWORD

Purchase Details

PAYMENT OPTIONS
VIEW PURCHASED
DOCUMENTS

Profile Information

COMMUNICATIONS
PREFERENCES
PROFESSION AND
EDUCATION
TECHNICAL INTERESTS

Need Help?

US & CANADA: +1 800
678 4333
WORLDWIDE: +1 732
981 0060
CONTACT & SUPPORT

Follow

f @ in v

About IEEE *Xplore* | Contact Us | Help | Accessibility | Terms of Use | Nondiscrimination Policy | IEEE Ethics Reporting [🔗](#) | Sitemap | IEEE Privacy Policy

A public charity, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

© Copyright 2026 IEEE - All rights reserved, including rights for text and data mining and training of artificial intelligence and similar technologies.

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

Proceedings | All Proceedings | Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026

 Items Per Page Export Email Selected Results

Showing 126-150 of 157

Author ▼
Affiliation ▼

Quick Links
[Search for Upcoming Conferences](#)
[IEEE Publication Recommender](#)
[IEEE Author Center](#)

Proceedings
The proceedings of this conference will be available for purchase through Curran Associates.
67816-ICCRAIDS, 2026 (PRT)
Print on Demand **Purchase at Partner**

- ☐ **DrowsyGuard: A Low Cost Personalized IoT Wearable for Real-Time Driver Drowsiness Detection** 
Yuwono Marta Dinata; Vebrillia Santoso; Andreas Jodhinata; Agustinus Bimo Gumelar
Publication Year: 2026 , Page(s): 1 - 8
▼ Abstract [HTML](#)  
- ☐ **A Comparative Analysis of CNN and Vision Transformer Architectures for Visual Defect Classification Under Data Augmentation** 
Kevin Julian Tan; Tuga Mauritsius
Publication Year: 2026 , Page(s): 1 - 7
▼ Abstract [HTML](#)  
- ☐ **Physics-Informed ResUNet for Global Floating Algae Detection from MODIS/Aqua Imagery** 
Bashirul Islam; Md Tanvir Hossain; Sadika Islam Sneha; Md Mahmud Hasan Tamim; Shekh Maruf; Moinul Islam
Publication Year: 2026 , Page(s): 1 - 6
▼ Abstract [HTML](#)  
- ☐ **Explainable Student Performance Models From Student-VLE Interaction Networks Using Centrality Signals** 
Ai Irma Sumiati; Taqwa Hariguna; Azhari Shouni Barkah
Publication Year: 2026 , Page(s): 1 - 7
▼ Abstract [HTML](#)  
- ☐ **A Comparative Topic Modeling Study of MobileJKN Application Reviews Using LDA, LSA, NMF, and BerTopic** 
Cheryl Aurellia Valencia; Eirene Michella Tjhan; Jeffrey Junior Tedjasulaksana; Lili Ayu Wulandari; Noviyanti Tri Mareta Sagala
Publication Year: 2026 , Page(s): 1 - 7
▼ Abstract [HTML](#)  

- ☐ **Robust Dominant Color Extraction Using Saliency-Weighted K-Means with Power-Law Modulation for Complex Backgrounds** 
Eric Julianto; Dian Alhusari; Safrizal Ardana Ardiyansa
Publication Year: 2026 , Page(s): 1 - 5

▼ Abstract

[HTML](#)  
-
- ☐ **Hybrid Deep Learning-Based Sentiment Analysis for Stock Market Euphoria: A Review of Recent Advances** 
Michael Sanjaya; Matthew Martianus Henry;
Kuncahyo Setyo Nugroho; Bens Pardamean; Vera Intanie Dewi
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **UAV-Based Pothole Segmentation for Area Quantification: A Comparative Study of Mask RCNN and YOLOv11** 
Syarifah Fitrah Ramadhani; Indrabayu; Novy Nur R.A Mokobombang
Publication Year: 2026 , Page(s): 1 - 8

▼ Abstract

[HTML](#)  
-
- ☐ **A Comparative Study of Deep Learning and Classical Image Segmentation Methods for Damaged Flower Image Analysis** 
Shofwatul Uyun; Subhan Ghufon; Abdul Mukrim;
Hanny Handayani Sucinta; Bahar Nurullah
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **Exploring the Cinderella Complex in Digital Narratives: An Unsupervised Text Mining Study** 
Ni Komang Gayatri Kusuma Wardhani; Audrey Theodora Phang;
Lili Ayu Wulandari; Noviyanti Tri Maretta Sagala
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **Kidney Cancer Classification Using DenseNet-121 Architecture** 
Salman Luthfi Sugiarto; Slamet Riyadi; Qodri Aziz; Khairun Nisa
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Automated Competency Mapping for Lecturer Recruitment Using Machine Learning and Multisource Professional Data** 
Fransiskus Adikara; Alaniah Nisrina; Eko Wahyu Prasetyo
Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

[HTML](#)  
-
- ☐ **Leveraging Artificial Intelligence Generated Content (AIGC) for Digital Content Marketing Strategy: A Case Study of a Pre-Launch Skincare Brand in Indonesia** 
Mikael Bryan Ciputra; Brianna Sanjaya; Joseph Setiawan;
Antonius Felix; Akbar Lufi Zulfikar; Selly Swandari
Publication Year: 2026 , Page(s): 1 - 7

▼ Abstract

[HTML](#)  
-
- ☐ **A Deep Learning Data Fusion Approach for Prostate MRI Zonal Segmentation Using Dual-Channel U-Net with T2 and ADC Images** 
Puguh Hiskiawan; Mega Kartika Sari; Refanthi Eunike Siregar;
Nikita Amelia Valencia; Theresia Puspa Wijayanti
Publication Year: 2026 , Page(s): 1 - 7

-

-

-

- 

-

-

-

-

- 

- ▼ Abstract

HTML




- ☐

The Role of AI Influencer Characteristics in Shaping Consumer Purchase Behavior in Digital Marketing

Krystin Prisda Oetari Sihombing; Lathifah Salsabila; Stefanus Rumangkit; Christopher Joshua Leksana

Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

HTML




- ☐

Imbalanced Multiclass Intrusion Detection on Cicans2017 Under Low False-Positive Constraints: Tstr-Selected Synthetic Augmentation with Model Benchmarking

Darmono; Rujianto Eko Saputro; Azhari Shouni Barkah

Publication Year: 2026 , Page(s): 1 - 6

▼ Abstract

HTML





IEEE Personal Account	Purchase Details	Profile Information	Need Help?	Follow
CHANGE USERNAME/PASSWORD	PAYMENT OPTIONS VIEW PURCHASED DOCUMENTS	COMMUNICATIONS PREFERENCES PROFESSION AND EDUCATION TECHNICAL INTERESTS	US & CANADA: +1 800 678 4333 WORLDWIDE: +1 732 981 0060 CONTACT & SUPPORT	   

Current Research in Artificial Intelligence and Data Science (ICCRAIDS), International Conference on

 Copy Persistent Link  Browse Title List  Sign up for Conference Alerts

- Proceedings
- All Proceedings
- Popular

2026 International Conference on Current Research in Artificial Intelligence and Data Science (ICCRAIDS) DOI: 10.1109/ICCRAIDS67816.2026
10-11 April 2026



Items Per Page

Export

Email Selected Results

Showing 151-157 of 157

Author 

Affiliation 

- Quick Links
- [Search for Upcoming Conferences](#)
 - [IEEE Publication Recommender](#)
 - [IEEE Author Center](#)

Proceedings

The proceedings of this conference will be available for purchase through Curran Associates.

67816-ICCRAIDS, 2026 (PRT)

Print on Demand [Purchase at Partner](#)

- ☐ **From Biometric Surfaces to Contextual Intelligence: A Comprehensive Survey of Multimodal Authentication and the Trimodal Fusion Paradigm** 
Dummy. Nurdin; Armin Lawi; Syamsuddin Toaha
Publication Year: 2026 , Page(s): 1 - 6

 Abstract [HTML](#)  
- ☐ **Data-Driven Analysis of Social Media Content and Engagement Patterns in Electric Vehicle Brand Campaigns** 
Ravly Kaesa Gumelar; Erni Martini
Publication Year: 2026 , Page(s): 1 - 6

 Abstract [HTML](#)  
- ☐ **Fair Automatic Labeling for Software Defined Network Controller Selection from Performance Metrics Using Analytic Hierarchy Process** 
Julian Daffa Dzaky; Maria Susan Anggreainy
Publication Year: 2026 , Page(s): 1 - 6

 Abstract [HTML](#)  
- ☐ **Classification of Hotspot Conditions in 20 kV Power Distribution Equipment Using Infrared Thermogram Image Features and Data Mining Techniques** 
Andre Harjana Damanik; Imam Yuadi
Publication Year: 2026 , Page(s): 1 - 7

 Abstract [HTML](#)  
- ☐ **Vision-Language Guided Pseudo-Labeling for Multi-Label Waste Classification** 
Billy Eden William Asrul; Indrabayu; Syafruddin Syarif
Publication Year: 2026 , Page(s): 1 - 8

 Abstract [HTML](#)  
- ☐ **A Training-Free Leaf Disease Lesion Segmentation Method Using HSV Color and Adaptive Thresholding** 
Shofwatul Uyun; Haerul Anam; Baiq Titik Haerani; Latifatul Mujahidah
Publication Year: 2026 , Page(s): 1 - 6

 Abstract [HTML](#)  



☐

Short-Term Photovoltaic Energy Forecasting Using Long Short-Term Memory Network: A Comparative Study with Statistical Baselines

Fery Antony; Zainuddin Nawawi; Sukemi; Bhakti Yudho Suprpto

Publication Year: 2026 , Page(s): 1 - 5

Abstract

HTML

IEEE Personal Account	Purchase Details	Profile Information	Need Help?	Follow
CHANGE USERNAME/PASSWORD	PAYMENT OPTIONS VIEW PURCHASED DOCUMENTS	COMMUNICATIONS PREFERENCES PROFESSION AND EDUCATION TECHNICAL INTERESTS	US & CANADA: +1 800 678 4333 WORLDWIDE: +1 732 981 0060 CONTACT & SUPPORT	

The Extreme Gradient Boosting (XGBoost) Model with Bayesian Optimization for Rainfall Forecasting in Ibu Kota Nusantara (IKN)

Made Dwijottama Raditya
Mathematics Department
Faculty of Science and Technology
Sanata Dharma University
Yogyakarta, Indonesia
mademdr18@gmail.com

Hartono
Mathematics Department
Faculty of Science and Technology
Sanata Dharma University
Yogyakarta, Indonesia
yghartono@usd.ac.id

Abstract—Accurate prediction of hourly rainfall in the Ibu Kota Nusantara (IKN) region is very crucial for urban planning and climate adjustment. This article studies a rigorous forecasting Extreme Gradient Boosting (XGBoost) model tuned by Bayesian optimization to predict one-step-ahead hourly rainfall intensity. The data used for developing model is meteorological data from 1979 to 2017, with careful leakage-safe preprocessing and rolling-origin validation. This study evaluates two multi-step forecasting strategies—direct and recursive. Results show that both strategies are able to predict rainfall with high accuracy. Moreover, the Bayesian optimization for tuning XGBoost hyperparameters improves predictive accuracy, i.e. reducing RMSE about 4% compared to baseline models. Additional analyses to examine extreme rainfall behaviour is given. Feature interpretability using SHAP-based importance analysis reveals that diurnal cycles, temperature persistence, and humidity fluctuations are dominant predictors. These findings demonstrate a reliable data-driven framework for rainfall nowcasting in IKN while highlighting limitations in capturing peak rainfall events.

Keywords—Rainfall prediction, Ibu Kota Nusantara (IKN), XGBoost model, Bayesian optimization, Feature importance

I. INTRODUCTION

Recently, a climate change is a significant threat for sustainable development, causing increased volatility in weather patterns and more frequent extreme events [1]. For large-scale strategic projects such as Ibu Kota Nusantara (IKN), this uncertainty exhibits a critical challenge. To be "the most sustainable city in the world," as its core vision, managing climate-related risks—particularly extreme rainfall—is fundamental to its success [2]. Therefore, it is very demanded the ability to produce accurate rainfall forecasts for proactive planning and risk mitigation in the IKN region.

Nowadays, machine learning (ML) models have already become powerful tools for time series forecasting. It is often outperforming traditional statistical methods in capturing the complex, non-linear patterns inherent in geophysical data [3]. Among these, the eXtreme Gradient Boosting (XGBoost) algorithm has gained popularity due to its high predictive accuracy and computational efficiency [4]. However, the prediction accuracy of XGBoost is frequently dependent on hyperparameter configuration. Manual tuning is often inefficient due to several reasons such as time-consuming, labour-intensive and limited exploration of the search space. On the contrary, Bayesian optimization offers a superior alternative for finding a model's global optimum with fewer iterations [5].

In spite of the fact that XGBoost has been applied in various meteorological contexts, its application for IKN's unique microclimate—contrasting direct versus recursive forecasting strategies—remains unexplored. This article deals with this gap by proposing a robust XGBoost model enhanced with Bayesian optimization to forecast rainfall in IKN. The main goals of this study are to quantify performance improvements, evaluate forecasting strategies, and identify the most influential meteorological variables.

II. RELATED WORKS

Rainfall forecasting is a critical component of water resource management. Historically, linear statistical approaches for time series data such as Auto-Regressive Integrated Moving Average (ARIMA) and its seasonal variant (SARIMA) have served as the basis of hydrological forecasting. Previous research has demonstrated that SARIMA models are effective in capturing periodic rainfall patterns [6], though their applicability is limited by non-stationary climate dynamics. However, the applicability of these stochastic models is increasingly challenged by the impacts of climate change. Recent studies by Munir and Ismanto [6] underscores that determining accurate cropping patterns is increasingly difficult due to shifting rain patterns, which violate the stationarity assumptions required by traditional linear models. As a result, these models often fail to capture the high stochasticity and complex non-linear dynamics in tropical meteorological data.

To cope with these drawbacks, Machine Learning (ML) algorithms have emerged as robust alternatives which is capable of modelling complex non-linear relationships without strict stationarity assumptions. Early implementations using Artificial Neural Networks (ANN) and Support Vector Regression (SVR) demonstrated superior capabilities compared to ARIMA. For instance, Liu and Zio [7], showed the effectiveness of hyperparameter-tuned SVMs for recursive multi-step predictions. Despite their success, these models can be computationally intensive and prone to overfitting when dealing with high-dimensional temporal data.

A significant progress in predictive modelling was the introduction of eXtreme Gradient Boosting (XGBoost) by Chen and Guestrin [4]. As a scalable implementation of the Gradient Boosting Decision Tree (GBDT) framework, XGBoost employs a regularized objective function that penalizes model complexity to enhance generalization capabilities. In the context of hydrology, XGBoost has shown to consistently outperform traditional ML models in hourly rainfall forecasting. Its specific advantages include the ability

to handle missing values automatically—a common issue in sensor-based weather data—and its efficiency in learning complex feature interactions through tree-based ensembles.

Nevertheless, the performance of XGBoost often depends on its hyperparameter configuration (e.g., learning rate, tree depth, regularization terms etc.). For high-dimensional parameter spaces, traditional tuning methods, such as Grid Search or Random Search, are usually inadequate due to computationally expensive and inefficient. To overcome this, Bayesian optimization has emerged as a state-of-the-art method for automatic model tuning. This approach, as described by Snoek et al. [5], utilizes a probabilistic surrogate model (typically a Gaussian Process) to balance exploration (searching new regions) and exploitation (refining promising regions). This study exploits this advanced optimization method to tune the XGBoost hyperparameters specifically for the microclimatic conditions of IKN.

III. METHODS

A. Data Source and Pre-processing

This study makes uses of historical meteorological data for the Ibu Kota Nusantara (IKN) region, covering the period from January 1, 1979 to December 31, 2017. The dataset was from "DATAQUEST," a national data science competition organized by the Faculty of Advanced Technology and Multidiscipline (FTMM) at Airlangga University. Based on its temporal coverage beginning in 1979, hourly resolution, and the range of atmospheric variables provided, the dataset indicates features compatible with global climate reanalysis products such as ERA5 [8], although the precise origin was not clearly stated by the competition organizers. The variables in the data are 10 predictor variables: temperature (*temp*), dew point (*d_point*), the perceived temperature in Celsius as felt by the human body (*feels*), minimum temperature (*min temp*), maximum temperature (*max temp*), humidity (*hum*), pressure (*prssr*), wind speed (*wind_spd*), wind direction (*wind_deg*), cloud cover (*clouds*), and one target variable, hourly rainfall (*rain_1h*). To simulate the complexities of real-world data pipelines, the organizers introduced noises and anomalies into the dataset. These anomalies on the data, such as inconsistent unit strings within numerical columns and missing values, required preprocessing to be clean and standardize prior to feature engineering and model training.

B. Feature Engineering

At first, a thorough feature engineering process was implemented to transform the raw time series data into a supervised learning format fitted for XGBoost [9]. All engineered features were set up entirely from past observations to ensure temporal validity. The simultaneous values of all predictor variables at time t were ruled out from the input space, since these would not be available in a real forecasting scenario. Then, the lag order and rolling window size were determined empirically from the Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) of the training data, as shown in Figure 1. The PACF showed that the dominant autocorrelation is at lag-1, while the ACF showed a significant correlation up to lag-3. Therefore, a lag depth of 3 was selected as the basis for establishing autoregressive features.

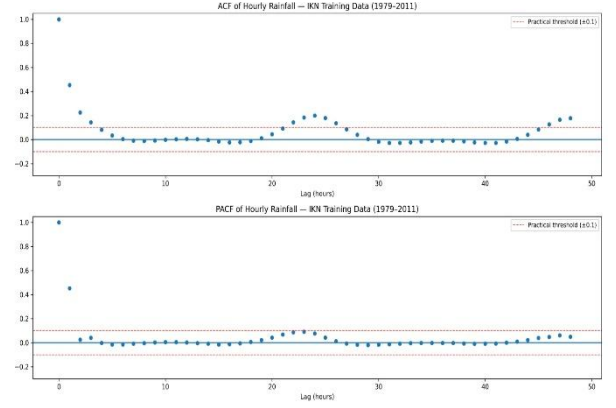


Fig. 1. ACF and PACF of hourly rainfall in the IKN training data (1979–2011).

Starting from 10 meteorological predictor variables, the following four techniques were applied [10, 11]:

1. Time-Delay Embedding (Lag Features) is used to capture autoregressive dependencies. For each of the 10 predictor variables, lagged values were set up for the preceding three-time steps (lag-1 through lag-3), resulting in total 30 lag features.
2. Rolling Window Statistics is utilized to capture local trends and short-term variability. To each predictor variables, the mean, standard deviation, maximum, and minimum were computed over a 6-hour rolling window. This produced 40 rolling features. The 6-hour window was derived from the diurnal signal observed in the ACF at approximately lag-24. It captured sub-diurnal convective dynamics characteristic of the equatorial climate in IKN.
3. Differencing is to capture the rate of change over time. To each predictor, first-order differencing and seasonal differencing with a 24-hour lag were applied, producing 20 differencing features. The 24-hour seasonal lag indicates the strong daily rainfall cycle typical of tropical rainforest climates.
4. Calendar-Based Time Features is used to encode temporal periodicity. From the datetime index, the hour of day, day of week, month, week of year, and year were extracted. To preserve the circular continuity (e.g., ensuring hour 23 and hour 0 are treated as adjacent), cyclical encoding using sine and cosine transformations was applied to the hour, day of week, and month. This process yielded 13-time features in total.

As a result, the original 10 predictor variables were enlarged to 103 input features for the model (i.e. 30 lag features, 40 rolling statistics, 20 differencing features, and 13 calendar-based time features). The concurrent observed values of all predictor variables at time t were excluded from the input space to prevent data leakage.

C. XGBoost

The Extreme Gradient Boosting (XGBoost) algorithm proposed by Chen & Guestrin [4] is a powerful and highly efficient ensemble learning method. It is based on a serial decision tree such that each new tree improves the prediction of the former. For example, if the model consists of K trees,

the final prediction for x_i is the sum of the outputs from K individual trees, where each tree is an independent function f as shown in (1).

$$\hat{y}_i = \sum_{k=1}^K f_k(x_i) \quad (1)$$

To learn the set of decision trees, the model minimizes the following regularized objective function as in (2), which balances model accuracy with complexity:

$$\mathcal{L} = \sum_{i=1}^n l(y_i, \hat{y}_i) + \sum_{k=1}^K \Omega(f_k) \quad (2)$$

This objective consists of two primary components. The first is the loss function, l , which measures the difference between the actual target y_i and the predicted value $\hat{y}_i$. The second component is the regularization term, Ω , which penalizes model complexity to prevent overfitting. For a single tree f_k , this term is defined as (3):

$$\Omega(f_k) = \gamma T + \frac{1}{2} \lambda \sum_{j=1}^T w_j^2 \quad (3)$$

where T is the number of leaves in the tree, w_j is the score of the j -th leaf, and γ and λ are regularization parameters. Since the model in (2) includes functions as parameters, it cannot be optimized using traditional methods. Instead, XGBoost is trained in an additive manner. The prediction at iteration t is the prediction from the previous step $t-1$ plus the contribution of a new tree, f_t , which is given in (4):

$$\hat{y}_i^{(t)} = \hat{y}_i^{(t-1)} + f_t(x_i) \quad (4)$$

To find the best new tree f_t to add at each step, the algorithm optimizes an objective function that has been approximated using a second-order Taylor expansion around the prediction $\hat{y}_i^{(t-1)}$ using (5):

$$\mathcal{L}^{(t)} \approx \sum_{i=1}^n \left[g_i f_t(x_i) + \frac{1}{2} h_i f_t^2(x_i) \right] + \Omega(f_t) \quad (5)$$

where g_i and h_i are the first and second-order gradient statistics (the gradient and Hessian) of the loss function with respect to the prediction at step $t-1$. This formulation allows for rapid and parallelizable optimization, enabling XGBoost to find high-performing models efficiently while controlling for overfitting through regularization, making it a robust choice for complex forecasting tasks.

D. Bayesian Optimization

Hyperparameter tuning is treated as a "black-box" optimization problem, where the objective function $f(x)$ is unknown and expensive to evaluate. We aim to find the global minimum x^* within a search space X . To achieve this efficiently, we use Bayesian Optimization, which constructs a probabilistic surrogate model to map the input parameters to the objective score [12]:

1. We use a Gaussian Process (GP), a non-parametric model as the surrogate model to define a probability distribution over functions. It is based on the assumption that the function values $f(x)$ at different points are correlated depending on their distance in

the search space. Equation (6) describes a GP that is fully specified by a mean function $m(x)$ and a covariance (kernel) function $k(x, x')$:

$$f(x) \sim \mathcal{GP}(m(x), k(x, x')) \quad (6)$$

The kernel function represents our assumptions about the smoothness and rate of change of the objective function. For given observed data points, the GP will provide a posterior distribution for any candidate point x , providing both a predicted mean $\mu(x)$ and an uncertainty estimate $\sigma(x)$ (standard deviation).

2. To determine which hyperparameter configuration to evaluate next, we employ an acquisition function (also known as a policy). This function balances two competing goals, i.e. exploitation (examining low predicted error areas) and exploration (examining high uncertainty areas). In this study, we utilize the Expected Improvement (EI) policy shown in (7) to select the next point x_{t+1} by maximizing the expectation of improvement over the current best observed value $f(x^*)$:

$$\alpha_{EI}(x) = E[\max(f(x^*) - f(x), 0)] \quad (7)$$

This strategy enables the optimizer to efficiently scan the search space and find the optimal hyperparameters in a significantly fewer iterations than random or grid search methods.

E. Implementation and Forecasting Strategies

The XGBoost model was implemented using the XGBRegressor object from the XGBoost Python library. To ensure a temporally valid evaluation, the dataset was split chronologically into a training set (1979–2011) and a test set (2012–2017), with no random shuffling applied. Prior to training, all input features were standardized using StandardScaler from scikit-learn, fitted exclusively on the training set and subsequently applied to the test set to prevent data leakage. The target variable (rain_1h) was left in its original unit (mm/hour) and not subject to any scaling transformation. Therefore, all reported error metrics (MAE and RMSE) are in mm/hour.

Only lagged values of the meteorological predictors (lag-1 through lag-3), their rolling statistics over a 6-hour window, first-order and seasonal differences, and calendar-based time features were retained as model inputs to prevent information leakage from the target variable. The simultaneous observed values of all predictors at time t were omitted, for these would not be available in a real forecasting scenario.

An internal validation set covering 2009–2011 was extracted from the training period for hyperparameter optimization. The Bayesian optimization process using Optuna's GPSampler evaluated each of the 50 trials against this validation set exclusively, ensuring the test set remained untouched throughout the tuning process. Once the optimal hyperparameters were identified, the final model was retrained on the full training period (1979–2011) before being evaluated on the test set.

Two multi-step forecasting strategies were developed and compared [13]:

- **Direct Strategy:** A single model was trained on the full training dataset and used to generate predictions for the entire test set in one pass, with no parameter updates during inference.
- **Recursive (Rolling) Strategy:** The model was first trained on the training data, then predictions were generated in sequential batches of three months (2,160 hours). After each batch, the actual observed values from that batch were appended to the training history and the model was retrained before proceeding to the next batch.

Combining default and Bayesian-optimized configurations across both strategies yields six experimental scenarios in total.

F. Hyperparameter Optimization

To find the optimal model configuration, Bayesian optimization was employed using the Optuna library [14], specifically with the GPSampler which utilizes Gaussian Processes. The optimization was run with two scenarios: first is using 25 and 50 trials. The important XGBoost hyperparameters and their search spaces are given in Table I.

TABLE I. HYPERPARAMETER SEARCH SPACE FOR BAYESIAN OPTIMIZATION

Hyperparameter	Search Range	Description
$n_estimators$	100 – 6000	Number of boosting rounds
max_depth	4-8	Maximum tree depth
$learning_rate$	0.001 – 0.3	Step size shrinkage
$subsample$	0.6 – 1.0	Fraction of training samples
$colsample_bytree$	0.6 – 1.0	Fraction of features per tree
$colsample_bylevel$	0.6 – 1.0	Fraction of features per tree depth level
$colsample_bynode$	0.6 – 1.0	Fraction of features per node split
$reg_alpha (L1)$	0.0 – 10	L1 regularization term
$reg_lambda (L2)$	0.0 – 20	L2 regularization term
$gamma$	0.0 – 1.0	Minimum loss reduction

G. Evaluation Metrics

Two standard regression metrics, i.e. Mean Absolute Error (MAE) and Root Mean Square Error (RMSE) are evaluated to compare the predictive accuracy of all model scenarios. The MAE defined in (8) as the average of the absolute differences between the predicted and actual values provides a measure of the average magnitude of the errors.

$$MAE = \frac{1}{n} \sum_{i=1}^n |y_i - \hat{y}_i| \quad (8)$$

On the other hand, the RMSE in (9), the square root of the average of the squared differences between predicted and actual values, gives a higher weight to larger errors. Thus, it is particularly sensitive to large prediction mistakes.

$$RMSE = \sqrt{\frac{1}{n} \sum_{i=1}^n (y_i - \hat{y}_i)^2} \quad (9)$$

where :

- n is the number of data points in the test set.
- y_i is the actual (observed) rainfall value for the i -th data point.
- $\hat{y}_i$ is the predicted rainfall value for the i -th data point.

IV. RESULTS AND DISCUSSION

A. Model Performance Evaluation

The six proposed scenarios mixing default and optimized models with both direct and recursive strategies were evaluated on the test set. To contextualize the results, two naive baselines were also included: a persistence model, which predicts that the next hour's rainfall equals the current hour's observed value, and a climatology model, which predicts the long-term hourly mean from the training period. Their MAE and RMSE are presented in Table II.

Furthermore, the application of Bayesian optimization resulted in a consistent improvement in predictive accuracy across all scenarios. From Table II, the best-performing model overall is the XGBoost model optimized with 50 trials using the recursive strategy, achieving an RMSE of 0.8596 mm/hour and an MAE of 0.4246 mm/hour. This represents a reduction of approximately 3.4% in RMSE compared to the default recursive model (0.8898 mm/hour). Both baseline models — persistence (RMSE: 1.0115 mm/hour) and climatology (RMSE: 0.9376 mm/hour) — are substantially outperformed by all XGBoost configurations, confirming the model's ability to capture non-linear meteorological dynamics beyond simple statistical references. Interestingly, the 25-trial direct configuration achieved the lowest RMSE among the direct strategy models (0.8627 mm/hour), slightly outperforming its 50-trial counterpart (0.8631 mm/hour), suggesting that beyond a certain number of trials the optimization may converge to configurations overly specialized to the internal validation period. Both strategies produced closely competitive results, with the recursive method showing a marginal advantage in the optimized configurations.

TABLE II. PERFORMANCE EVALUATION OF XGBOOST MODELS ON THE TEST SET (2012-2017)

Model Scenario	MAE	RMSE
<i>Default – Direct</i>	0.4361	0.8851
<i>Default Recursive</i>	0.4424	0.8898

<i>Optimized (25 Trials) – Direct</i>	0.4220	0.8627
<i>Optimized (25 Trials) – Recursive</i>	0.4279	0.8640
<i>Optimized (50 Trials) - Direct</i>	0.4221	0.8631
<i>Optimized (50 Trials) - Recursive</i>	0.4246	0.8596

The following Table III gives the optimal hyperparameters for the two best models (50 trials direct and recursive) in more detail.

TABLE III. OPTIMAL HYPERPARAMETERS FOR THE 50-TRIAL OPTIMIZED MODELS

Hyperparameter	Direct	Recursive
<i>n_estimators</i>	4443	4784
<i>max_depth</i>	8	8
<i>learning rate</i>	0.01033	0.00633
<i>Subsample</i>	0.6	0.6
<i>colsample_bytree</i>	0.6	0.65686
<i>colsample_bylevel</i>	0.6	0.69804
<i>colsample_bynode</i>	0.6	1
<i>reg_alpha (L1)</i>	10	10
<i>reg_lambda (L2)</i>	20	20
<i>Gamma</i>	0	0.185

Further analysis of the optimal hyperparameters given in Table III shows that the Bayesian optimization process converged on different configurations for the direct and recursive strategies. The most noticeable different is in the regularization parameters, i.e. the L2 regularization term (*reg_lambda*) increased from 0 for the direct model to 20 in the recursive model. This matter indicates that the optimizer effectively recognized and counteracted for the higher intrinsic risk of overfitting in the recursive strategy by retraining on an accumulating dataset iteratively.

On the contrary, other parameters such as gamma and max_depth remained constant across both models (gamma = 1.0, max_depth = 8). It is also important to note that the optimal configuration of the recursive model employed a larger ensemble (*n_estimators* = 4784). When combined with a lower learning rate (0.006), this indicates a more granular and incremental learning process suitable for the iterative retraining nature of the recursive strategy. Simultaneously, these results reveal the ability of Bayesian optimization to adapt highly specific hyperparameter configurations for each forecasting methodology.

To evaluate rainfall detection capability and extreme event performance, Table IV presents the F1-score, Precision, Recall, and RMSE for the 95th percentile extreme rainfall

subset (threshold: 2.28 mm/hour) across all model scenarios. A rainfall occurrence threshold of 0.1 mm/hour was used to convert predictions to binary rain/no-rain labels for classification metrics.

TABLE IV. CLASSIFICATION AND EXTREME EVENT PERFORMANCE METRICS

Model Scenario	F1	Precision	Recall	RMSE (P95)
Persistence	0.7724	0.7724	0.7724	3.2224
Climatology	0.5638	0.3926	1.0000	3.6614
Direct — Default	0.6467	0.5101	0.8834	3.2929
Direct — 25 Trials	0.6543	0.5119	0.9065	3.2718
Direct — 50 Trials	0.6558	0.5179	0.8938	3.2537
Recursive — Default	0.6447	0.5051	0.8909	3.2877
Recursive — 25 Trials	0.6491	0.5026	0.9160	3.2708
Recursive — 50 Trials	0.6536	0.5082	0.9153	3.2454

B. Feature Importance Analysis

To determine the most important variables in the accuracy of prediction a feature importance analysis need to be done. Although the recursive model reached a slightly lower RMSE, the feature importance analysis was performed on the optimized direct model (50 trials). This is done due to its significantly more favourable computational profile, i.e. its one-shot training. Additionally, the prediction process is significantly faster and less resource-intensive than the iterative retraining demanded by the recursive strategy. The importance scores for the top 10 predictors for this model are shown in Figure 2.

From the figure, it can be seen that no single variable excessively dominates the prediction. Instead, a mixture of temporal, meteorological, and engineered features contributes to the final forecast. Temporal information dominates the top predictors: the sine-encoded hour of the day (*hour_sin*) emerged as the most influential feature (6.5%), followed by the raw hour feature (*hour*, 4.2%), together confirming the strong diurnal rainfall cycle characteristic of the tropical IKN climate. In the third position with about 2.6% is the one-hour lagged temperature, *temp_lag1*. It is closely followed by the cosine-encoded hour, *hour_cos*, (2.5%), which further reinforcing the role of temporal periodicity. Among meteorological features, two-hour lagged wind speed (*wind_spd_lag2*, 2.2%), humidity change (*hum_diff*, 1.9%), one-hour lagged cloud cover (*clouds_lag1*, 1.8%), dew point change (*d_point_diff*, 1.7%), three-hour lagged wind speed (*wind_spd_lag3*, 1.4%), and temperature change (*temp_diff*, 1.3%) complete the top 10. This emphasizes the model's dependence on recent atmospheric conditions and established

daily patterns. Furthermore, the multifactorial nature of rainfall in the IKN region is indicated by the relatively uniform distribution of importance scores across the top features. Thus, for accurate prediction a comprehensive feature set is required.

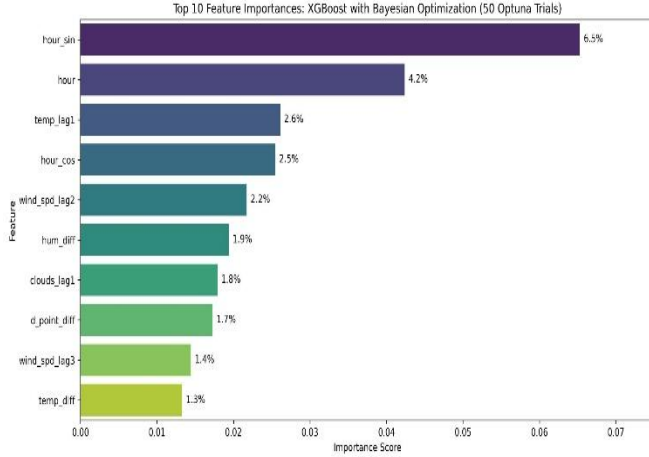


Fig. 2. The top 10 most important features determined by the final optimized XGBoost model.

Furthermore, from Figure 3, the SHAP summary plot show that temporal feature (i.e. hour sin, hour) have strongest influence on the model predictions. This indicates that time-of-day patterns dominate the model behavior. Weather related variables (e.g. cloud lag1, temp lag1, d point diff) contribute with moderate and variable effects. On the other hand calendar feature (e.g. week of year, year) have relatively minor impact. Overall, the model is mainly driven by daily temporal dynamics with meteorological variables providing secondary adjustments.

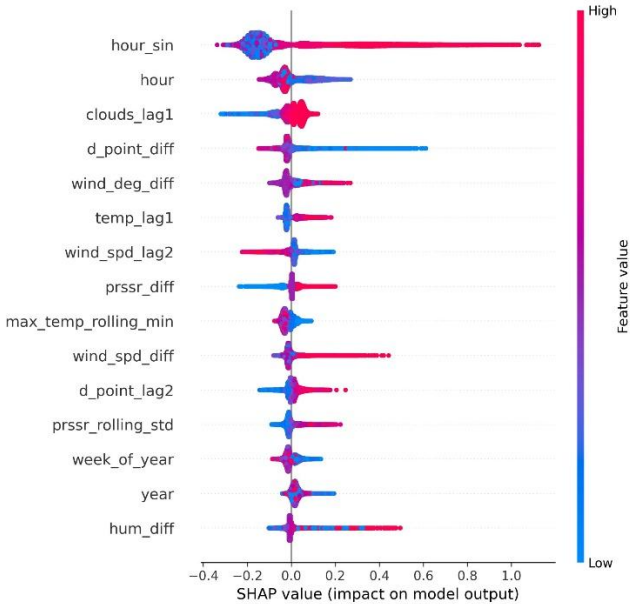


Fig. 3. SHAP summary plot for the best recursive model (50 trials). Features ranked by mean absolute SHAP value; colour indicates feature value magnitude (red=high, blue=low).

C. Discussion

The empirical results of this study strongly validate that the Bayesian optimization is an effective method for enhancing the predictive performance of the XGBoost model. Although at first the ~4% reduction in RMSE may appear

modest, such minor improvements are often operationally significant in meteorological forecasting. The competitive performance between the direct and recursive strategies gives some insights. First, it indicates that the risk of catastrophic error propagation in the recursive model for the temporal horizon of this study was minimal. Secondly, for deployment in resource-constrained environments, a direct forecasting strategy is more advantageous due to efficient computation without sacrificing predictive accuracy substantially

The high importance attributed to the hour feature confirms that the expected strong daily cycle characteristic of tropical climates, i.e. rainfall, is often time-dependent. Figure 4 shows the comparison of the optimized model prediction for test data (from 2012 to 2017) and the actual monthly rainfall. Overall, the graph indicates that the proposed model successfully captures rainfall trend and seasonal variabilities as the predicted curve closely follow the observed data.

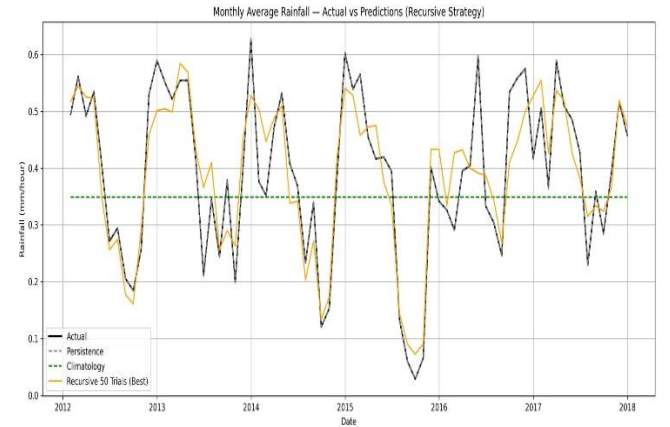


Fig. 4. Monthly average rainfall: actual vs. recursive strategy predictions (2012–2017). The XGBoost model tracks seasonal variability while the climatology baseline (flat green line) cannot.

In spite of the model's overall success in capturing general seasonal patterns, quantitative analysis of prediction residuals reveals some limitations. From Figure 5, an analysis of the target variable distribution showed that 59.9% of hourly observations recorded zero rainfall, while only 5.0% exceeded the 95th percentile threshold of 2.28 mm/hour. This highly zero-inflated distribution explains the relatively low precision scores (~0.51) observed across all XGBoost configurations. There is an indication that the class imbalance causes the model to generate false positives when predicting rainfall occurrence. For extreme events exceeding the P95 threshold, the best recursive model achieves an RMSE of 3.2454 mm/hour compared to an overall RMSE of 0.8596 mm/hour, reflecting the inherent difficulty of learning from rare high-intensity events as shown in Figure 6. The 50-trial recursive configuration yields the best extreme event RMSE (3.2454), while the 25-trial direct configuration achieves the best F1-score (0.6543) and highest recall (0.9065), indicating a strategy-dependent trade-off between classification accuracy and regression precision. Future work could address extreme event underestimation through threshold-weighted loss functions, hybrid classification-regression approaches, or deep learning architectures such as Long Short-Term Memory (LSTM) networks or Transformers designed for long-range dependency learning.

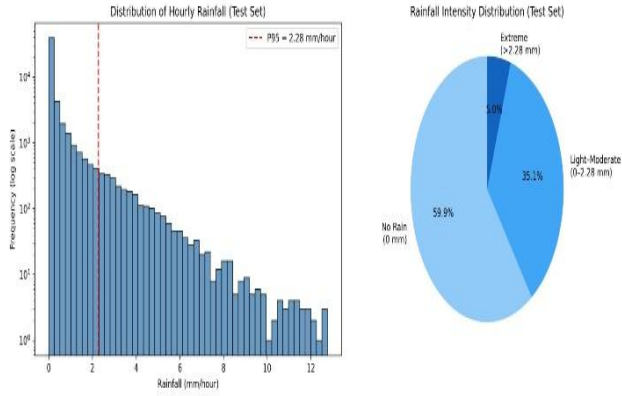


Fig. 5. Distribution of hourly rainfall in the test set (2012–2017). Left: histogram (log scale) with P95 threshold at 2.28 mm/hour. Right: proportional breakdown showing 59.9% no-rain, 35.1% light-moderate, and 5.0% extreme events.

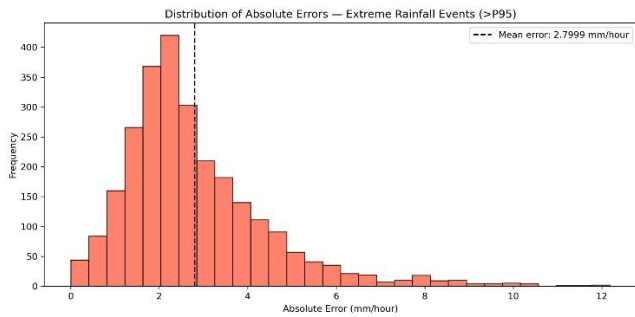


Fig. 6. Distribution of absolute prediction errors for extreme rainfall events (>P95 = 2.28 mm/hour) using the best recursive model (50 trials). Mean absolute error = 2.80 mm/hour; right-skewed distribution indicates systematic underestimation of peak events.

D. Conclusion

This study shows that XGBoost method forecast rainfall in IKN region very accurate. In addition, the application of Bayesian optimization successfully improves predictive accuracy in comparison to a default model configuration. A further analysis also indicates that both direct and recursive forecasting strategies yield high-performance results. Nevertheless, for practical applications the simpler direct strategy provides a more computationally efficient alternative method with only a minor trade-off in accuracy. On the other hand, the most influential predictor variables in this study are temporal indications, such as the hour of the day, and recent atmospheric conditions. This emphasizes the importance of a comprehensive feature engineering process. At last, this work also provides a powerful, data-driven forecasting framework that is a valuable tool for policymakers and stakeholders for supporting climate adaptation and strategic planning. Therefore, the development of Indonesia's new capital can be sustained. For future works, a hybrid of XGBoost and Deep

Learning architectures (e.g., LSTM-XGBoost) can be explored to better capture extreme weather anomalies [15].

The **first author** conducted the primary research, including the study design, data analysis, and preparation of the manuscript. The **second author** contributed to the research design, provided technical guidance, and reviewed and revised the manuscript.

REFERENCES

- [1] IPCC, "Climate Change 2021: The Physical Science Basis," Cambridge University Press, Cambridge, UK, 2021.
- [2] Kementerian PPN/Bappenas, "Buku Saku Pemindahan Ibu Kota Negara," Kementerian PPN/Bappenas, Jakarta, Indonesia, 2021.
- [3] S. Makridakis, E. Spiliotis, and V. Assimakopoulos, "M5 accuracy competition: Results, findings, and conclusions," *International Journal of Forecasting*, vol. 38, no. 4, pp. 1346–1364, 2022.
- [4] T. Chen and C. Guestrin, "XGBoost: A Scalable Tree Boosting System," in Proc. 22nd ACM SIGKDD Int. Conf. Knowledge Discovery and Data Mining, San Francisco, CA, USA, Aug. 2016, pp. 785–794.
- [5] J. Snoek, H. Larochelle, and R. P. Adams, "Practical Bayesian Optimization of Machine Learning Algorithms," in Advances in Neural Information Processing Systems (NIPS), vol. 25, 2012.
- [6] A. Q. Munir and H. Ismanto, "Rainfall prediction using Seasonal Autoregressive Integrated Moving Average and Geographic Information System approach," *Jurnal Ilmu Pengetahuan dan Teknologi Komputer (JITK)*, vol. 9, no. 1, Aug. 2023.
- [7] J. Liu and E. Zio, "SVM hyperparameters tuning for recursive multi-step-ahead prediction," *Neural Computing and Applications*, vol. 28, no. 12, pp. 3749–3763, 2016.
- [8] H. Hersbach, B. Bell, P. Berrisford, *et al.*, "The ERA5 global reanalysis," *Quarterly Journal of the Royal Meteorological Society*, vol. 146, no. 730, pp. 1999–2049, 2020.
- [9] M. Joseph, *Modern Time Series Forecasting with Python*. Birmingham, UK: Packt Publishing, 2022.
- [10] V. Cerqueira, L. Torgo, and I. Mozetič, "Evaluating time series forecasting models: An empirical study on performance estimation methods," *Machine Learning*, vol. 109, no. 11, pp. 1997–2028, 2020.
- [11] R. J. Hyndman and G. Athanasopoulos, *Forecasting: Principles and Practice*, 2nd ed. Melbourne, Australia: OTexts, 2018.
- [12] Q. Nguyen, L. Serrano, and D. Sweet, *Bayesian Optimization in Action*. Shelter Island, NY: Manning, 2023.
- [13] S. Ben Taieb, G. Bontemp, A. F. Atiya, and A. Sorjamaa, "A review and comparison of strategies for multi-step ahead time series forecasting based on the NN5 forecasting competition," *Expert Systems with Applications*, vol. 39, no. 8, pp. 7067–7083, 2012.
- [14] T. Akiba, S. Sano, T. Yanase, T. Ohta, and M. Koyama, "Optuna: A Next-generation Hyperparameter Optimization Framework," in Proc. 25th ACM SIGKDD Int. Conf. Knowledge Discovery and Data Mining, 2019.
- [15] S. Hochreiter and J. Schmidhuber, "Long short-term memory," *Neural Computation*, vol. 9, no. 8, pp. 1735–1780, 1997.