

Proceedings of the International Conference on Cross-Disciplinary Academic Research 2025 - Track 1 Advances in Computing, Electronics, Engineering, and Mathematics (ICAR-T1 2025)

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Peer-Review Statements

Nisrin Alyani Ishak, Azwanis Azemi, S. Munirah Mohd Ali, Nooraha Abdul Razak
All of the articles in this proceedings volume have been presented at the International Conference on Multi-disciplinary Academic Research 2025 (ICAR2025) - Advances in Computing, Electronics, Engineering, and Mathematics (Track 1) during 29-30 September 2025 in Kuala Lumpur Malaysia. These articles...

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[A Comparative Experimental Evaluation of YOLOv5, YOLOv7, and YOLOv8 for Object Detection](#)

Airuddin Ahmad, Haw Ying Song

The purpose of this comparative study is to investigate the differences between the YOLOv5, YOLOv7, and YOLOv8 when detecting specific objects. Therefore, this study will focus on examining the precision performance, recall capabilities, IoU performance, and the balance between precision and recall of..

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[Acceptance of TRIZ Methodology Problem-Solving in Computing Education: Qualitative Study](#)

Nurkhuzaimah Fazreen Mohd Jalaluddin, Saffa Raihan Zainal Abidin, Nursyahida Mokhtar, Nor Anis Asma Sulaiman, Shaiful Bakhtiar Rodzman, Mohd Khairul Ikhwan Zolkefley

Advanced technology nowadays must be parallel with human ability to solve problems. However, some of the problem-solving approaches or methodologies must be used to overcome the advancement of technology. One of the methods that can be used is the theory of inventive problem solving which is TRIZ, that...

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[AI4Ekonomi for Economic Empowerment in Malaysia](#)

Nor Hafiza Haron, Nor Hafiza Abd Samad, Jihadah Ahmad, Nadiah Yusof, Khairatul Alyani Badari

Poverty remains a critical challenge for low-income households (B40) in Malaysia, with traditional economic aid often being too general to address the specific needs of these families. This paper proposes an Artificial Intelligence (AI)-based recommender system designed to empower low-income households...

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[An Approach for a Low-Cost and Enhanced Safety of An Animal Feed Pellet-Making Machine for Small-Scale Users](#)

Aniq Nor Rahimi Bin Abu Seman, Muhammad Sobri Bin Mohd Idzwan, Nadhirah Binti Ismail, Fadhil Ashraf Bin Muhammad, Siti Rohana Binti Ahmad

This project focuses on developing an improved animal feed pellet machine that is affordable, ergonomic, and safe for small-scale animal breeders and new-comers. It addresses the high cost and lack of safety features in existing machines. This project introduces a portable, electrically powered machine...

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C.A.T.E.: A Multimodal AI Agent for Context-Aware and Bilingual Learning in Technical Education

Siti Robaya Jantan, Umami Haani Shahrul, Roslinda Murad

The new large language models (LLMs), it is impressive in their generality, remain inadequate in terms of context-awareness, tool integration, and real-time flexibility that technical education requires. We offer a solution to this problem by introducing C.A.T.E. (Compiler Assistant for Technical Enhancement),...

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Comparison of the Use of M-Bit Least Significant Bit Steganography Methods on WAV Files in Information Storage

Imelda Imelda, Mardi Hardjianto

Audio-based digital steganography involves embedding secret messages within audio content without causing noticeable changes to the original sound. This technique is important to ensure the security of digital audio data distribution in the era of massive information dissemination. The limitations of...

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Design and Pilot Evaluation of SmartCode Tutor (SCT): A Mixed-Methods Framework for AI-Assisted Introductory Programming in Higher Education

Nor Zakiah Lamin, Wan Nor Asnida Wan Jusoh, Wan Asiah Wan Muhamad Tahir, Siti Faizah Miserom, Abdullah Mohd Zin

Generative AI and AI coding assistants such as large language model-based tutors and IDE copilots can provide immediate, personalized feedback for novice programmers, but unstructured use risks shallow learning and academic integrity issues. This paper presents SmartCode Tutor (SCT), a structured, AI-enhanced...

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Development and Evaluation of an AI-Powered Text-to-Speech Application to Support Literacy and Dyslexia Awareness

Shima Sabri, Siti Robaya Jantan, Nor Hafiza Abd Samad, Hairul Haikal Haliza

Dyslexia is a neurodevelopmental condition characterized by persistent difficulties in reading, numeracy, and problem-solving skills. Although there is no specific medication to cure dyslexia, various intervention strategies have been developed to enhance affected individuals' learning abilities and...

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Enhancing Secondary Students' Conceptual Understanding of 3D Geometry through a Pedagogically-Driven Integration of Augmented Reality and Internet of Things

Mariani Mohd Dahlan, Zaharah Zainal Abidin, Siti Robaya Jantan, Ab Arif Sanusi Arifin, Syazalinah Wasli

This research investigates the integration of Augmented Reality (AR) and Internet of Things (IoT) technologies in teaching three-dimensional (3D) geometry to lower secondary students in Malaysia. By combining interactive AR features with real-time data from temperature sensors, the research aimed to...

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Experimental Analysis of Random Forest-Based Classification for Adaptive Network Attack Detection

Hillman Akhyar Damanik, Merry Anggraeni

The evolution of modern cyberattacks has introduced increasingly adaptive and dynamic behaviors that challenge conventional security mechanisms. Adaptive attacks employ strategies such as randomized timing intervals, unconventional source ports, and multi-vector techniques, allowing them to bypass traditional...

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Factors Affecting Electrical and Electronic Product Acceptance

Noraslinda Fauzi, Kamal Imran Mohd Sharif, Mohamad Ghozali Hassan, Mohamed Suhaimi Yusof, Syafiza Hanim Said

This study investigated factors influencing the acceptance of electrical and electronic products among Malaysian consumers, aiming to enhance awareness and understanding of these factors. Using quantitative analysis and quota sampling, data were collected from 488 respondents through questionnaires....

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Functionality, Reliability and Satisfaction: A Users' Retrospective Evaluation of the UPTM's Class Attendance Management & Monitoring (UCAM) System

Noornajwa Md Amin, Siti Robaya Jantan, Farah Farzana Abdul Aziz, Raznida Isa, Noraliza Azizan, Siti Fajar Jalal

This research paper is related to the evaluation of the UPTM Class Attendance Management & Monitoring (UCAM) system in assessing items related to system functionality, data reliability, perception of effectiveness, and user satisfaction, and its role in class monitoring using a purposive sampling...

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Gamified Blended Learning for Personalized Engagement in Smart Education- A Conceptual Paper

Mohd Khairul Nizar Maula Muhamad Akhir, Muhd Hafizuddin Azmi, Muhammad Rifdi Shah Che Dawud Adli

The Fourth Industrial Revolution (4IR) is reforming the educational landscape via integration of artificial intelligence (AI), virtual reality (VR), and gamification. Blended learning as an educational model combines face-to-face instruction with digital platforms, offers flexibility and accessibility...

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Hydro BloomSystem: Smart Greenhouses for Climate-Resilient Food

Mohammad Norouzzadeh, Sepideh Firoozeh

The accelerating global demand for food (Gerten et al. (2020) - Feeding Ten Billion People), dwindling natural resources, intensifying climate change, and mounting pressure on land productivity have rendered traditional agricultural models increasingly inadequate. In response, innovative production systems...

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Identifying Factors Influencing Student Academic Performance Using Feature Selection Method by Weight in Private Higher Institution

Emi Amielda Binti Ahmad Mokhtar, Nik Nur Syazreen Binti Nik Rohaimi, Suriana Binti Ishak, Noor Farah Wahida Binti Abdul Rashid, Hazrina Binti Tajudin, Syahirah Binti Abdul Kadir
Low academic achievement is a significant issue for higher educational institutions, hindering their ability to equip students with the necessary skills to succeed in a competitive and rapidly evolving society. At private higher education institutions in Malaysia, students are required to achieve a minimum...

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Optimizing School Resource Allocation in Lima Puluh Kota Regency through Random Forest Classification of Clustered Student Enrollment Trends

Lestari Margatama, Yopie Hidayat, Indra Riyanto
The pattern of changes in student numbers in public elementary schools is a strategic issue that affects the effective distribution of educational resources, particularly in Lima Puluh Kota Regency. Imbalances in student growth or decline across schools can impact the need for teaching staff, classroom...

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Text Clustering as A Computational Approach for Analyzing the Framing of Election News on Detik.com

Atik Ariesta
This research develops a computational approach based on text clustering to analyze election news framing on the Detik.com portal. In the context of elections, media framing becomes an essential instrument in shaping public opinion towards political issues and actors. This research applies the K-Means...

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The Al-Qur'an Skyline Model for the Horizon of High-Rise Buildings in Urban Areas: A Case Study of the Nusantara Capital City (IKN) Region, Kalimantan

S. Anggraeni Dyah, Putri Suryandari

The development of Indonesia's new capital city (IKN) in Kalimantan presents an opportunity to introduce an architectural approach that is not only modern and sustainable but also reflects spiritual values and local cultural identity. This study proposes the concept of the "Al-Qur'an Skyline" as a city...

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The Ethical Use of AI Technology Applications among IPMA Students in Malaysia

Mohammad Khairuddin Majidillah, Mohd Erfino Johari, Adila Abdullah, Norfarahin Amat Adnin, Saifuddin Mohtaram, Norazmi Anas, Amran Abdul Halim, Anasztasia Natasha Muhamad Ramlan

The increasing use of artificial intelligence (AI) applications in education presents both benefits and ethical challenges. This study investigates the ethical use of AI among students in institutions under the Majlis Amanah Rakyat Education System (IPMA), including UPTM, UniKL, KPTM, and KPM. A quantitative...

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The Impact of Perceived Ease of Use on Digital Marketing Adoption Among Malaysian SME

Hidayahtul Khusna Binti Abdul Malik, Zaidatulnisha Ab Jalil, Norhaninah Binti A. Ghani

This study investigates the impact of perceived ease of use (PEOU) on digital marketing adoption among Malaysian small and medium enterprises (SMEs). While digital marketing offers significant opportunities for business growth, adoption among SMEs remains uneven, particularly due to individual perceptions.