2026 IEEE International Conference on Innovation, Ethics & Emerging Tech in Engineering and Computing Education (IE2C 2026)

Kuala Lumpur, Malaysia
25 July 2026

IEEE Catalog Number: CFP263BX-POD
ISBN: 979-8-3315-6258-8

IEEE
Advancing Technology for Humanity

Copyright © 2026, IEEE

All Rights Reserved

Copyright and Reprint Permissions:

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

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

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

IEEE Catalog Number:	CFP263BX-POD
ISBN (Print-On-Demand):	979-8-3315-6258-8
ISBN (Online):	979-8-3315-5102-5

Additional Copies of This Publication Are Available From:

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

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

CURRAN ASSOCIATES INC. proceedings .com

TABLE OF CONTENTS

Extended Reality for Agricultural Supply Chain Education: A Systematic Review of Effectiveness, Implementation Challenges, and Future Directions 1
Loso Judijanto, Sri Nurhayati

Design and Preliminary Validation of CTQ-FPS: A Critical Thinking Measurement Instrument for FPSBased Educational Game Environments 7
Nur Syaheera Sulaiman, Nor Saradatul Akmar Zulkifli, Tuty Asmawaty Abdul Kadir

Pedagogical Integration of First-Person Shooter Mechanics in Game-Based Learning: A Critical Review and Framework Positioning 12
Nur Syaheera Sulaiman, Muhamad Amirul Asyraf Rahmat, Yeck Yin Ping, M Hazwan Wahab Jivindra Kalaichelven, Nurul Atikah Kamaruddin

Optimizing Dirt Derating Factors for Bifacial PV Power Prediction Using Artificial Neural Networks 17
Cempaka Amalin Mahadzir, Ahmad Fateh Mohamad Nor, Nurul Nadia Binti Ibrahim Nur Syazani Binti Sukimin

The Acceptance of Generative AI Tools Among Creative Arts Students 23
Azahar Harun, Mohamed Razeef Abdul Razak, Aidah Alias, Muhammad Haziq Lim Abdullah Auria Farantika Yogananti, Wandah Wibawanto

Storytelling Matters: Effects of Different Narrative Types in Immersive XR Avatar-Based Learning 28
Iara Margolis, José Rocha, Ana Alves, Diogo Silva, Carlos Costa, Francisco Silva, Nuno Sousa

Design of a Monitoring System for Rubber Liner Lifetime in a Ball Mill Using XBee-Based Wireless Sensors and HMI Visualization 34
Muhfi Asbin Sagala, Prayoga Pratama Lie, Tigor Hamonangan Nasution, Soeharwinto, Ryandika Afdila Hasanul Fahmi

Optimization of LIFEPO4 Battery Pack for Electric Vehicles Application Using Active Balancer 40
Soeharwinto, Hendri, Maksum Pinem, Krismadinata, Syafii, Muhammad Al'Hapis, Fahmi Fahmi

Gomonika: A Privacy-Preserving Cultural-Linguistic Authentication Framework for Autonomous Delivery in Low-Resource Environments 45
Shamik Mondal, Arnob Datta, Md Abdun Fattah Lam, Most. Tanjila Hossain Tapti, Mohammad Shidujaman

Risk-Stratified CQI in Engineering Education: Six-Cohort Validation of a Registry-Only Early-Warning Rule 51
A'zraa Afhzan Ab Rahim, Noor Ezan Abdullah, Ruhizan Liza Ahmad Shauri, Zuriati Janin

Bridging Theory and Practice in IoT Education Using a Modular ESP32-LoRa Training Kit 57
Nur Ain Natrah Abd Manan, Norashikin M. Thamrin, Nur Aqilah Zainuddin

A Detailed Study of Wideband Dual-Polarized Aperture-Coupled 1 × 4 Linear Antenna Array for Wi-Fi 8 Applications 63
Hizbullah Khan, Pakeeza Sultan, Muhammad Ayaz, Carlos Rios

Research on the Allocation of Educational Resources in China Based on the ARIMA-SVR Hybrid Model 69
ShengLi Lai, HaoRan Cao, QingXian Zhang, Fei Li

Evaluation of the Effectiveness of Artificial Intelligence-Assisted Nuclear Electronics Teaching Based on Multiple Regression 74
Shuting Yang, Guoqiang Zeng, Zhixing Gu, Fei Li

Perceptions of Generative AI-Assisted Assignment Completion Among College Students: A Sentiment Analysis and LDA Topic Modeling Study Based on Zhihu Platform 80
Haoran Cao, Qingxian Zhang, Guoqiang Zeng, Chunhui Dong, Fei Li

Design and Formative Evaluation of a Gamified Circuit Fault Diagnosis Simulator for Undergraduate Electrical Engineering 86
Daniel Tonye Oyefidein, Hitham Alhussian, Said Jadid Abdulkadir

Beyond the Headset: Content Analysis on Artificial Intelligence and Multimodal Analytics in Virtual Reality Learning 92
Nor Hannani Izzati Abdullah, Danakorn Nincarean Eh Phon, Nor Saradatul Akmar Zulkifli Bambang Pudjoatmodjo, Rickman Roedavan, Fery Prasetyanto

Driving Institutional Digital Transformation Through Ethical AI-Enabled University Technology Transfer: Insights from ICCubeX 98
Muhammad Arif Harun, Noor Azurati Ahmad, Nurazean Maarop, Essa Abdullah Hezzam

Feasibility of Machine Learning for Portable Macronutrient Prediction Using Low-Cost Vis-NIR Sensors 104
Ryandika Afdila, Ainus Shafiyyah, Yusuf Nafiq Buwono, Rakesh Naidu, Abdul Qaadir, Hasanul Fahmi

A Hybrid PSO-GA Approach for Optimal EVCS Placement: A Comparative Study for Power Loss Reduction and Voltage Profile Improvement: Case Study of PT PLN UP3 Medan Kota 110
Naemah Mubarakah, Ferry R A Bukit, Surya Sihite, Fahmi Fahmi, Ryandika Afdila, Yanuar Z. Arief

Vision-Based Actuated Traffic Signal Control: A Case Study of the General Luna and Mabini Intersection Using YOLO and SUMO Simulation 116
Engr. Vince Joefil B. Bandojo, Jethro Ian C. Perez, Maridel S. Acayang, John Alfred H. Arcosa Rhenzelle May R. Sudaria, Leonard Von Cabales

Classification of Partial Shading Patterns in PV Systems via Convolutional Neural Networks 122
Shayan Bozorgpuore, Aslan Gholami, Roghayeh Gavagsaz-Ghoachani, Matheepot Phattanasak

From Mathematics to Engineering Thinking: A Hybrid STEAM Learning Model Through a School Math and Engineering Club 127
Parham Karimi, Aslan Gholami, Roghayeh Gavagsaz-Ghoachani, Matheepot Phattanasak

Advancing Sustainable Electric Vehicle Charging Through Photovoltaic-Battery Integration: Design and Performance Evaluation 135
Mohammad Mahdi Asghari, Poroushat Shahidi, Aslan Gholami, Roghayeh Gavagsaz-Ghoachani Matheepot Phattanasak, Majid Zandi

Simulink Collage: A Novel and Creative Approach to Teaching Basic Simulink Concepts 143
Mohammad Javad Charamin, Roghayeh Gavagsaz-Ghoachani, Saman Pirehbabi, Matheepot Phattanasak

Designing Reliable LLM Systems for AI-Assisted Engineering Education 149
Ramesh Venkatachalapathy

A Systematic Review of Generative AI for Educational Recommender Systems 155
Dhani Fatih Ilyasa, Ibrahim Ahmad, Nur W. Rahayu

Enhancing Autonomous Vehicle Navigation in Complex Intersections Using Multi-View Proximal Policy Optimisation Algorithm 162
Alvi Khan Chowdhury, Ze Yang Ding, Wen-Shan Tan, Sarah Atifah Saruchi, Louis Gautama Lie Majd Moutaz Almaarrawi

Trust Toward Artificial Intelligence Integration for Internship Placement Systems in Higher Education 168
Maricris L. Ramizares, Rodolfo C. Raga

Digital Skills and Computational Competency Requirements in Malaysia's Biotechnology Industry 174
Siti Zuhaini Abd Samah, Noorlizawati Abd Rahim