2026 International Conference on Cognitive Systems and Computer Interaction (ICoSCI 2026)

Kuala Terengganu, Malaysia
15-16 January 2026

IEEE

IEEE Catalog Number: CFP260X3-POD
ISBN: 979-8-3315-6814-6

Copyright © 2026 by the Institute of Electrical and Electronics Engineers, Inc.
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:	CFP260X3-POD
ISBN (Print-On-Demand):	979-8-3315-6814-6
ISBN (Online):	979-8-3315-6813-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com



Table of Contents

Structured Grid-Based G1 Cubic Trigonometric Triangular Spline Surface with Quantitative Error Evaluation Muhammad Syawal Abd Halim; Normi Abdul Hadi; Rusliza Binti Ahmad; Syaiful Anam	**1**
Laptop Recommendation System Using K-Means Clustering Algorithm Sheikh Anas Danial Sheikh Roslan; Nik Marsyahariani Nik Daud; Norlina Mohd Sabri	**6**
Predicting Bitcoin Price Movements Using Machine Learning: An Application of XGBoost on Second-Level Market Data and Financial Indicators Ali Jasbi; Anusuyah Subbarao; Kiran Raj Raj Kumar	**12**
Adapting Sand Dune Clustering for Fire Risk Analysis: A Case Study in Central Luzon, Philippines John Paul P Miranda, Mark Anthony A. Castro, Ranie B. Canlas, Aileen P De Leon, Jayson G. Magat, Joel D. Canlas, Russell John M Torres, Dorothy Joy Tongol	**18**
Predictive Analytics for Vehicle Utilization and Fleet Decision Support in Higher Education Sharifah Masyitah Syed Mohamad; Norulhidayah Binti Isa; Syahrul Hezrin Mahmud	**23**
Reinforcement Learning Based Adaptive Data Scheduling for Low-Resource Multilingual Machine Translation Rajeswari Raju; Mohanasundaram. G; Kalaivani.T; Omkarra Nair; Trishul Nair; Swasztika Nair	**29**
Evaluating User Experience (UX) Testing on User Interface of a Visual Decision Support System (VDSS) Ahmad Faiz Bin Ghazali	**35**
Designing NFT Based Interfaces for Cultural Heritage Cognitive and Usability Strategies in Qiang Embroidery Fangqin Zheng; Muhamad Fairus Kamaruzaman; Rusmawati Ghazali	**40**
Analyzing Prior Experience in Anime Styled 3D Hack-and-Slash on Player Experience in Game of Similar Genre Garyn Norbert Gunawan; Viero Famico; Muhamad Fajar; Thomas Galih Satria	**46**

Table of Contents

Immersive Virtual Reality in Learning Traditional Archery using an Inverse Kinematics Approach Muhammad Hazim bin Syukur; Nor Intan Shafini binti Nasaruddin; Zamlina binti Abdullah	**52**
From Usability to Adoption: Reframing User-Perceived Ease in Mathematics Learning with Game-Based Strategies Mohd Shukor Abd Rahman; Alias Deraman; Nor Intan Shafini Binti Nasaruddin; Mohd Ali Isa; Nurul Amira Fitriyah Binti Mohd Fauzi	**57**
Mind the Gap: The Laggards in G2B Digital Services Apriasih	**62**
Improving Online Consumer Trust: Fake Review Classification Using N-Gram and Logistic Regression Model Hanif Mohd Bakhtiar; Roslan Sadjirin; Zulazeze Sahri; Roger Canda; Saffa Raihan Zainal Abidin; Shaiful Bakhtiar Rodzman	**68**
A Hybrid AI Hairstyle Recommendation System Based on Face Shape Classification Muhammad Amirul Ilham Yusri; Mohd Talmizie Amron; Zawawi Abdul Wahab	**74**
Cognitive Implications of Chronic Pain in Individuals with Primary Knee Osteoarthritis Mazira Mohamad Ghazali; Samhani Ismail; Muhammad Rajaei Ahmad @ Mohd Zain; Jafri Malin Abdullah; Mohd Hanifah Jusoh; Kamaruddin Ibrahim	**80**
Philippine Paper Currency Recognition and Counterfeit Detection Using Adaptive Neuro-Fuzzy Inference System Mark Joseph B. Enojas; Hohn Lois C. Bongao; Jane E. Morgado; John Paul P. Antonio; James Bryan P. Estrada; Moses Benjamin E. Lopez; John Henry C. Paulo	**85**
Predictive Analytics for Sales Forecasting at Ono Cafe Using Linear Regression and Business Intelligence Dashboard Danial Shah Iman Bin Mohamad Noor Khairul Azhillah; Arifah Fasha Rosmani	**91**
Monkeypox and Chickenpox Identification Using Machine Learning Approach Nur Faizatul Azira Mohd Azhar; Shamimi A Halim; Sofianita Mutalib; Rashidi Ahmad	**96**

Table of Contents

A Cross-Cultural Conceptual Framework for UI/UX Design: Insights from Malaysia, Bangladesh, India, and China Susmita Nag Disha; Ts.Dr. Chee Ken Nee	**102**
Balancing Aesthetics and Pedagogy: UI Design Practices for Mobile Educational Games Auria Farantika Yagnanti; Azahar Harun; Nurhikma Mat Yusof; Sugiyanto Sugiyanto; Syamimi Binti Zainal; Khairunnisa binti Mohd Abdul Ghani	**108**
Emotion Detection Based on Audio-Visual Using Deep Learning Davin Nicholson; Zener Sukra Lie; Esther Widhi Andangsari	**112**
Design and Development of a Gamified Mobile Learning Application for Remedial Education Using UCD, TTS, and MT19937 Randomization Muhammad Irfan Raziq Y D Nahar; Hasiah Mohamed; Zawawi Abdul Wahab	**118**
Understanding Students' Perceptions of Minitab in Statistic Learning Through Factor Analysis Wan Nur Shaziayani; Fuziatul Norsyiha; Norshuhada Samsudin; Sharifah Sarimah	**123**
The Impact of Artificial Empathy in Using ChatGPT on User's Feeling Heard Kezia Angelica; Esther Widhi Andangsari; Andry Chowanda	**128**
CAGNET - Comprehensive Node-Labeled Graph Analysis of Mobile Malware Using Force Atlas 2 and Deep Learning Nur Khairani Kamarudin; Ahmad Firdaus; Mohd Faris Mohd Fuzi; Nurul Hidayah Ahmad Zukri; Mohammad Hafiz bin Ismail; Muhamad Arif Hashim	**134**
A Hybrid Fuzzy-BERT Framework for Aspect-Based Sentiment Analysis of Restaurant Reviews in Terengganu Ashma' Roosyidah Ibrahim; Siti Nurul Hayatie Ishak; Shaiful Bakhtiar Rodzman	**140**
Strategic Cognition and Artificial Diplomacy: Designing Human-AI Collaboration Architectures for International Negotiation Environments Plamen Teodosiev; Stefan Markov	**146**
Token-Invariant Contrastive Pretraining for Robust Domain Adaptation in Text Classification Aadhish C; Aravinthkumar P; Naagadiyanesh. N; Santhosh R	**152**

Table of Contents

Real-Time Text Summarization Using Event Compression Memory in a Rolling-Window Transformer Santhosh R; Gunavathi S	**157**
Multimodal Biometric Authentication for Enhancing Security in Online Examination System Mekala N; S Subiksha; S Silpa; M Vasantha Leela; Sasirekha SP	**162**
The UEA Framework: Linking Usefulness, Engagement and Adoption in Technology Usage Mohd Shukor Abd Rahman; Alias Deraman; Nor Intan Shafini Nasaruddin; Mohd Ali Mohd Isa; Nor Masri Sahri	**168**
Empowering Aging Women: A User-Centered M-Health Framework for Menopause Management Nor Izzati Auni Mohd Jasni; Nadia Abdul Wahab; Aznoora Osman; Norfiza Ibrahim; Azmi Abu Seman; Abdul Hapes Mohammed	**173**
A Systematic Mapping Study on Accessibility Design Guidelines of Assistive Technology for Students with Autism Muhammad Mu'izzuddin Mohd Yusri; Nor Shahida Mohamad Yusop	**178**
Human-Centered AI Virtual Assistants: Enhancing Engagement, Trust, and Task Automation Through NLP and Emotional Cues Sai Chander Janagama; Elyson A De La Cruz; Renjith Kathalikkattil Ravindran; Machica Mcclain; Roger Finnegan; Abdullah Alshboul	**184**
Design and Evaluation of a Gamified E-Marketplace for Sustainable E-Waste Collection Nurin Damia Sopian; Nor Hasnul Azirah Abdul Hamid; Wan Khairul Anuar Wan Abd Manan; Mazita Mokhtar	**190**
Geolocation-Enhanced Tailoring Services: Location-Based Recommendation Systems Aimi Liyana Amir; Mohd Taufik Mishan; Nurhashikin Mohd Salleh	**196**
Attendance Verification System Using Google Advertising Identifier (GAID) Noor Ashitah Abu Othman; Adam Iqmal Norhisham; Nurul Huda Nik Zulkipli; Khyrina Airin Fariza Abu Samah	**202**

Table of Contents

Digital Talent in the Food Industry: A Competency Framework and Prototype Assessment Tool Nurul Haslinda Ngah; Syahrul Fahmy Abdul Wahab; Wan Roslina Wan Othman; Muhammad Ikram Haris Suaimi	**207**
The Impact of Emerging Cloud Security Threats: A Focus on Advanced Persistent Threats Austin Orumwense; Celestine Iwendi; Adejoke Ogundare	**213**
Adoption of TikTok as a Learning Tool in Physical Education: Evidence from the Philippines Vanessa B. Sibug; Jan Henry B. Sunga; Emerson Q. Fernando; Roe Vincent S. Ovejas; Arjan Gil S. Mendoza; Trisha Anne A. Onofre; Agnes R. Regala; John Paul P. Miranda	**219**
The Development of E-Appointment Systems for Small and Medium Enterprise Service Businesses Based on Shneiderman's Eight Golden Rules Nur Fakhriah Najwa Fadil; Nur Huda Jaafar; Rashidah Mokhtar; Syaidatus Syahira Ahmad Tarmizi	**225**
Invoice Recognition and Processing System for Small Businesses Nur Alifah Aishah Binti Halim; Nur Nabilah Binti Abu Mangshor; Shafaf Binti Ibrahim; Ahmad Firdaus Bin Ahmad Fadzil; Nurbaity Binti Sabri	**230**
Hybrid Deep Learning Using LSTM and K-Means for Temporal-Spatial Library Demand Prediction Sasalak Tongkaw; Seree Chanah; Aumnat Tongkaw	**235**
Travel Booking Analysis and Prediction Using Predictive Analytics Noor Fatin Natasha Mohd Fauzi; Hasiah Mohamed; Wan Adibah Hanis Wan Aziz	**241**
Detecting Ripeness of Oil Palm Fruit Using YOLO Azlin Binti Dahlan; Wan Azra Sofea Batrisyia Binti Jasman; Hajar Izzati Mohd Ghazalli	**247**
Corn Leaf Disease Recognition Using Convolutional Neural Network DenseNet Mohamad Shahrulnizam Rosmadi; Ahmad Nazmi Fadzal; Wan Muhammad Ikhwan Wan Mohammad; Nazuha Fadzal; Ahmad Nazri Fadzal	**251**

Table of Contents

Analyzing Customer Reviews of XYZ Travel Using Sentiment Analysis Nurulain Abdullah; Hasiah Mohamed; Norulhidayah Isa	**257**
Are We Designing for Humans or Just Users? a UX-First Approach to mHealth Sustainability Abdul Hapes Mohammed; Nadia Abdul Wahab; Norfiza Ibrahim; Mohd Noorulfakhri Bin Yaacob	**263**
Evaluating Tangible User Interface Design Components to Support Children with Dyslexia: a Thematic Analysis Nurul Izzah Abdul Aziz; Husniza Husni; Nor Laily Hashim	**268**
Uncovering Emotional Interaction Challenges in Augmented Reality: a Dimension-Based Study Among Children with Dyslexia Emy Hazlinda Mohammad Ridzwan; Husniza Husni; Nuramalina Mohamad Na'in	**274**
Bridging Emotional Engagement and Learning: A Review of Emotion Recognition in Metaverse-Based Education Siti Nur Iman Ibrahim; Surya Sumarni Hussein; Anitawati Mohd Lokman	**280**
Enhancing Secondary-Level Polymer Chemistry Learning with Gamified Augmented Reality: Development and Evaluation of Gameful Experience and Usability Fadhlina Izzah Saman; Fadilah Ezlina Shahbudin; Muhammad Syaril Rusmizi	**286**
Critical Analysis for Developing a Conceptual Mixed Reality Framework of Memorable User Experience Haryati Abdul Rahman; Hasiah Mohamed; Nurulnadwan Aziz; Siti Salbiah Hamzah; Nur Sauri Yahaya; Anitawati Mohd Lokman	**291**
Real-Time Allergen Detection in Packaged Foods Using OCR and NLP on Mobile Platform Nurul Umairah Mohd Badli; Norlina Mohd Sabri; Shuzlina Abdul-Rahman	**296**
Harnessing Mobile Technology for the Digital Revival and Preservation of the Bidayuh Language Through BiTE Noorhayati Mohamed Noor; Siti Arpah Ahmad; Tommy Anak Peyei; Ming Leong Yii; Zarina Zainol; Zolidah Kasiran	**302**

Table of Contents

Mobile Application with Text Recognition and Map Navigation for Optimal Multi-Route Deliveries Muhammad Iqbal Daud; Fazlin Marini Hussain; Norlina Mohd Sabri; Zawawi Abdul Wahab; Mohd Talmizie Amron; Najiahtul Syafiqah Ismail	**308**
IoT Based Real-Time Sign Language Translator for Deaf People Nur Batrisyia Busyra Badrisyam; Nur'aina Daud; Nurulhuda Noordin	**314**
Instrument Development for Measuring the Effectiveness of Government Campaigns in Scam and Fraud Prevention: An Extension of Protection Motivation Theory Akhyari Nasir; Mohd Shah Shafie Idris; Muriati Muda	**320**
AI-Integrated Performance Dashboards for Sustainable Road Construction Monitoring Nurfauziah Lilit Suhender; Farashazillah Yahya; Hasimi Sallehudin; Surya Sumarni Hussein; Nur Azaliah Abu Bakar	**326**
Examination Venue Allocation System Using Genetic Algorithm Muhammad Hanif Aiman Zul; Mohd Hanapi Abdul Latif; Norulhidayah Isa; Habibah Ismail	**331**
The Design and Analysis of Vibration Signal Classification for CNC Machine Based on ANN Method Muhammad Syafiq Johari Mohd Safawi; Fahmi Samsuri; Raja Siti Nur Adiimah Raja Aris	**336**
AI-Driven Real-Time Disaster Data Aggregation System for Enhanced NDRF Response Natesan K; Lok Prasanth Kumar B; Harish N; Mekala N; Sasirekha SP; Shalini M	**341**
Quantum-Inspired Optimization for Cloud Resource Scheduling G Preethi Kalyani; R.Santhosh	**347**
A Privacy-Compliant Hybrid Framework for Real-Time Offensive Text Moderation in Dual-Mode Chat Systems Raghu Yashwanth T M; Parivel R; Priyan S; Santhosh R	**353**
A Framework for User-Centered Adoption of AI Fall Detection Systems in Healthcare Nurzi Juana Mohd Zaizi; Waidah Ismail; Mahadi Bahari; Muhammad Anwar Edzudin Khidzir	**359**

Table of Contents

Gamified Cognitive Interaction Design for Zakat Education: Usability and Learning Evaluation of a Digital Board Game Alias bin Deraman; Mohd Shukor Bin Abd Rahman; Nor Intan Shafini Nasaruddin; Mohd Ali bin Mohd Isa; Syahbudin Bin Senin; Nur Alya Batrisyia Ahmad Suhairi	**365**
Development of i-STEM: A Gamified STEM Learning Mobile App for Kindergarten Students Nur Haidah Binti Abd Rahim; Zawawi Abdul Wahab; Norulhidayah Isa	**369**
Gaze-Enhanced MLLM-Augmented Web Browsing Hoàng Nam Lê; Azamat Sydykov; Piercarlo Dondi; Marco Porta	**375**
Developing a Gamified Assessment Framework to Enhance Student Engagement Nurnabilah Samsudin; Nurul Hidayah Mat Zain; Norizan Mat Diah	**381**
An Intra-Business E-Commerce System for Agent-Publisher Collaboration in Book Publishing Nurliyana Nabilah Md Saman; Nor Azila Awang Abu Bakar; Nik Marsyahariani Nik Daud; Norlina Mohd Sabri	**387**
Smart Parking System with Space Detection Using Deep Learning in Mobile Application Anis Amilah Shari; Mohd Rahmat Mohd Noordin; Asma Shazwani Shari; Asiah Mat; Farah Muna Mohamad Ghazali; Siti Anisah Mohd Hatta; Norlida Razali; Naufal Anas Shafie	**393**
Blockchain-Based Voting System with OTP Authentication and off-Chain Privacy Preservation Rahul Aravindh M; Prasannavelan R M; Pradeep N; K. Malathi	**397**
Quantum-Resistant Cryptography for IoT: Design, Simulation, and Prototype Framework Dr Sasirekha SP; Aishwarya D	**402**
An Interactive Cross-Platform 3D Visualization System for Real-Time Learning of Data Structures and Algorithms Sasirekha SP; Aristotle R; Dhipesh Kumar J; Dharshan S; N Mekala	**408**