



**UAEU**

جامعة الإمارات العربية المتحدة  
United Arab Emirates University



## Technical Program

The 19<sup>th</sup> IEEE International Conference on Application of  
Information and Communication Technologies (IEEE AICT 2025)  
29-31 Oct 2025 | Al-Ain, UAE



**abu dhabi**  
Convention & Exhibition Bureau



## Day 1: Wednesday, 29 October 2025

08:00 – 17:50

Participant registration, attendance check, and distribution of conference materials.

09:00 – 10:00

Conference Opening (Auditorium-Crescent Building)

### National Anthem

### Opening remarks by

**H.E. Zaki Anwar Nusseibeh**

Cultural Advisor to the UAE President  
 Chancellor of the United Arab Emirates University

### Plenary speech by

**H.E. Omar bin Sultan Al Olama**

Minister of State for Artificial Intelligence,  
 Digital Economy, and Remote Work Applications in the UAE

**Title:** "Shaping Tomorrow: Advancing Artificial Intelligence for Societal Empowerment"

### Coffee Break

10:30 – 12:00

Panel Discussion & 1st Keynote Talk

**Panel Discussion Title:** Artificial Intelligence and the Empowerment of Government Futures: From Vision to Global Leadership

### Moderator:

**Prof. Khaula Alkaabi**

Assistant Dean for Research and Graduate Studies, College of Humanities and Social Sciences  
 United Arab Emirates University (UAEU)

### Panel Contributors:

**H.E. Eng. Amal Abdulrahim**

Assistant Undersecretary for the Support Services Sector, Chief AI and Innovation Officer,  
 Ministry of Climate Change and Environment, UAE

**H.E. Dr. Farida Al Hosani**

Deputy CEO, Global Institute for Disease Elimination (GLIDE), Abu Dhabi, UAE

**Dr. Rami Beiram**

Associate Provost for Research, United Arab Emirates University (UAEU)



## Informative Talk on AICT 2025,

**Dr. Abzatdin Adamov**

Dean, School of IT and Engineering  
 ADA University, Azerbaijan  
 Co-chair, AICT 2025

## Keynote Speech 1:

**Prof. Steve Liu**

Associate Vice President of Research, Mohamed bin Zayed University of Artificial Intelligence (MBZUAI), UAE; Fellow of the Institute of Electrical and Electronics Engineers (IEEE).

**Title:** LLMs for NextG Communication Networks: Fundamentals, Key Techniques, and Future Directions

**Lunch Break** 12:00 – 13:30

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**13:30 – 14:00** Transfer to Science and Innovation Park (SIP), UAE University

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**14:00 - 15:40** Early Afternoon Sessions

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### Session 1A: Machine Learning and AI Techniques I

**Location:** SIP room # 47

**Chair:** Luca Cagliero; Politecnico di Torino/Italy.

**Co-Chair:** Zaid Rustamov; MegaSec LLC/Azerbaijan.

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**14:00-**(Paper ID #2025007037) Embedding Anatomical Joint Constraints into Text-Driven Motion Diffusion Models (Presenter: SOUNGSILL PARK; CHUNG-ANG UNIVERSITY /Korea)

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**14:20-**(Paper ID #2025001953) Enhancing Retrieval and Re-ranking in RAG: A Case Study on Tax Law (Presenter: Zaid Rustamov; ADA University/Azerbaijan)

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**14:40-**(Paper ID #2025003354) Prediction of coffee consumption using Graph Neural Networks and Explainable AI (Presenter: Etibar Vazirov; ADA University/Azerbaijan)

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**15:00-**(Paper ID #2025005154) A Teacher-Student Model for Multimodal Fake News Detection (Presenter: Luca Cagliero; Politecnico di Torino/Italy)

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**15:20-**(Paper ID #2025006251) Comparative Analysis of Machine Learning Regression Models for Wind Turbine Power Prediction (Presenter: Sarada Phani Kiranmai Kondamudi; UAE University/UAE)

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### Session 1B: Data Science, Software, and Security I

**Location:** SIP room # 145

**Chair:** Dr. Imad Barhumi, UAE University/UAE.

**Co-Chair:** Dr. Mary John; Abu Dhabi Polytechnic/UAE.

**14:00-**(Paper ID #2025003940) A Data-Driven Framework for Urban Mobility: Real-Time Traffic Analysis in Dubai Using Google Maps API and R (Presenter: Bibin Prathap; Abu Dhabi Executive office/UAE)

**14:20-**(Paper ID #2025004018) Satellite-Based Wildfire Detection in Azerbaijan using Sentinel-2 Imagery and Deep Learning (Presenter: Gunel Aliyeva; ADA University/Azerbaijan)

**14:40-**(Paper ID #2025008518) Endpoint Behaviour Modelling from User Interaction Metrics via Unsupervised Deep Learning for Anomaly Detection (Presenter: Kamran Asgarov; Azerbaijan Technical University/Azerbaijan)

**15:00-**(Paper ID #2025007925) Computational Framework for Urban Civic Spaces Quality Assessment: Systematic Integration of Empirical Research Findings (Presenter: Mary John; Abu Dhabi Polytechnic/UAE)

**15:20-**(Paper ID #2025009304) Big Data Text Clustering in Data Science: Applications, Experimental Evaluations, and Comprehensive Review (Presenter: Kamal Taha; Khalifa University/UAE)

### Session 1C: Communication, Networks, and Processing I

**Location:** SIP room #147

**Chair:** : Ebru Emsen; UAE University/UAE.

**Co-Chair:** Ayman Rabee, UAE University/UAE.

**14:00-**(Paper ID #2025000527) Enhancing Subsurface Connectivity: Drill String-Based Communication in Petroleum Wells (Presenter: Ruhul Amin Khalil; UAE University/UAE)

**14:20-**(Paper ID #2025000963) Energy-Efficient LoRa-Based UAV System for Long-Range IoT Communication (Presenter: Maham Misbah; UAE University/UAE)

**14:40-**(Paper ID #2025004620) Channel-Aware User Clustering in mmWave-NOMA: A Deep Q-Learning Approach (Presenter: Ayman Rabee; UAE University/UAE)

**15:00-**(Paper ID #2025004962) +3dB Tensorized High Quality Fourier Transform (Presenter: Mehmet E Ciftcibasi; EGDE Group/UAE)

**15:20-**(Paper ID #2025006095) Accurate Localization for Underwater IoT Networks Using Continuous Multidimensional Scaling (Presenter: Faten Jarrar; UAE University/UAE)



## Session 1D: Applied ICT and Emerging Technologies I

**Location:** SIP room # 148

**Chair:** Dr. Thangavel Murugan; UAE University/UAE.

**Co-Chair:** Dr. Hamad Alkhoory; UAE University/UAE.

**14:00-**(Paper ID #2025012376) Assistive Technologies for Dyslexia: A Post ChatGPT Review (Presenter: Lama Elfateh; UAE University/UAE)

**14:20-**(Paper ID #2025004559) Optimizing LLMs for Automated Essay Scoring: Finetuning and Systematic Prompting (Presenter: Ahmed ElMassry; UAE University/UAE)

**14:40-**(Paper ID #2025005370) Augmented Reality in Logo Design: Towards an Interactive Brand Experience in the Digital Space (Presenter: Leyla Muradkhanli; Baku Higher Oil School/Azerbaijan)

**15:00-**(Paper ID #2025011872) Sensitivity Analysis in Deep Q Networks: Effect of the Gamma Parameter in Microgrid Energy Management. (Presenter: Ayodele Benjamin Esan; UAE University/UAE)

**15:20-**(Paper ID #2025005525) A Study on AI-based Bloodstains and Footprints Detection in Crime Scene Investigations (Presenter: Thangavel Murugan; UAE University/UAE)

**Coffee Break 15:40 - 16:10**

**16:10 - 17:50**

**Late Afternoon Sessions**

## Session 2A: Machine Learning and AI Techniques II

**Location:** SIP room # 47

**Chair:** Dr Oguzhan Akgol; UAE University/UAE.

**Co-Chair:** Dr Orkhan Farzaliyev; Global Energy Solutions/Azerbaijan.

**16:10-**(Paper ID #2025005063) In-Context Unlearning for Text Summarization using Large Language Models (Presenter: Luca Cagliero; Politecnico di Torino/Italy)

**16:30-**(Paper ID #2025007346) Auto-ML Graph Neural Network Hypermodels for Outcome Prediction in Event-Sequence Data (Presenter: Fang Wang; Khalifa University/UAE)

**16:50-**(Paper ID #2025009505) Enhancing LLM Code Generation: A Systematic Evaluation of Multi-Agent Collaboration and Runtime Debugging for Accuracy, Reliability, and Latency (Presenter: Salah Bouktif; UAE University/UAE)

**17:10-**(Paper ID #2025009836) Fault Detection and Location in DC Microgrid using Autoencoder Neural Network (Presenter: Orkhan Farzaliyev; Global Energy Solutions/Azerbaijan)



## Session 2B: Data Science, Software, and Security II

**Location:** SIP room # 145

**Chair:** Dr Adel Najar; UAE University/UAE.

**Co-Chair:** Dr. Nasir Saeed, UAE University/UAE

**16:10-**(Paper ID #2025012633) Visualizing Smart Tourism Recommendations: An AI Driven Approach to Itinerary Planning (Presenter: Ahmed E Mostafa; Rochester Institute of Technology of Dubai/UAE)

**16:30-**(Paper ID #2025011623) Symbolic Regression for Unified Descriptor Learning of Geometric and Thermodynamic Stability in Perovskites (Presenter: Hajara Sabnam Kareem Navaz; DEWA/UAE)

**16:50-**(Paper ID #2025008260) Management of IT Projects Using Transformer-Based Large Language Models for Software Development (Presenter: Petr Gorshkov; ITMO University/Russia)

**17:10 -** (Paper ID #2025014748) Web-Based Platform for Fairness and Privacy Auditing of Machine Learning Models (Presenter: Ilhama Novruzova; ADA University/Azerbaijan)

## Session 2C: Communication, Networks, and Processing II

**Location:** SIP room #147

**Chair:** Dr Ameera Mohammad; UAE University/UAE.

**Co-Chair:** Dr. Tasneem Assaf; Khalifa University/UAE.

**16:10-**(Paper ID #2025007274) A Performance-Complexity Study of ANN, CNN, and LSTM Post-Equalizers for a 1 Gb/s SI-POF Link (Presenter: Mohamed Atef; UAE University/UAE)

**16:30-**(Paper ID #2025006356) Web-Controlled GPR System for Remote Data Acquisition and Surface Reflection Suppression (Presenter: Balaji Ramachandran; DEWA/UAE)

**16:50-**(Paper ID #2025007462) Real-Time Power Quality Monitoring in Dubai: A Comparative Study of LoRa Satellite, LoRa WAN, and LTE CAT-M Technologies (Presenter: Balaji Ramachandran; DEWA/UAE)

**17:10-**Paper ID #2025009096) Direct Data Detection for OFDM-NOMA Systems with CFO Impairments (Presenter: Tasneem Assaf; Khalifa University/UAE)

**17:30-**(Paper ID #2025006691) Fast Diffusion Model for Photoacoustic Tomography Reconstruction (Presenter: Shibili Said; UAE University/UAE)



## Session 2D: Applied ICT and Emerging Technologies II

**Location:** SIP room # 148

**Chair:** Dr Marko Gacesa, Khalifa University/UAE

**Co-Chair:** Dr. Qurban Andal, UAE University/UAE

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**16:10-**(Paper ID #2025008199) A Secure and Effective Framework for Key Concept Mining from Educational Content Using Large Language Models (Presenter: Ashika Sameem Abdul Rasheed; UAE University/UAE)

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**16:30-**(Paper ID #2025001116) Enhancing Agricultural Audit Systems with Internet of Things and Predictive Analytics Real-World Deployment and Performance Evaluation (Presenter: Romeu Sequeira; Instituto Politécnico de Bragança/Portugal)

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**16:50-**(Paper ID #2025010218) Generating Human Understandable Diagnosis Report for Brain Tumors from MRI Scans (Presenter: Namya Musthafa; UAE University/UAE)

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**17:10 -** (Paper ID #2025005905) Smart Autonomous Transportation System for Enhanced Campus Mobility (Presenter: Moaaz Khaddam; UAE University/UAE)

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## Day 2: Thursday, 30 October 2025

**08:00 – 10:00**

Participant registration, attendance check, and distribution of conference materials.

(Auditorium-Crescent Building)

**09:00 – 10:00**

**Keynote Speech 2**

### Prof. Ying-Cheng Lai

Regents Professor, ISS Endowed Professor of Electrical Engineering, and a Professor of Physics at Arizona State University (ASU).

**Title:** Reservoir Computing: Machine Learning Meets Nonlinear Dynamics.

(Chaired by **Dr. Amine El Moutaouakil**)

**10:00 – 10:30**

**Transfer to Science and Innovation Park (SIP) by bus**

**10:30 - 11:30**

**Morning Session**

### Session 3A: Machine Learning and AI Techniques III

**Location:** SIP room # 47

**Chair:** Dr. Abzatdin Adamov; Dean of School IT&Engineering, ADA University, Azerbaijan

**10:30-**(Paper ID #2025000465) Hybrid Sentiment Analysis for Azerbaijani: Lexicon-Driven Fuzzy Inference vs. Machine Learning Approaches (Presenter: Afina Apayeva; ADA University/Azerbaijan)

**10:50-**(Paper ID #2025011055) Artificial intelligence implementation in electric vehicles battery thermal management systems: a review (Presenter: Abdelrahman Gasmelseed; UAE University/UAE)

**11:10-**(Paper ID #2025011167) Artificial intelligence in solar stills: advances in optimization and performance prediction (Presenter: Maryam AlMallahi; UAE University/UAE)

### Session 3B: Data Science and Analytics

**Location:** SIP room # 145

**Chair:** Dr. Mohamed Atef Abdelaal, UAE University/UAE.

**10:30 -** (Paper ID #2025014343) SAFENET: A Modular AI-Powered Real-Time Surveillance System for Threat Detection in Edge Environments (Presenter: Azka Wani; Zayed University/UAE)

**10:50-**(Paper ID #2025013587) Analysis of the Gesture Features in Crowdsourced Sign Language Dataset (Presenter: Gultaj Muradova; ADA University/Azerbaijan)

**11:10-**(Paper ID #2025002659) Modeling and Simulation of Bilasuvar Solar Park Grid Integration in the Azerbaijani Power System (Presenter: Mammad Mammadli; ADA University/Azerbaijan)

### Session 3C: Communication, Networks, and Processing III

**Location:** SIP room # 147

**Chair:** Dr. Nasir Saeed, UAE University/UAE.

**10:30-**(Paper ID #2025010861) Multi-Rate NOMA for Arbitrary Number of Users and Symbol Rates (Presenter: Zainab Khader; Khalifa university/UAE)

**10:50-**(Paper ID #2025012851) Feature Extraction and Classification of ECG Signals Using 2-D CNN (Presenter: Omar Meqbel; UAE University/UAE)

**11:10-**(Paper ID #2025013049) Fed-MORE: Mobility- and Resource-aware Federated Learning for Urban Traffic Flow Prediction (Presenter: Abir Raza; UAE University/UAE)

### Session 3D: Applied ICT and Emerging Technologies III

**Location:** SIP room # 148

**Chair:** Dr. Mahmoud Elgendi, UAE University/UAE.

**10:30 -**(Paper ID #2025012410) Generative Artificial Intelligence in Socio-Economic Forecasting (Presenter: Alexei Bragin; Central Economic Mathematical Institute/Russia)

**10:50-**(Paper ID #2025008894) Energy CDS Premium Prediction: Evidence from Comparative Study of Machine Learning Algorithms (Presenter: Fuzuli Aliyev; ADA University/Azerbaijan)

**11:10-**(Paper ID #2025001287) Technology-Led Growth in Transition Economies: Telecommunications, Government Expenditure and R&D in Post-Soviet Countries (Presenter: Fuzuli Aliyev; ADA University/Azerbaijan)

**Lunch Break 11:00 – 13:00**

### Social Event and Conference Banquet:

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|-------------|---|
| 2:00 – 2:40 | Guided tour in Al Ain Football Club and Museum                                      |
| 3:00 – 3:40 | Guided tour in Qasr Al Muwaiji (Al Muwaiji Palace)                                  |
| 4:00 – 4:40 | Guided tour in Al Ain Oasis   |
| 4:50 – 5:30 | Guided tour in Al Jahili Fort   |
| 5:40 – 6:20 | Guided tour in Bait Mohammed Bin Khalifa  |
| 6:30        | Banquet Dinner at Mohammed Bin Khalifa House with Al Ayyala Traditional Performance |

### Day 3: Friday, 31 October 2025

08:00 – 09:00

Participant registration, attendance check, and distribution of conference materials.

09:00 - 11:40

Morning Session

**Session 4A:** Machine Learning and AI Techniques IV (Session ends at 11:20)

**Location:** SIP room # 148

**Chair:** Dr. Qurban Andal, UAE University/UAE.

**Co-Chair:** Dr. Mohammad Al Bataineh, UAE University/UAE.

**09:00-**(Paper ID #2025011435) Modeling and Forecasting of Battery Parameters Through Ridge Regression and Recurrent Neural Network (Presenter: Prasanthi Achikkulath; UAE University/UAE)

**09:20-**(Paper ID #2025012710) Residual-Enhanced YOLO with Motion-Blur Augmentation for UAV-Based Weed Detection (Presenter: Jamil Ahmad; UAE University/UAE)

**09:40-**(Paper ID #2025013122) Hurricane-Induced Line Failure Risk Classification Using Machine Learning (Presenter: Amulya Viswambharan; UAE University/UAE)

**10:00-**(Paper ID #2025013229) Tri-Modal Multimodal LLMs for Emotion-Aware Human-Robot Interaction: Design and Implementation (Presenter: Mariam Abdulla Abu Baker Alamoodi; UAE University/UAE)

**10:20-**(Paper ID #2025014018) Adaptive AI Controllers for Nonlinear Robotic Systems: Real-Time Communication-Aware Stabilization of a TWIP (Presenter: Hanan Abdelmotagally; UAE University/UAE)

**10:40-**(Paper ID #2025005840) Photovoltaic Panel Fault Classification Using Deep Learning Models on Small Scale Dataset: A Comparative Study (Presenter: Jesty Jacob, UAE University/UAE)

**11:00 -**(Paper ID #2025006803) ML-Driven Thermal Prediction for Cyber-Physical Energy Testing: An ESP-r-Based Benchmarking Study for Kuwait (Presenter: Abdalrahman Alajmi; University of Strathclyde/UK)

**Session 4B:** Advanced AI Applications (Session ends at 11:40)

**Location:** SIP room #145

**Chair:** Dr. Abdessamad Tridane, UAE University/UAE.

**Co-Chair:** Dr. Samir Rustamov, ADA/Azerbaijan.

**09:00-**(Paper ID #2025014465) Smart ICT Tools for Precision Management in Intensive Sheep Systems (Presenter: Ebru Emsen; UAE University/UAE)

**09:20-**(Paper ID #2025013817) A CNN-Based Predictive Control Framework for Autonomous Soil Moisture Management (Presenter: Alrida Ismail; UAE University/UAE)

**09:40 -**(Paper ID #2025012190) Multimodal Information Retrieval via a Shared Embedding Space for Text and Music (Presenter: Mehriban Aliyeva; ADA University/Azerbaijan)

**10:00-**(Paper ID #2025009613) A Multi-Method Framework for Modeling Sustainability Fragility Surfaces under Joint Economic and Environmental Stressors (Presenter: Benrhmach Ghassane; Abu Dhabi University/UAE)

**10:20-**(Paper ID #2025009910) The Role of AI in Advancing Scientific Research from Hypothesis to Publication (Presenter: Ameera Mohammad; UAE University/UAE)

**10:40-**(Paper ID #2025009208) Sowing Hope: Trailblazing AI & Robotics for Sustainable UAE Afforestation (Presenter: Muhammad Rizwan; Manipal Academy of Higher Education Dubai/UAE)

**11:00-**(Paper ID #2025011725) PSO Optimized Scheduling for EV Charging and Discharging in Residential Energy Systems (Presenter: Sarada Phani Kiranmai Kondamudi; UAE University/UAE)

**Session 4C : 4C: Communication, Networks, and Processing IV** (Session ends at 11:20)

**Location:** SIP room #147

**Chair:**Dr. Atef Abdrabou; UAE University/UAE.

**Co-Chair:** Dr. Mustaqeem Khan, UAE University/UAE.

**09:00-**(Paper ID #2025013608) Application of Artificial Intelligence in Microstrip Patch Antenna Design (Presenter: Waleed Sha; UAE University/UAE)

**09:20-**(Paper ID #2025012992) Beyond Pixel Count: A Perceptual Taxonomy and Review of Dominant Color Extraction Algorithms (Presenter: Laman Panakhova; ADA University/Azerbaijan)

**09:40-**(Paper ID #2025002074) Design and Implementation of a Smartphone-Based NFC Access Control System for Smart Campus Environments (Presenter: Suleyman Mammadov; ADA University/Azerbaijan)

**10:00-**(Paper ID #2025007751) XMDrone: Exploration of Indoor Drone Localization Using Exo-Monocular RGB Camera (Presenter: Mohammed Abduljabbar; UAE University/UAE)

**10:20-**(Paper ID #2025013709) Design and Field Deployment of a Low-Cost, Solar-Powered IoT System for Predictive Irrigation (Presenter: Muddathir Yousif; UAE University/UAE)

**10:40-**(Paper ID #2025008416) Towards Intention-Aware Human Motion Authoring with Sensor-Driven Velocity Overriding (Presenter: Joungjun Kim; Chung-Ang University/Korea)

**11:00-**(Paper ID #2025014267) A Minimal-Feature Ensemble Framework for Multi-Label Appliance Identification in Non-Intrusive Load Monitoring (Presenter: Asna Madathodika; UAE University/UAE)

## Session 4D: Applied ICT and Emerging Technologies IV (Session ends at 11:20)

**Location:** SIP room # 47

**Chair:** Dr Moulay Badidi; UAE University/UAE.

**Co-Chair:** Dr. Rachid Errouissi; UAE University/UAE.

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**09:00-**(Paper ID #2025014648) Beyond Traditional AI: How Generative Models Are Transforming E-Commerce Ecosystems (Presenter: Khalil Israfilzade; ADA University/Azerbaijan)

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**09:20-**(Paper ID #2025008392) Adopting Artificial Intelligence in Electromechanical System Design for Engineering Education (Presenter: Yousef Al Kalbani; UAE University/UAE)

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**09:40-**(Paper ID #2025011373) Offline Multimodal Edge AI Framework Integrating Computer Vision and Speech Processing for ICT Accessibility Systems (Presenter: Mohammad Al Bataineh; UAE University/UAE)

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**10:00-**(Paper ID #2025010917) Efficient CV Parsing Using Small Language Models: Addressing Data Privacy and Resource Constraints in HR Systems (Presenter: Serhat Agit Satıcı; Business Intelligence and Data Analytics Specialis/Turkey)

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**10:20-**(Paper ID #2025014548) Gamification-Driven ICT Solutions for Sheep Welfare Education: Design and Evaluation of a Mobile Tool (Presenter: Ebru Emsen; UAE University/UAE)

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**10:40-**(Paper ID #2025010394) Optimizing Human Detection in Natural Disaster Environments Through YOLO and Image Processing (Presenter: Leyla Muradkhanli; Baku Higher Oil School/Azerbaijan)

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## Closing ceremony

**Chair:** Dr. Amine El Moutaouakil

**Location:** SIP room # 47

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Announcement for the best paper award

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Closing remarks for IEEE AICT 2025

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Announcement of the venue for IEEE AICT 2026

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