



AICPS²⁰²⁵

Conference Program



Sunday, 2 November 2025 – Mustapha Stambouli University of Mascara
The First IEEE / International Conference on Artificial Intelligence and Cyber Physical Systems
(AICPS'2025)

FOR ONLINE SESSIONS: <https://urls.fr/by381A>

Meeting ID: 836 9391 974, Passcode: 116978

Day 1

Sunday, 2nd November 2025

08:00-09:00 Welcome and Registration in Desk and Posters hang-up (Conference Hall)

Registration Desk

09:00 – 09:30 Opening Session

Room 1



Welcome Speech : *Dean of the Faculty*

Official Opening : *University Rector*

Welcome Speech and Program : *Conference & Program Chairs*

(Pr. Abdelhamid Mellouk, Pr. Mohammed Kamal Benhaoua, Pr. Carlos Tavares Calafate, Dr. Zahaf Houssam Eddine, Dr. Bouziane Brik, Dr. Amine Dahane)

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09:30 – 10:15 Keynote Session 1 (Chairs :Pr. Abdelhamid Mellouk & Dr. Zahaf Houssam Eddine)

Exploring the Frontiers of Artificial Intelligence: Innovations, Applications, and Ethical Considerations

Room 1

Pr. Abdeldjalil OUAHABI, University of TOURS, France

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Pr. Kamel Med BENHAOUA
Conference General chair
AICPS' 2025



10:15 – 10:40 COFFEE BREAK



Oral Communications: Parallel Sessions

10:40-11:55 Session 1

AI-CPS

Room 1

Chairs: *Dr. Cherifa BOUDIA & Dr. Amine Dahane*

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Transformers Based Super-Resolution Models: Application on Fetal Ultrasound Images (PaperID 3)

Hafida Boumeridja, Mohammed Ammar, Nasharuddin Zainal, Fahed Mahidi and Said Mahmoudi

New Closed-Form Solutions for Electromagnetic Parameters of an Innovative Quasi-TEM Coaxial Directional Coupler for Radar Systems Applications. (PaperID 16)

Yamina Bekri, Nasreddine Benahmed, Tewfik Khiat

Ultra Wide Band Radar Based Human Hand Gesture Classification Using LSM-LSTM Neural Networks (PaperID 24)

Ahmed Khalil Mezali, Ibrahim Kakouche, Abdelmadjid Maali and Oussama Ziane

10:40-11:55 Session 2

AI-EMB

Room2

Chairs : *Pr. Hamou Rédha & Pr. Barigou Fatiha*

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Analysis of Convolutional Neural Networks on Real-Time Multi-Core Embedded Platforms (PaperID 45)

Sarah Lounnaci, Djamila Bendouda, Pierre-Emmanuel Hladik and Claire Maiza

Dynamic slot allocation for slotted CSMA MAC in WSN (PaperID 98)

Ouladdjedid Lakhdar Kamel, Benhaoua Mohammed Kamal, Allaoui Taher and Benarfa Abdelmadjid

A Deep Learning-Based Framework for Early Detection of Interturn Faults in Induction Motors (PaperID 83)

Sofia Chergui, Rafik Medjoudj, Nadir Bouzouba, Youcef Sklab and Abderrazak Sebaa



11:55 – 12:40 Keynote Session 2 (Chairs : Dr. Zahaf Houssam Eddine & Pr. Sidi Mohammed Benslimane)

Environmental Digital Twins and Edge AI for the Intelligent Management of Vulnerable Ecosystems

Room 1

Prof. Dr. José Maria Cecilia, Technical University of Valencia, Spain

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12:40 – 13:45 LUNCH



13:45 – 14:30 Keynote Session 3 (chairs : Pr. Abdeldjalil OUAHABI & Pr. Carlos Tavares calafate)
Smart Oilfields: AI-Driven Edge Computing and Response Prioritization for Sustainable Production

Room 1

Mr. Toufik DJERADI, Sensia an SLB & Rockwell Automation JV, USA

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Oral Communications: Parallel Sessions

14:30–15:45 Session 3

AI-Health

Room 1

Chairs : *Pr. Djamila Hamdadou & Pr. Fatma Boufera*

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Coronary Arteries Segmentation in Computed Tomography Angiography using Deep Neural Networks (PaperID 4)

Meriem Triki, Mohammed Ammar, Moustapha Dilmi and Said Mahmoudi

Machine Learning-Based Diagnosis of Mitral valve prolapse Severity Using Advanced Wavelet Features (PaperID 22)

Meziani Fadia and Rerbal Souhila

Epileptic Seizure Detection Based on Hybrid Spike Detection with Wavelet Transform and Temporal Gradient Analysis Using Artificial Intelligence (PaperID 49)

Cherouati Brahim and Fekir Youcef

14:30–15:45 Session 4

AI-Health

Room2

Chairs : *Dr. Mohamed ZAGANE & Pr. Belalem Ghalem*

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Lung tumors detection and classification using a hybrid deep Convolutional Neural Networks model (PaperID 85)

Cherifa Nabila Chaoui, Boudjelal Meftah and Abdelghani Ghomari

Prognostic and health management: Rolling bearing remaining useful life estimation based on adaptive neuro-fuzzy inference system and particle swarm optimization (PaperID 80)

Islam Medjoudj, Bali Nouredine and Fouad Houari

Deep Learning for Skin Disease Classification Using CNNs and Transfer Learning (PaperID 43)

Sara Belarouci, Mohammed Amine Chikh, Asma Belaidi, Zineb Aziza Elaouaber and Souaad Hamza Cherif

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15:45 – 16:50 COFFEE BREAK



15:45 –16:50 Poster Session

HALL

Chairs : *Dr. Mahi Faiza & Dr. Benaoumer Rabie & Dr. Khaladi Rachid & Dr. Abdallah Khellil*

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16:50–18:05 Session 5

AI-Soc

Room 1

Chairs : *Pr. Khadidja Yahyaoui & Dr. Lakhdar Ouladdjedid*

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Real-Time Waste Management with YOLO: A Comparative Study of YOLOv8 to YOLOv12 for Smart Sorting Systems (PaperID 54)

Selma Azizi, Abderrahmane Bendahmane and Redouane Tlemsani

Do LLMs Grasp Emotion or Just Keywords? A Benchmark for Implicit Emotion Recognition (PaperID70)

Boutouta Hanane, Abdelaziz Lakhfif, Ferial Senator and Chahrazed Mediani

16:50–18:05 Session 6

Open AI

Room 2

Chairs : *Dr. Sabrina ABID & Pr. Debbat Fatima*

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Explaining Arabic Sign Language Recognition: A YOLOv11 and Transformer Hybrid Model with Grad-CAM Visualizations(PaperID59)

Hezil Nabil, Ahmed Bouridane, Ghania Droua Hamdani and Oleg Rogov

Towards Autonomous Trading agents in Cryptocurrency Markets Through Deep Reinforcement Learning (PaperID89)

Rabaie Benameur, Mohammed Lahmer, Sami Souihi and Abdelhamid Mellouk

Deep Non-Negative Matrix Factorization for Recommender Systems (PaperID88)

Chahrazed Mediani, Abdelaziz Lakhfif, Ferial Senator, Hanane Boutouta and Karima Anani



Social Event and Touristic Circuit (Bus)

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End Day 1

Day 2
Monday, 3rd November 2025



08:15 – 09:00 Keynote Session4 (Chairs : Dr. Zahaf Houssam Eddine & Pr. Rebbah Mohammed)

Secure, Sustainable and Efficient: Designing the Digital Infrastructure of Tomorrow

Room1:

Prof. Dr. Amit Kumar Singh, School of Computer Science and Electronic Engineering, University of Essex, UK

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Oral Communications: Parallel Sessions

09:00–10:35 Session 7

AI-SEC

Room 1

Chairs : *Dr. Soraya SETTI AHMED & Dr. Youcef Fekir*

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Resilience of Federated Learning Against Flipped Labeling Attacks (PaperID61)

Fethi Imad Benaribi, Mohamed Seddik Zingara, Ilies Younes, Karim Djouani and Samir Ouchani

An Effective Approach for Detecting False Data Injection Attacks Using Enhanced Stacking Ensemble Learning With Random Forest-Based Feature Selection (PaperID67)

Younes Gasmi, Nouredine Bali, Atif Karim and Soufiane Belagoune

A Deep Neural Network-Based Intrusion Detection System for IoT Networks Using Feature Selection and Multi-Class Classification (PaperID78)

Fouad Khatemi and Meriem Meddeber

ML-Based Real-Time DDoS Detection Framework for O-RAN Enabled 5G Networks (PaperID79)

Bendouda Djamila, Manel Fatima Zohra Aissa and Rania Haoua

09:00–10:35 Session 8

AI-Health

Room 2

Chairs : *Dr. Meriem MEDDEBER & Dr.Hadya BOUFERA*

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Particle Swarm-Enhanced FGSM: Toward More Efficient and Stealthy Adversarial Example Generation (PaperID64)

Djawhara Benchaira, OkbaTibermachine and Foudil Cherif

New Efficient Caching Strategy Based en K-means Clustering in Named Data Networking (PaperID75)

Amal Kechkeche, Merahi Bouziani and Hichem Sid Ahmed Belkhira

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A Low-Cost IoT NPK System for Data-Driven Crop Recommendation (PaperID91)

Abderrahmane Benhariga, Mohammed Kamal Benhaoua, Rabaie Benameur and Saad Laouadi



10:35 – 11:00 COFFEE BREAK

11:00–12:00 Session 9

Theory CS-1-

Room 1

Chairs : *Dr. Brahim Cherouati & Dr. Boudaieb Ahmed*

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Comparative Analysis of Loss Functions for Vein Segmentation Using U-Net and Attention U-Net(PaperID28)

Djamaa Nour Zidane and Zine Eddine Hadj Slimane

Contribution to the methodology of representing discontinuities: ideal and realistic approaches (PaperID32)

Bouhalouane Mokhtar & Sekhri Larbi

11:00–12:00 Session 10

Theory CS-2-

Room 2

Chairs : *Dr. Sarah Benziane & Dr. Hayet Meddeber*

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PT-n: A Tunable Structure Bridging Red-Black and Partially Balanced Binary Search Trees(PaperID35)

Fahd Mustapha Meguellati, Djamel Eddine Zegour and Seyfeddine Zouana

Real-time FDIA Detection for Cyber-Physical Systems Using a Hybrid Deep Learning Approach(PaperID56)

Sara Ouarti, Sarah Aitsaid, Belkacem Kadri and Zoubeyr Farah



12:15 – 13:00 Keynote Session 5 Online (Chairs : Pr. Abdeldjalil OUAHABI, Pr. Abdelhamid MELLOUK)

Neuro-symbolic AI: The Third Wave of AI

Room 1

Pr. Houbing Herbert Song, University of Maryland, USA.

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13:00 – 13:30 Closing Ceremony & Acknowledgments, Trophies, Group Photo

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Conference Program – Day 1

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The First IEEE / International Conference on Artificial Intelligence and Cyber Physical Systems (AICPS'2025)

POSTER SESSION: Chairs: Dr. Faiza Mahi, Dr. Rabie Benaoumer, Dr. Rachid Khalladi, Dr. Abdallah Khellil)

FOR ONLINE SESSIONS: Zoom Link: <https://urls.fr/bY38IA>

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PaperID	Authors	Affiliation	PaperTitle
10	Mourad Kezai, Djamel Eddine Boukhari, Ali Chemsas, Zine-Eddine Baarir	University of Batna 1, Algeria	Self-Supervised Facial Beauty Prediction Using Nearest-Neighbor Contrastive Learning
17	Kaouther Soltani, Nadia Hocine	University of Mostaganem	A Challenge Based Collaborative Problem Solving Framework for Highly Constrained Learning Environments
31	Anas Mouattah, Mohammed Abdelghani Bouchaala, Abdelmadjid Benarfa, Sofiane Dahmane	University of Oran 2 Mohamed Ben Ahmed	Privacy and Data Security-Driven Adaptive Approaches for Mitigating Intrusive Profiling
38	Asma Belaidi, Fatiha Youbi, Sara Belarouci	Abou Bekr Belkaid University of Tlemcen	Evaluating Machine Learning and Deep Learning Approaches for Breast Cancer Classification Using Clinical Data
39	Arbia Boudaouad and Salheddine Kabou	Ahmed Draya University of Adrar	A Structured Review of GAN-Based Approaches for Medical Time-Series Data Generation
46	Messaoud Benguenane, Mohamed El Amine Fekair, Said Neciri, Nadjet Azzaoui	University of Ghardaia	Hybrid Blockchain and Trust-Based Routing for Enhanced Misbehavior Detection in V2X networks
65	Bentata, Meddeber Meriem and Benhaoua Mohammed Kamel	University Mustapha Stambouli of Mascara	A Survey on Smart Irrigation Management Using Artificial Intelligence Techniques
69	Ouaar Hanane	Mohamed Khider University, Biskra	Platform for monitoring, analyzing and forecasting statistics of the expanded vaccination program
71	Souhila Rerbal, Fadia Meziani and Chourouk Saadi	Abou Bekr Belkaid University of Tlemcen	Augmented Scalogram-Based Voice Classification of Laryngeal Pathologies Using CNN and SVM
86	Meriem Boucif, Fayza Bousalah and Hayat Benosman	Abou Bekr Belkaid University of Tlemcen	High-Isolation Four-Port MIMO Antenna with Quarter-Wave Matching and DGS for 3.5 GHz Sub-6 GHz 5G Applications
90	Soufiane Belaidi, Abderahmane Benhariga	Ahmed Ben Bella University of Oran1	AI-Based Interference Mitigation for Predictable Execution in Heterogeneous Real-Time Systems
95	Lahcene Chaklala, Cherifa Boudia	University Mustapha Stambouli of Mascara	Literature Review: Healthcare Recommender Systems in Public Sector Using Deep Learning
96	Faiza Mahi and Cherifa Boudia	University Mustapha Stambouli of Mascara	Optimization of traffic light Bio-Inspired Metaheuristic
97	Hadya Boufera, Sabrina Abid	University Mustapha Stambouli of Mascara	Hybrid Model for Crop Recommendation: Integrating Random Forest and Multi-Layer Perceptron
99	Debbat Asmaa, Debbat Fatima	University Mustapha Stambouli of Mascara	Deep Learning-Based Embedded Systems: Establishing CNN Model for Embedded Systems Using MobileNet v2
29	Miloud Dahane, Nasrallah Benguebbour	Ahmed Ben Bella University of Oran1	Smart Fleet Monitoring: SOTRAZ SPA Case

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