CSAIA'26

ICCSAIA'26

November 4-5, 2026
Marrakech, Morocco

6TH INTERNATIONAL CONFERENCE ON

Computer Science, Artificial Intelligence & Application

ICCSAIA'26

CONFERENCE PROGRAMME

04-05 November 2026

UCA Conference Centre, Marrakech

MARRAKECH جامعة القاضي عياض UNIVERSITÉ CADI AYYAD
المدرسة الوطنية للتجارة والتسيير
ⵜⵜⵉⵛⵀ ⵜⵏⵍⵎⴷⵢⵜ ⵏ ⵜⵜⵓⵔⵉⵔⵜ ⴰ ⵙⵓⵡⵙⴰⵙ
ÉCOLE NATIONALE DE COMMERCE ET DE GESTION
NATIONAL SCHOOL OF COMMERCE AND MANAGEMENT
ENCG MARRAKECH
Centre National pour la Recherche Scientifique et Technique
المركز الوطني للبحث العلمي والتقني
MARRAKECH جامعة القاضي عياض UNIVERSITÉ CADI AYYAD
L2IS LABORATOIRE D'INGENIERIE INFORMATIQUE ET SYSTEMES
MARRAKECH جامعة القاضي عياض UNIVERSITÉ CADI AYYAD
كلية العلوم والتقنيات - مراكش
FACULTÉ DES SCIENCES ET TECHNIQUES - MARRAKECH
IAUPL International Association of University Professors & Lecturers

1. General Programme

Day 1: Wednesday, 4 November 2026

Time	Activity
08h30-09h00	Registration and welcome
9h00-10h00	**Opening ceremony** – Conference room Prof. **BLAID BOUGADIR**: President of UCA Prof. **SAID RAKRAK**: Dean of FST-Marrakech, Director of L2IS Prof. **BOUCHRA LEBZAR:** Director of ENCG-Marrakech Prof. **SALAH EL HADAJ**: General Chair of ICCSAIA'26
10h-11h	**Panel 1: AI and its applications** **Keynote 1:** AI and Humanity Pr. **Mohamed Quafafou**, Aix-Marseille. **Session Chairs**: Salah EL HADAJ & Omar BENCHAREF
11h-12h	**Keynote 2:** Discovering knowledge in spatiotemporal databases. Pr. **Nazha Selmaoui**, New Caledonia university. **Session Chairs:** El Mahdi EL GUARMAH & Moulay Driss LAANAOUI
12h-12h30	Coffee break
12h30-14h30	**Parallel sessions** **Session 1:** AI for Healthcare and Life Sciences – Conference room **Session 2:** Cybersecurity and Trustworthy AI – Session room 1 **Session 3 (Online):** Cybersecurity, Safety and Intelligent Infrastructures – Virtual room 1 **Session 4 (Online):** AI for Healthcare, Agriculture and Earth Observation – Virtual room 2
14h30-16h00	Lunch break
16h-20h	Free time to visit Marrakech

Day 2: Thursday, 5 November 2026

Time	Activity
09h-10h	**Panel 2: Security, Privacy and Trust Ethics** **Keynote 3:** Smartphones: security vs Privacy vs Digital Detox Speaker. Pr. **Leandros Maglaras**, Edinburgh Napier University. Session Chairs: Azidine GUEZZAZ & Khadija BOUZAACHANE
10h-11h30	**Parallel sessions** **Session 5:** LLMs, NLP and Generative AI – Conference room **Session 6:** Computer Vision, UAVs and Intelligent Transportation – Session room 1 **Session 7 (Online):** E-Learning, Recommender Systems and LLMs
11h30-12h	Coffee break + poster session
12h-13h30	**Parallel sessions** **Session 8:** AI in Education – Conference room **Session 9:** Intelligent Systems, Optimization and Sustainability – Session room 1 **Session 10 (Online):** Machine Learning, Optimization and Data-Driven Applications
13h30-15h	Lunch break
15h-16h00	**Round table**

2. In-Person Presentation Schedule

DAY 1 — SESSION 1

AI for Healthcare and Life Sciences

Room	Conference room
Session chairs	Salah EL HADAJ & Sara QASSIMI
Reporter	Aymane Nefdaoui

Time	Code	N°	Title	Presenter
12h30-12h45	AIHLS1	9	Phenotype-Aware Clustered Federated Learning for ICU Mortality Prediction on Heterogeneous EHR Data	A. KHALIL
12h45-13h00	AIHLS2	28	Hybrid Vision Transformer Architectures for Brain Tumor Segmentation and Survival Prediction Using Multimodal MRI: A Comprehensive Survey	S. BOUHAFRA
13h00-13h15	AIHLS3	37	An Efficient Deep Learning Framework for Automated Diabetic Retinopathy Severity Classification from Retinal Fundus Images	K. NAIM
13h15-13h30	AIHLS4	66	Simultaneous Causal Graph Discovery and Counterfactual Explanation for Neurological Disorders: Application to Alzheimer's Disease and Autism Spectrum Disorder	I. MARROUSS
13h30-13h45	AIHLS5	50	A Review of Hybrid Deep Learning and Reinforcement Learning Approaches for Medical Diagnosis and Treatment Personalization	M. MORAKIB
13h45-14h00	AIHLS6	41	Omics-Guided Deep Generative Models for Phenotype-Based Anticancer Drug Discovery: A Comprehensive Survey	H. ENNASTY
14h00-14h15	AIHLS7	15	A Comprehensive Review of BERT-Based Models for Biomedical Named Entity Recognition	S. LAAMARI
14h30	*Lunch break*			

DAY 1 — SESSION 2

Cybersecurity and Trustworthy AI

Room	Salle 1
Session chairs	Oumayma BANOUAR & Yassine SADQI & Khadija BOUZAACHANE
Reporter	Khalid Ahnnaou

Time	Code	N°	Title	Presenter
12h30-12h45	CSTA1	27	Deep Learning-Based Intrusion Detection Systems: A Concise Review of Architectures, Applications, and Open Challenges	H. ESSARGHI
12h45-13h00	CSTA2	72	AI-Driven Zero-Day Attack Detection: A Short Literature Review	J. EL M'GHAOUI
13h00-13h15	CSTA3	56	Unsupervised Code Vulnerability Extraction from the National Vulnerability Database via Multi-Model Topic Modeling Consensus	F. E. OMARI
13h15-13h30	CSTA4	69	Zero Trust Architecture Applied to Edge Computing: A Literature Review	K. ELBARDI
13h30-13h45	CSTA5	70	Security Challenges in Generative AI: Threats, Defense Mechanisms, and Open Research Challenges	Z. ZAHIR
13h45-14h00	CSTA6	58	A Game-Theoretic Sovereign Assurance Protocol for Verifiable Interactions in Multi-Agent Generative AI Systems	A. IMIDER
14h00-14h15	CSTA7	54	TRUST-M: An Orchestration Framework for Digital Trust in Moroccan Public Administration	M. Y. SAMIRI
14h30	*Lunch break*			

DAY 2 — SESSION 5

LLMs, NLP and Generative AI

Room	Conference room
Session chairs	Hassan EL BAHI & Abdessamad EL BOUSHAKI
Reporter	Salma Laamari

Time	Code	N°	Title	Presenter
10h-10h15	LNGA1	16	A Comparative Study of Transformer-Based Named Entity Recognition for Text-Based Business Information Extraction	A. NEFDAOUI
10h15-10h30	LNGA2	26	Comparative Study of Large Language Models on Arabic Supervised Tasks	I. OULAHBIB
10h30-10h45	LNGA3	73	Optimizing Retrieval-Augmented Generation for Complex Regulatory Corpora: An Extensive Evaluation of Chunking and Embedding Strategies	A. MALIH
10h45-11h	LNGA4	61	Rule Priors as Inductive Bias for LLM Agents in Finance	A. SAMALI
11h-11h15	LNGA5	43	DDPM vs DDIM: A Comparative Study of Sampling Strategies for Denoising Diffusion Models	I. IGMOULLAN
11h30-12h	*Coffee break + poster session*			

DAY 2 — SESSION 6

Computer Vision, UAVs and Intelligent Transportation

Room	Session room 1
Session chairs	Meriem BENHADDI & Afaf MOSAIF
Reporter	Zahir Zineb

Time	Code	N°	Title	Presenter
10h-10h15	CVIT1	36	Robust Pap-Smear Classification Through Optimized Denoising and Hybrid Deep Learning	S. OUSSAHI
10h15-10h30	CVIT2	55	Enhancing YOLO11 for Small Object Detection in Aerial Images	H. KOUCH
10h30-10h45	CVIT3	32	Benchmark of Preprocessing Techniques for Semantic Segmentation in Emergency Aircraft Landing Site Detection	A. ILLI
10h45-11h	CVIT4	51	Context-Aware and Energy-Efficient Multi-UAV Path Planning for Emergency Response: A Submodular Optimization Approach with Digital Twin Validation	A. KHARBOUCH
11h-11h15	CVIT5	77	Routing Around the Queue: An Evaluation of Eco-Routing Protocol on Different Traffic Scenarios	L. MAGLARAS
11h30-12h	*Coffee break + poster session*			

DAY 2 — SESSION 8

AI in Education

Room	Salle 1
Session chairs	Nawal BOURQUIA & Aziz OUAARAB
Reporter	Idriss Oulahbib

Time	Code	N°	Title	Presenter
12h-12h15	AIED1	44	Deep Reinforcement Learning for Adaptive Control of Differential Evolution: A Comparative Study	M. LABRASSI
12h15-12h30	AIED2	59	EVALIA: Mitigating Error Propagation in RAG-Based Intelligent Tutoring Systems	Y. BELABYAD
12h30-12h45	AIED3	68	Automatic Short Answer Grading in Education Using Large Language Models	H. ESSAOUI
12h45-13h	AIED4	76	Integration of Virtual Reality and 3D Modeling for Geology Learning through Immersive Simulation Environments	J. MPIANA MULUMBA
13h-13h15	AIED5	21	A Comparative Study of Character Set Designs for Transformer-Based Scene Text Recognition	H. BOUGHFIR
13h30-15h	*Lunch break*			
15h-16h00	**Round table**			

DAY 2 — SESSION 9

Intelligent Systems, Optimization and Sustainability

Room	Conference room
Session chairs	Abdelmoutalib METRANE & Abdelghafour ATLAS
Reporter	Hamza Boughfir

Time	Code	N°	Title	Presenter
12h15-12h30	ISOS2	42	Mitigating Cold-Start in Sequential Recommendation via Dual-Head Disagreement Active Learning	**B. ASRI**
12h30-12h45	ISOS3	49	An Intelligent System for Analyzing and Predicting IT Incident Management Risks Based on ITIL Framework	**M. OUIKRIM**
12h45-13h	ISOS4	62	MIA: A Lightweight Incident-Context-Based Diagnosis Approach for MLOps Observability	**A. OUCHKOUK**
13h-13h15	ISOS5	14	Physics-Informed Predictive Supervision of Ultrafiltration Membrane Fouling in Desalination: A Hybrid Deep Learning and Mathematical Framework for Multi-Objective Optimization	**Z. IDABELLA**
13h15-13h30	ISOS6	46	Intelligent and Predictive Management of Desalination Brine Discharge Using Artificial Intelligence Approaches	**J. EL OUARDI**
13h30-15h	*Lunch break*			
15h-16h00	**Round table**			

3. Online Presentation Schedule

DAY 1 — SESSION 3 (ONLINE)

Cybersecurity, Safety and Intelligent Infrastructures

Room	Virtual room 1
Session chairs	Mourade AZROUR & Oumaima Stitini & Said BENKIRANE
Reporter	Ait Fateh Doha

Time	Code	N°	Title	Presenter
12h30-12h45	OCSI1	23	Real-Time Network Intrusion Detection Using Machine Learning Integrated with Wazuh SIEM	**Y. ABOUTAIB**
12h45-13h00	OCSI2	1	From Detection to Diagnosis: A Hybrid ML-LLM Framework for Actionable Security in Water Networks	**Z. MAIRY**
13h00-13h15	OCSI3	3	A Blockchain-Based Trust and Access Control Framework for Securing Critical Infrastructures in Smart Cities	**T. LABHAR**
13h15-13h30	OCSI4	19	Safety Assurance of Artificial Intelligence Systems in Aviation: Challenges and Emerging Approaches	**O. BELRHIT**
13h30-13h45	OCSI5	67	Pseudo-Stereo View Augmentation for Robust Pothole Detection in Intelligent Vehicles	**R. CHEFIRA**
13h45-14h00	OCSI6	31	Multi-Modal Intelligent Environments: A Comprehensive Review of Reconfigurable Intelligent Surfaces (RIS), RGB Image Recognition, and Thermal Imaging Modalities	**G. EL HORRI**

DAY 1 — SESSION 4 (ONLINE)

AI for Healthcare, Agriculture and Earth Observation

Room	Virtual room 2
Session chairs	Otmane BOURKOUKOU & Mohamed LACHGAR & Hasna HISSOU
Reporter	Imider Abdessamad

Time	Code	N°	Title	Presenter
12h30-12h45	OHAE1	47	Comparative Analysis of Classical and Evolutionary Optimized Fuzzy C-Means Methods for Brain Tumor Segmentation	I. NOUINI
12h45-13h00	OHAE2	17	Hybrid Deep Learning for Tomato Disease Recognition: A Model Fusion Approach	I. DIOURI
13h00-13h15	OHAE3	30	Machine Learning Approaches for Agriculture Monitoring in Morocco: A Literature Review on Crop Disease Detection	S. LAAFFAT
13h15-13h30	OHAE4	22	Deep Learning for Change Detection at Large Scale in Satellite Images	N. BACHIRI TAOUFIQ
13h30-13h45	OHAE5	29	Comparative Benchmarking of Interpolation and Tensor Decomposition Methods for Hyperspectral Image Super-Resolution	D. EL HIMDI
13h45-14h00	OHAE6	53	AI/ML Methods for Green Hydrogen Electrolyzer Optimization: A Review of Physics-Informed and Degradation-Aware Approaches	M. TARGUAOUI
14h-14h15	OHAE7	18	Intelligent Inflammation Detection: A Systematic Review of Artificial Intelligence-Based Approaches, Biosensors, and Autonomous Biomedical Monitoring Systems	S. EL JANNAN

DAY 2 — SESSION 7 (ONLINE)

E-Learning, Recommender Systems and LLMs

Session chairs Aziz DAROUICHI & Mohamed CHAKRAOUI

Reporter Sara Bouhafra

Time	Code	N°	Title	Presenter
10h-10h15	OERL1	12	Intelligent Decision Support Systems for Academic Management and Student Success in Digital University Campuses: A Systematic Literature Review	S. TOUZI
10h15-10h30	OERL2	11	Hybrid AI Architectures for Academic and Career Recommendation: A Systematic Review of Machine Learning Models and the Labor Market Integration	H. BEN ABAIL
10h30-10h45	OERL3	74	AI-Enabled Psychometric Calibration for Adaptive Assessment: A Comparative Study of Bayesian and Neural 3PL-IRT Models	M. EL MSAYER
10h45-11h	OERL4	13	Generative Dual-Calibrated Semantic Sampling for Context-Aware Sequential Recommendation	M. E. A. CHAFIKI
11h-11h15	OERL5	60	Optimization of Multimodal Large Language Models for Recommender Systems: A Review	M. OULBACHA
11h15-11h30	OERL6	65	Lexia: Optimization of a RAG Pipeline for Semantic Search in the Arabic-Speaking Moroccan Legal Context	N. HAMMIA
11h30-11h45	OERL7	10	Emotion and Engagement Detection in Online Learning Platforms: A Systematic Review of AI Models and Their Impact on Learner Inclusion	K. ACHIBAT

DAY 2 — SESSION 10 (ONLINE)

Machine Learning, Optimization and Data-Driven Applications

Session chairs Rachid EDDAOUDI & Laïla AMIR

Reporter Aymen Malih

Time	Code	N°	Title	Presenter
12h-12h15	OMLO1	40	Adaptive Reinforcement Learning-Based K-Means for Improved Clustering	O. MJAHED
12h15-12h30	OMLO2	52	Confidential and Explainable ESG Supplier Scoring under Fully Homomorphic Encryption: A CSRD-Aligned Application	Z. ER-RAHMOUNY
12h30-12h45	OMLO3	75	A Multi-Dimensional Evaluation Framework for Classical, Quantum, and Hybrid Machine Learning in Traffic Crash Severity Prediction	N. GOUBRAIM
12h45-13h	OMLO4	24	Bridging Quantitative and Textual Signals: A Joint ML-LLM-RL Approach to Financial Time Series	M. AARAB
13h-13h15	OMLO5	71	Integration of Graph Theory and Artificial Intelligence in Economics: A Comparative Study of Graph Neural Network Approaches	A. BAHASSOU
13h15-13h30	OMLO6	48	Beyond Quantitative Evaluation : A Qualitative Classification of AI-Generated Conceptual Model Errors	I. RONDA
13h30-13h45	OMLO7	45	A Hybrid K-Means and Neural Network Framework for Intelligent AE Signal Classification in Composite Structures	H. NECHAD

DAY 2 — 11H30-12H00, DURING THE COFFEE BREAK

E-Poster Session

Code	N°	Title	Presenter
P1	4	Blockchain-Based Security for Smart Water Infrastructure in Smart Cities	**T. LABHAR**