

The LSI Lab and Association of Artificial Intelligence and Sustainable Development
in collaboration with

Mohamed Premier University, Faculty of Sciences of Oujda, Faculty of Medicine and
Pharmacy of Oujda, National School of Applied Sciences of Oujda, Higher School of
Technology of Oujda, Mohammed VI Hospital Center of Oujda, Franche-Comté University and The
School Of Advanced Engineering
Studies – Oujda, organize:

ICSMAI 2025

2nd International Conference on
Smart Medical, IoT & Ai



TECHNICAL PROGRAM

ABOUT THE CONFERENCE

The **Second International Conference on Smart Medical, IoT & Artificial Intelligence (ICSMAI'25)** brings together researchers, clinicians, engineers, and industry practitioners to advance data-driven healthcare and intelligent connected systems. ICSMAI'25 provides a forum to share cutting-edge results, discuss open challenges, and foster collaborations at the intersection of **medical technologies**, **Internet of Things (IoT)**, and **artificial intelligence**.

Clinical AI and decision support; medical imaging and radiomics; wearable and remote monitoring systems; hospital information systems and digital health; healthcare NLP and conversational agents; bioinformatics, drug discovery and multi-omics; cybersecurity and governance for health data; human factors, education and simulation; smart sensors, edge/embedded AI, and healthcare IoT deployments.

Authors are invited to submit original, unpublished research—including empirical studies, methods and systems, comprehensive surveys, and reports on industrial deployments—that is not under review elsewhere. Submissions should follow the conference guidelines and deadlines published on the ICSMAI'25 website.

ICSMAI'25 is organized by the **LSI Laboratory** together with the **Association of Artificial Intelligence and Sustainable Development (IA2D)**, in collaboration with **Mohammed First University (Oujda)**—including the **Faculty of Sciences**, **Faculty of Medicine and Pharmacy**, the **National School of Applied Sciences**, and the **Higher School of Technology**—the **Mohammed VI University Hospital Center (Oujda)**, and international academic partners: **Université de Franche-Comté (France)**, **Université de Lorraine (France)**, **Université de Moncton (Canada)**, and the **École des Hautes Études d'Ingénierie – Oujda**.



We warmly welcome you to ICSMAI'25 and look forward to your contributions and participation.

14:00 – 15:00

Welcome and Registration

Main Conference Registration

15:00 – 16:00

Official Opening Ceremony

Conference Hall

Chair: Moderator: Prof. Kamal GHOUIMID
 President of Mohammed Premier University
 Director of ENSA Oujda
 Dean of Faculty of Science
 Dean of Faculty of Medicine & Pharmacy
 Director of CHU
 Organizing Committee

16:00 – 19:00

Keynotes Block #1

Conference Hall

Keynote #1 – Prof. Intissar HADDIYA: Environmental determinants of hypertension. Moderator: Prof. K. GHOUIMID
 Keynote #2 – Prof. Moulay AKHLOUFI: Advances and Challenges in AI for Healthcare. Moderator: Prof. O. SEFRAOUI
 Keynote #3 – Prof. Mohammed MESTARI: From Complexity & Network Science to Graph Representation Learning — GNN for Polypharmacy Side Effects. Moderator: Prof. A. NAJI

19:00 – 20:30

Session 1: AI in Healthcare & Medical Diagnosis

Parallel Sessions — Room 1

Chair: M. H. Sebbar, A. Saddari, and K. Alaoui

Papers

Faysal ETROUFI — Benchmarking ML Models for Early Detection of CKD
 Abderrazak SADDARI — ML for Antimicrobial Resistance & MDR Classification
 Maryam BENHEDDI — Rare EGFR exon 20 mutation detection (EasyPGX™ RT-PCR)
 Maryam BENHEDDI — Colorectal Cancers: RAS Status by RT-PCR (TaqMan)
 Jihane BENBRIK — ML for Predicting Vitamin D Levels
 Oumaima AAMAROUCHI — Brain Tumor Detection: Mixed Init Kernels + GA in CNNs
 Omar SEFRAOUI — AI for Multiple Sclerosis: Data-Driven Approach
 Oussama ABALI — TMJ Osteoarthritis & AI: Systematic Review
 Fatima FATIH — TPE-based CNN Optimization for Lung Disease Diagnosis
 Youssef RAFIK — Cardiovascular Diseases Prediction via ML
 Ali ARBAOUI — Predicting Autoimmune Flares Using AI & Emotions

20:30 – 22:00

Dinner break

Hotel Restaurants

08:00 – 09:00

Welcome and Registration

Main Conference Registration

09:00 – 11:00

Keynotes Block #2

Conference Hall

Keynote #4 – Prof. Yassamine BENTATA: The Future of Medicine: Horizons and Limits! (Moderator: Prof. M.A. MADANI)

Keynote #5 – Prof. Shermin VOSHMGIR: Web3 at the Intersection of Blockchain, AI & IoT (Moderator: Prof. A. KERKRI)

11:00 – 12:30

Session 2: IoT & Edge AI for Smart Systems

Parallel Sessions — Room 1

Chair: H. Bouali, S. Daoudi and R. Malek

Papers

Kishan Reddy BHIMAVARAM — IoT Urban Agriculture Container Farm

Vinay DANDAMRAJ — Smart IoT-based Hydroponics

Mirthika B — YOLOv8 Wildlife Monitoring & Repulsion

Hicham TIKAOUI — Energy Forecasting in Moroccan Buildings (IoT+ML)

Sidi Omar EL KETTANI — IoT-Edge AI + ISO 42001 for CNC Maintenance

Chakib TAYBI — Dual-Band Reconfigurable Antenna (2.4/5 GHz)

Belaoufi Yassine — SmartRoute+: DL + Crowdsensing for Road Maintenance

El Miloud AR-REYOUCHI — BAI-PLF: Blockchain-AI-IoT Framework

Vighnan KUMAR — AgroHeal: Early Disease ID + Pesticide Recommendation

11:00 – 12:30

Session 3: AI for Biomedical Research & Drug Design

Parallel Sessions — Room 2

Chair: M. Yandouzi and M. Grari

Papers

Kaoutar M'RHAR — Deep Learning for De Novo Drug Design

Oussama GRARI — AI against Biofilm Infections

El Miloud AR-REYOUCHI — Q2OPT-MED: Hybrid AI-Heuristic

Nazih ASSABBANE — SVHRSP for Skin Ageing + Microneedle Strategy

Mouad ALAOUI MHAMMEDI — Physics-Constrained Inverse Design (Encapsulation)

Manale CHAKIR — GRU for ICD-9 Coding (MIMIC-III)

11:00 – 12:30

Session 4: Smart Hospitals & Clinical Decision Support

Parallel Sessions — Room 3

Chair: D. El Moujtahide and M. Zeryouh

Papers

N. HAREESH — AI Stethoscope

Oussama GRARI — Procalcitonin Assay Precision for AI Sepsis

D. EL MOUJTAHIDE — ML: Predicting Creatinine

D. EL MOUJTAHIDE — 4-Year Stability of Biochemical Phenotypes

Sara RAMDANI — AI & IoT for Smart Hypertension: Review

Yassmine EL MOUSSAOUI — AI Simulation for Communication Training

Hakim NASAUI — MedACT-CL: Tri-Modal Contrastive Learning

Youssef BADININI — PPP & Digitized Healthcare: Mobile Units

Nour El Houda BENKADDOUR — KidneyLab 2.0 (Arduino)

Hind MOUMNI — AI for Psychological Self-Help (Students, Morocco)

12:30 – 15:30

Lunch break

Dining Hall

15:30 – 17:00

Keynotes Block #3 (Healthcare Innovations)

Conference Hall

Keynote #6 – Prof. Abdelkrim DAOUDI: Telemedicine in the Eastern region.

17:00 – 20:00

Session 5: AI, NLP & Cybersecurity

Parallel Sessions — Room 1

Chair: A. KERKOUR ELMIAD and R. Naciri

Papers

Omar SEFRAOUI — Real-Time Cybersecurity Alert Classification

Ayoub JIBOUNI — Robust Similarity for Link Prediction

Anas CHAHID — RAG-Based Conversational AI for Triage

Abdelmounaim KERKRI — Cross-Lingual Alignment (Contrastive Subword)

Abdelmounaim KERKRI — Stream RL: Drift-Aware Policy Optimization

Abdelmounaim KERKRI — RL for Urban Traffic Lights

17:00 – 20:00

Session 6: Energy Management & Industrial Optimization

Parallel Sessions — Room 2

Chair: M.A. Kassmi and D. Bahia

Papers

Sidi Omar EL KETTANI — LLM-Integrated Predictive Maintenance

Sidi Omar EL KETTANI — Expert System + LLM for Maintenance

Mohammed Ali ARBAOUI — Green Hydrogen: Design Choices

Ali ARBAOUI — Heat Exchanger Control: Efficiency Modeling

Hicham TIKAOU — Vision-Based Angle Detection

Hicham TIKAOU — Few-Shot Hybrid for Visual Inspection

Hanae EL FAHFOUHI — Informer + Bayesian Tuning (Solar Radiation)

20:00 – 22:00

Dinner break

Hotel Restaurants

08:00 – 09:00	<div>Welcome and Registration</div> <div>Main Conference Registration</div>
09:00 – 12:00	<div>Session 7: AI in Education, Ethics & Society</div> <div>Parallel Sessions — Room 1</div> <div>Chair: A. El Mezouari, M. Benhaddou and J. Oubaha</div> <div>Papers</div> <div>Nouhaila CHAREF — AI in Medical Writing: Systematic Review</div> <div>Anas TALHAOUI — Role Classification in Security Policies</div> <div>Somaia EL GHAZI — AI in Medical Education: Umbrella Review</div> <div>Manal BOUDIH — NLP Interviews on Blood Donation (Oujda 23–24)</div> <div>Hicham ARRID — Patient Experience vs Satisfaction: GAM</div> <div>Boulerhcha BRAHIM — Social Media Sentiment with AI</div> <div>Hasnae AMNOUN — AI & Big Data in Marketing: PRISMA (Scopus)</div> <div>BOUBCHEUR Hanane — AI-Assisted Math Teaching (Hearing/Speech)</div> <div>Kaoutar GHOMARI — Electrolyte Disorders in Emergency/ICU (CHU Oujda, 2022)</div> <div>Bilal BOURKHA — AI & Hospital Management in Morocco</div> <div>Bilal BOURKHA — Private Hospitals: Imitation vs Contextual Innovation</div>
09:00 – 12:00	<div>Session 8: Smart Cities, Mobility & Environment</div> <div>Parallel Sessions — Room 2</div> <div>Chair: H. Barboucha and E.M. Ar-Reyouchi</div> <div>Papers</div> <div>Asmae EL MEZOUARI — AI-Driven Radiomics in Oncology</div> <div>Meryem ELKADI — Groundwater Level Prediction (Triffa Plain)</div> <div>Hanae SENBA — Travel Time Optimization (Fez Old Medina)</div> <div>Rohit SHITOLE — YOLOv9 + CBAM: Smart Traffic for Emergency</div> <div>Loubna AZIZI — Urban Green + Smart Tech for Sustainability</div> <div>Elmehdi HASSANI — AI for Smart Invoice Processing</div> <div>Meryem BENKADDOUR — Joule's First Principle via CAEx</div> <div>Salwa KHALYL — LDA vs NMF vs BERTopic (Hotel Reviews)</div>
12:00	<div>Closing Ceremony</div> <div>Conference Hall</div>

Meet Our Committees

The dedicated team of professionals organizing and guiding ICSMAI 2025

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