



The International Conference on Intelligent Computer Systems, Data Science and Applications IC2SDA, November 3–4, 2025

Conference Program

Day 1 : November 3, 2025			
07h30 – 08h45	Welcome & Registration		
09h00 – 09h30	Opening Ceremony		
09h30 – 10h15	Keynote 1	Pr. Azzedine Boukerche, School of Electrical Engineering and Computer Science, University of Ottawa, Canada “Smart Internet of Drones for Sustainable Megacities” Session Chairs: Pr. E. Benkhelifa & Pr. N. Nedjah, Conference room	
10h15 – 11h00	Keynote 2	Pr. Mohd Ibrahim Shapiai, University of Teknologi, Malaysia “AI on Cloud – An Application” Session Chairs: Pr. M. Ould Khaoua & Pr. H. Bouarfa, Conference room	
11h00 – 11h30	Coffee-Break		
11h30 – 12h50	Oral Session 1	Speech, Language and Visual Processing Session Chairs Pr. B. Boudraa Dr. L. Ouahrani Room 01	- Boukerche, Alaa Eddine; Zergat, Kawthar Yasmine, <i>Time-Based Data Augmentation for Algerian Dialect Recognition in Low-Resource Settings</i> - Bouchakour, Lallouani; Mohamed, Debyeche; Ahmed, Krobba, <i>Robust Arabic Speech Recognition Using GFCC and MRCG Features with IBM-DNN at Low SNR Conditions</i> - Mebtouche, Naoual; Bekhelifi, Okba, <i>Saliency-Guided Depth Enhancement via Hybrid Transformer-CNN Architecture</i> - Belabbas, Soumeiya; Addou, Djamel; Selouani, Sid Ahmed, <i>A Multifaceted Approach Based on Deep Learning Architectures for Dysarthric Speech Recognition</i>
	Oral Session 2	Blockchain and Cybersecurity Session Chairs Dr. F. Boumahdi Dr. M. Guerroumi Room 02	- Ben Kissiouer, Imane; Ouchani, Samir; Bouarfa, Hafida, <i>Securing Digital Twin System using Blockchain: Application on Smart Home</i> - Meghazi Bakhouch, Salsabil; Sahraoui, Somia; Naidji, Ilyes, <i>Making the Blockchain Smart Contract Really Intelligent in Smart City Context</i> - Rechid, Kenza; Sahraoui, Somia; Naidji, Ilyes, <i>A Cooperative and Decentralized IDS for Securing IOTA Blockchain Consensus in IoT Networks</i> - Berkani, Mohamed Rafik Aymene; Chouchane, Ammar; Himeur, Yassine; Belabbaci, El Ouanas, <i>Federated Learning Based Anomaly Detection for Cybersecurity in Smart Building Systems</i>
	Oral Session 3	Facial Analysis and Biometric Recognition Session Chairs Pr. N. Baha Dr. H. Ykhlef Room 03	- Boukhari, Djamel Eddine; Kezai, Mourad, <i>GeoFusion-Net: A Hybrid Graph and Convolutional Network for Explainable Facial Beauty Prediction</i> - Chelali, Fatma Zohra; Hadjih, Arselan; Alloui, Chouaib Kamal, <i>Facial Recognition Using ML and DL: From Feature Extraction to Real-Time Implementation using ESP32 Cam</i> - Hamed, Wissam; Merabtene, Meriem Maria; Tounsi, Mohamed; Mihoubi, Mohammed El Amine; El Ouanas, Belabbaci, <i>RSH-LOOP: A Regional Statistical-Histogram Descriptor for Robust Facial Expression Recognition</i> - Belhocine, Yacine; Meraoumia, Abdallah; Chitroub, Salim; Bendjenna, Hakim, <i>Privacy-Preserving Biometric Authentication Using Homomorphic Encryption</i>
	Oral Session 4	Data Modeling and Behavior Analysis Session Chairs Pr. Z. Alimazighi Pr. M.K. Abdi Room 04	- Warda Fella, Belaid; Ouassila, Ferroukhi; Azeddine, Dekhira, <i>AI-Based Modeling and Preprocessing of Liquid Crystal Data: Impact of Lateral Substituents on Derived Molecular Descriptors</i> - Aoula, Halima; Fareh, Messaouda; Riali, Ishak, <i>Deep Semantic Clustering via Knowledge Graphs and BERT Embeddings for Customer Segmentation</i> - Takdenti, Amina; Mazari, Ahmed Cherif, <i>Multi aspect Detecting mental disorders using Machine and Transfer learning models on Reddit posts</i> - Alahoum, Oussama; Boudaa, Boudjemaa; Djafri, Laouni, <i>Handling Preference Drift in Capturing Dynamic User Preferences for Streaming Session-Based Recommendations</i>
	Oral Session 5 ‘Online’	Graph-Based and Distributed Systems Session Chairs Dr. H. Benkaouha Dr. A. Louazani Room 05	- Boudaoud, Abdelkrim; Mahfoud, Houari, <i>A Formal Framework for Querying Distributed Graph Data: Use Case of Neo4j and Cypher</i> - Miloud, Kamline; Ouardas, Asma; Bendjillali, Ridha Ilyas; Bendelhoum, Mohamed Sofiane; Tadjeddine, Ali Abderrazak; Miloudi, Fadila Amel, <i>Graph Neural Network-Based Beam Selection for Massive MIMO Systems in Dynamic Wireless Environments</i> - Moncef, Belaskri; Benomar, Mohammed Lamine, <i>Improving ViT Performance for Colon Cancer Histopathological Image Classification Using Transfer Learning</i> - Bemrah, Fatima-Zohra; Chikh, Azeddine; Ouchani, Samir, <i>A Comparative Analysis of Service Management Techniques in the Internet of Things</i>

	Oral Session 6 'Online'	Deep Learning and Intelligent Pattern Recognition Session Chairs Dr. M. Amroune Dr. I. Riali Room 06	- Houari, Horkous, <i>Language Identification from Speech: Influence of Emotion Types and Speech Features Using DNN and SVM</i> - Ourdas, Asma; Kamline, Miloud; Bendjillali, Ridha Ilyas; Bendelhoum, Mohamed Sofiane; Tadjeddine, Ali Abderrazak; Bellal, Linda, <i>Aquila-Optimized CoAtNet and MogaNet for High-Performance Arabic Handwriting Recognition</i> - Hariri, Walid; Djafri, Hadjer; Ouedjji, Khaoula, <i>Wavelet-ViT Framework with Multi-Scale Features and Progressive-Stochastic Transfer Learning for Accurate EEG Seizure Detection</i>
12h50 – 13h45	Lunch		
13h45 – 14h30	Keynote 3	Pr. Faisal Saeed, Birmingham City University, UK “AI-Powered Methods for Enhancing Cognitive Disability Support” Session Chairs: Dr. A. Louazani & Pr. M. Shapiai, Conference room	
14h30 – 15h10	Poster Session & Coffee-Break		
	Poster Session 1	Hall	- Lahiani, Nesrine, Merzoug Abdelaziz, <i>An Intelligent Multilingual Legal Chatbot for Algerian Law Based on RAG and LLMs</i> - Nabil, Moussaoui; Abdeslam, Dennai; Mourad, Belabed, <i>Application of Cloud-IaaS Solution in the Biomedical Field: Medical Analysis Case</i> - Semar-Bitah, Kahina; Ghebghoub, Yasmina; Bouderbala, Fatma Zohra, <i>Implementation of a Hybrid Cryptographic System Based on IGC/PKI Key Management Infrastructure</i> - Baaloul, Ali; Benblidia, Nadjia; Ouared, Abdelkader; Chirane, Marouane; Laazab, Kheira, <i>Reducing Traffic Accident Impact: A Vision Transformer-Based Driver Distraction Detection Approach</i> - Sabri, Nassim, <i>Fault Detection in Electric Vehicle Battery/Subsystem Using an Autoencoder for Anomaly Detection</i> - Ould Khaoua, Adel Salah, <i>The Impact of the CSMA/CA Parameters on the Performance of NDN over IEEE 802.15.4</i> - Salah-Eddine, Bouchama; Hafida, Bouarfa; Ouchani, Samir, <i>A Review on Financial Fraud Detection: Techniques, Challenges, Solutions, and Perspectives</i>
15h10 – 16h30	Oral Session 7	Optimization Algorithms and Metaheuristics Session Chairs Dr. R. Ouafi Dr. L. Oukid Room 01	- Berghida, Meryem; Laib, Bilal; Bouchenine, Hocine, <i>An Improved Differential Evolution Algorithm for Dominating Tree Problem</i> - Malti, Arslan; Benmammar, Badr; Dif, Ali Amine; Belkhodja, Oussama, <i>A Multi-objective Squirrel Search Algorithm Approach for Efficient Task Scheduling in Cloud Computing</i> - Mogtit, Abdessamed; Boudjemaa, Redouane; Lagha, Mohand, <i>Multi-Objective Conflict Resolution for Aircraft Trajectories Using Particle Swarm Optimization</i> - Mahamdi, Yassine; Mekhaldi, Abdelouahab; Boubakeur, Ahmed; Benmahamed, Youcef, <i>A Novel Fault Diagnosis Framework for Power Transformers Using Enhanced Crow Search Optimization Algorithm</i>
	Oral Session 8	IoT and Intelligent Systems Session Chairs Dr. Y. Douga Dr. A. Djouama Room 02	- Boukhama, Macilia; Farah, Zoubeyr; Alkama, Lynda, <i>Energy-Aware IoT Service Composition for Green Computing Environments</i> - Saifeddine, Choudar, Gherbi, Chirihane; Aliouat, Zibouda, <i>Dynamic Clustering Protocol in Edge IoT Networks Using Reinforcement Learning</i> - Hadj-Attou, Abdelkader; Kabir, Yacine; Ykhlef, Farid, <i>Enhancing Road Anomaly Detection Using OVA and OVO Strategies on the RSC-IoT Dataset</i> - Abdallah, Belkadi; Ahmed, Louazani; Larbi, Sekhri, <i>ETT-AODV: An Energy-Aware and Trust-Based Routing Protocol for Ad Hoc Networks</i>
	Oral Session 9	Medical Image Analysis Session Chairs Pr. N. Baha Dr. F.Z. Reguieg Room 03	- Arab, Rami; Bouighebeche, Anouar; Hafhouf, Bellal, <i>An Enhanced U-Net with Concurrent Attention and a Multi-Scale Pyramid Bottleneck for Accurate Skin Lesion Segmentation</i> - Kerkatou, Raid Anis; Belhade, Hacene; Boulmerka, Aissa, <i>Flood Scene Understanding Using U-Net and DeepLabV3+: Semantic Segmentation on FloodNet</i> - Zelmat, Ilyes; Zerouali, Hasni; Barigou, Fatiha; Belalem, Ghalem, <i>PneumolA: A Deep Learning-Based Approach for Pulmonary Disease Detection</i> - Abderrahmane, Saad; Kara, Reda; Bouhedda, Mounir, <i>Real-Time Pneumonia Detection on Android Using 2D CNNs with Cloud Computing</i>
	Oral Session 10	Security and Privacy Session Chairs Pr. L. Sekhri Dr. Zeroualia / Guerrmoui Room 04	- Bouadjemi, Abdelkrim; Belkadi, Abdellah, <i>Formally Verified Rule-Based Access Prediction for Clinical Information Systems</i> - Mokri, Abdelheq; Hadjila, Fethallah; Smahi, Souheib, <i>Comprehensive Empirical Study on Privacy-Utility Trade-offs in Deep Learning Architectures</i> - Boumahdi, Fatima; Remmide, Mohamed Abdelkarim; Souaci, Fatma zohra, <i>Enhancing Android Malware Detection with Explainable AI: A Supervised Machine Learning Approach</i> - Chemini, Nawal; Hioual, Ouassila; Hemam, Sofiane Mounine, <i>Standardized Semantic Mapping and Legacy Data Integration in Blockchain-based EHR System: A Survey</i>
Day 2 : November 4, 2025			
09h00 – 09H45	Keynote 4	Pr. Nadia Nedjah, State University of Rio de Janeiro, Brazil “Swarm Robotics: Challenges, Trends, and the Road to Real-World Applications” Session Chairs: Pr. L. Bellatreche / N. Boustia & Pr. F. Saeed, Conference room	

09h45 – 10h30	Keynote 5	Pr. Samir Bouaziz, University Paris – Saclay, France “ <i>Systemic approach and societal issues</i> ” Session Chairs: Pr. A. Boukerche & Pr. K. Boukhalfa, Conference room	
10h30 – 11h10	Poster Session & Coffee-Break		
	Poster Session 2	Hall	- Ben Kissiouer, Imane; Ouchani, Samir; Bouarfa, Hafida, <i>A Review of Digital Twins in Smart Environments</i> - Ikram, Boursas; Nacim Fateh, Chikhi, <i>Studying the Impact of Dimensionality Reduction in Malware Detection</i> - Hadj Ala, Issam; Mazari, Ahmed Cherif, <i>Balancing Accuracy and Speed: A Comparative Study of U-Net and YOLO-Based Models for Lung Segmentation in Chest X-Rays</i> - Benimam, Abdelmadjid; Mazari, Ahmed Cherif; Toubal, El Bahi, <i>Vision Transformers vs. CNNs for Plant Disease Detection: A Transfer Learning Showdown</i> - El Ouanas, Belabbaci; Chouchane, Ammar; Chennana, Ahmed; Ouamane, Abdelmalik; Himeur, Yassine; Teta, Ali; Mihoubi, Mohammed El Amine; Berkani, Mohamed Rafik Aymene, <i>Advanced CNN-Based Deep Features for Predictive Analysis of Skin Cancer</i> - Djama, Asma; Maazouz, Mohamed; Kheddar, Hamza; Toubal, Abdelmoughni; Gueriani, Afrah, <i>Hybrid Deep Neural Networks and Long Short-Term Memory for Distributed Denial of Service Attacks Classification</i>
11h10 – 12h30	Oral Session 11	Deep Learning and Computer Vision Session Chairs Dr. M. Brahimi Dr. A. Madani Room 01	- Boulahmar, Mehrez; Khellal, Atmane; Nemra, Abdelkrim; Nebili, Billel; Louali, Rabah, <i>Video Swin Transformer for Multi-Modal Driver Activity Recognition in Low-Light Conditions</i> - El Ouanas, Belabbaci; Chouchane, Ammar; Berkani, Mohamed Rafik Aymene; Mihoubi, Mohammed El Amine; Chennana, Ahmed; Ouamane, Abdelmalik, <i>Hybrid Subspace Learning Approach for Enhancing Face Kinship Verification</i> - Kaddour, Said; Benomar, Mohammed Lamine; Oumer, Assia Maliha, <i>Cascade Convolutional Neural Networks Learning for ECG Cardiopathy Classification</i>
	Oral Session 12	Optimization and Cloud Computing Session Chairs Pr. Nacer Dr. H. Ait Saadi/ Dr. N. Belgroune Room 02	- Malti, Arslan; Benmammar, Badr; Bendella, Mohammed Salih, <i>A Comparative Analysis of MCDM Methods for Efficient Multi-Objective Task Scheduling in Cloud Computing</i> - Sehaki, Mehdi; Kenaza, Tayeb; Demigha, Oualid; Debicha, Islam, <i>Reinforcement Learning for Adaptive Controller Load Management in SDN</i> - Bouchbout, Yehya; Benrazek, Ala-Eddine; Farou, Brahim; Molnár, Bálint; Seridi, Hamid, <i>Optimizing Local Mail Delivery Routes: A Case Study of Algérie Poste</i> - Chihoua, tiki eddine; Boudane, Abdelhamid; Beghdad Bey, Kadda, <i>On Efficiently Mining Top-k High Utility Sequential Patterns</i>
	Oral Session 13	Machine & Deep Learning Applications Session Chairs Dr. H. Necir Dr. M. Fareh Room 03	- Arar, Aldjia; Khelfane, Lyna; Aid, Aicha, <i>Integrating Graph-Based Knowledge into Transformers to Improve Drug Interaction Extraction</i> - Allali, Mahamed Abdelmadjid; Bousahba, Nassima; Bouziani, Said; Bouziane Errahmani, Akram; Bechar, Rachid, <i>Soil Fertilizer Recommendation System based on Multi-output Random Forest</i> - Bourouba, Rostem Abdel Moulia; Ghanem, Khadoudja; Layeb, Abdesslem, <i>A Geometric Extension of KNN Classifier</i> - Amraoui, Taher; Meradi, Samir; Amrane, Ahmed, <i>Machine Learning for Predictive Maintenance of Electrical Machines: A Review</i>
	Oral Session 14	Intelligent Systems and Applications Session Chairs Dr. Moussaoui Dr. N. Lahiani Room 04	- Zemouri, ET-Tahir; Zerrouki, Nabil; Harrou, Fouzi; Sun, Ying, <i>Enhanced Braille Character Recognition through Innovative Partitioning Technique</i> - Hentous, Islam; Kenaza, Tayeb; Mahmoudi, Said; Debicha, Islam, <i>An IoMT Power Consumption Dataset for Evaluating Machine Learning-Based Anomaly Detection Systems</i> - Bekki, Khadhir; Rouabhi, Miloud; Bekki, Khadhir; Ouared, Abdelkader, <i>Enhancing Public Service Delivery Through Empathic, Intelligent Arabic Chatbots</i> - Talai, Zoubir; Kherici, Nada, <i>Code Smell Detection Via Inception Model</i>
12h30 – 13h30	Lunch		
13h30 – 14h15	Keynote 6	Pr. Hacène Derrar, National Higher School of Management – Koléa - Algeria “ <i>AI Ethics: The Missing Link for a Successful Digital Transformation</i> ” Session Chairs: Pr. O. Boussaid & Pr. S. Bouaziz, Conference room	
14h15 – 15h00	Poster Session & Coffee-Break		
	Poster Session 3	Hall	- Teboub, Islem; Aissani, Amar, <i>Application of Hidden Markov Models for Cloud Resources Optimization</i> - Chachoua, Amani; Malki, Abdelhamid; Ouchani, Samir, <i>A Review on Hierarchical Federated Learning: Architectures and Learning Algorithms</i> - Gueriani, Afrah; Kheddar, Hamza; Mazari, Ahmed Cherif, <i>Hybrid ResNet-1D–BiGRU with Multi-Head Attention for Cyberattack Detection in Industrial IoT Environments</i> - Djama, Asma; Maazouz, Mohamed; Kheddar, Hamza; Rahim, Messaoud; Bengherbia, Billel, <i>High Performance Detection of DDoS Attacks with Hybrid CNN-LSTM Architecture</i> - Hind, Benkessiouer; Yassine, Hakem; Amina, Madani; Lydia, Ouaili; Aouatef, Mahani; Amira, Elhaouari, <i>Federated Learning under Threat: A Survey on Poisoning Attack Detection for Healthcare Applications</i> - Bentrcia, Rahima; Zegaar, Souheila; Saadoun, Nour Chames Ellassil, <i>Path Planning Algorithms: a Comparative Study</i> - Nasri, Ziad; Messaoudane, Djihane; Bouchama, Nouha; Zarour, Nacer Eddine, <i>YOLOv8-Based Systems for Agriculture Harvesting Optimization: Potato Tuber Seed Selection</i>
15h00 – 16h30	Closing Ceremony and Best Paper Award		