

The second International Conference on Innovative and Intelligent Information Technologies (IC3IT'26).

March 26–28, 2026, in Hammamet, Tunisia | <https://www.ic3it.com>

March 26, 2026

Parallel Session A-0: Artificial Intelligence Applications I	
Room: CESAR	
Chair: Shaukat Ali, Research Professor, Oslo, Norway	
Paper ID	Title & Authors
10	Designing for Stress: A Human-Centered VR Platform for Biofeedback-Driven Firefighter Training Mehdi Mekni
11	A Competency-Driven Immersive VR Training System for Forensic Fire Investigation Mehdi Mekni
90	Forecasting Daily Air Temperature Extremes Using Deep Learning Models: A Case Study from Aurès Region, Algeria Ikrame Boubaker, Zakaria Laboudi and Rachid Seghir

Parallel Session A-1: Cybersecurity & Privacy	
Room: CALIGULA	
Chair: Farid Naït-Abdesselam, France	
Paper ID	Title & Authors
95	Secure and Privacy-Preserving Healthcare Federated Learning via Differential Privacy Mechanisms Lemnour Noui
139	Blockchain-Based Framework for Enterprise Organisations' Information Systems Management Naser Abbas Hussein, Khadija Rammeh Houerbi and Hella Kaffel Ben Ayed
128 (Online)	Adaptive On-Device Arabic Speech Recognition for Smart Wheelchair Control Using a Self-Tuning Meta-Learning Agent Mnassri Aymen, Nasri Sihem, Mansouri Nouha and Cherif Adnane

Parallel Session A-2: AI in Industry & Decision Systems	
Room: CASSIUS	
Chair: Pr Mouhamadou Thiam, University of Thiès, Senegal	
Paper ID	Title & Authors
144	HodgeRank for Group Decision-Making: Evaluating Recommendation Stability with Incomplete Preference Data Eskander Bejaoui, Mohamed Ould-Elhassen Aoueileyine, Ridha Bouallegue and Anis Yazidi
41	Predictive Maintenance for Aeration in Wastewater Treatment: Practices and Opportunities Edwin Gamboa, Mathias Giessler and Paul Engelke
143	Optimal Resource Allocation for Disaggregated Data Centers under Uncertain Task Demands Hanzhang Chen, Yuichi Ohsita and Hideyuki Shimonishi

Parallel Session A-3: Wireless & Antenna Systems I	
Room: CORNLIA	
Chair: Rachid Seghir, University of BATNA2, Algeria	
Paper ID	Title & Authors
89	Global Electromagnetic Analysis of a 2.45 GHz Rectenna Incorporating a Schottky Diode Using an Iterative Method Zied Harouni, Moubarek Traii, Hamza Ben Hamadi, Said Ghnimi and Ali Gharsallah
38	Isolation in MIMO Antenna Arrays at 26 GHz for 5G and IoT Applications Wyssem Fathallah, Chafai Abdelhamid, Hedi Sakli and Taoufik Aguilu
61	Design and Simulation of a Three-Stack Cylindrical Dielectric Resonator patch Antenna Array at 79 GHz for Automotive Radar Oussama Dallali and Tawfik Aguilu

Parallel Session A-4: Robotics & Embedded Systems	
Room: COLISEE	
Chair: Djeflal ElAmir, University of BATNA2, Algeria	
Paper ID	Title & Authors
80	Robot-Assisted Student Practical Task Evaluation Fuad Budagov, Mohammad Tariq Meeran, Tarmo Robal and Ali Atakan Basaran
155	Real-Time IMU Fusion for Quadcopter Attitude Estimation: Quaternion EKF Implementation on an STM32 Microcontroller Rania Lejmi, Faten Ben Abdallah and Joseph Haggege
189	Practical Optimization of Microservice CI/CD Pipelines Using Commit-Type Filtering Maryem Mechraoui, Thouraya Louati and Heithem Abbes

Parallel Session B-0: Artificial Intelligence and Medical application I	
Room: COLISEE	
Chair: Ramzi Mahmoudi, University of Monastir	
Paper ID	Title & Authors
56	Hybrid Spatio-Temporal Neural Models for Malaria Prediction and Epidemic Detection in West Africa
	Aby Diallo , Ndeye Fatou Ngom , Michel Seck , Amadou Ibra Diallo , Mouhamad Zaidou and Abdoulaye Guisse
191	Improved Detection of Viral and Bacterial Pneumonia using Ensemble Transfer Learning on Pediatric Chest Radiographs
	Amira Ouerhani and Halima Mahjoubi
187	Optimizing Segmentation Frameworks for Organs at Risk
	Elloumi Nabila and Seddik Hasssene

Parallel Session B-1: Artificial Intelligence and Medical application II	
Room: CALIGULA	
Chair: Narjess Ben Ameer, ISMT	
Paper ID	Title & Authors
104	Deep Learning-Based Detection and Segmentation of Fetal Heart Components in Prenatal Echocardiograms
	Malek Ben Yaala , Rim Zarrouk and Ramzi Mahmoudi
99	Bridging General Genomics and Oncology: A Survey of classical Bioinformatics Tools and a Path Toward Multi-Agent Architectures
	Zayneb Mannai , Nizar Omhenni and Ramzi Mahmoudi
110	AI Driven Methods for Early Detection of Congenital Heart Disease
	Amira Fayouka , Narjes Benameur , Ramzi Mahmoudi and Moncef Tagina

Parallel Session B-2: Artificial Intelligence and Medical application III	
Room: CASSIUS	
Chair: Rami Djeflal, University of Batna 2, Algeria	
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147	Automatic Assessment of Myocardial biomechanical Properties from Cardiac MRI via Deep Learning
	Rania Awadi
126	Enhanced SAMed: A Lightweight and Efficient Model for Medical Image Segmentation
	Kater Nada Ayari and Asma Ben Letaifa
153	Interpretable Vision Transformer for MRI-Based Glioma Grading
	Hana Charaabi , Ridha El Hamdi , Mohamed Njah , Fatma Kolsi and Mohamed Zaher Boudawara

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Chair: Lahcen Guezouli, University of BATNA2, Algeria	
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42	Bridging Attack Detection and Clinical Trust: A Trustworthy AI Framework for Medical IoT
	Bejaoui Chaima and Haifa Touati
169	Intelligent and Real-Time Vertebral Anomaly Detection For Smart Medical Chairs
	Sawsan Selmi , Ali Hamdi and Hedi Sakli
170	AI-Powered Spinal Fracture Detection in Pediatric Patients Challenges and Solutions
	Ali Hamdi , Sawsan Selmi and Hedi Sakli
121	MedProtection: A Dual-Layer Watermarking Framework For Mobile Medical Image Security
	Wahiba Touati , Nour El Houda Golea and Salim Kalla

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Parallel Session C-0: Artificial Intelligence Applications II	
Room: COLISEE	
Chair: Hella Ben Ayed, University of Tunis el Manar, Tunisia	
Paper ID	Title & Authors
62	Reinforcement Learning and Agent Based Modeling for Socio-Ecological Systems Management : A Systematic Review Cheikhou Akhmed Kane, Samba Diaw, Mandicou Ba and Alassane Bah
107	Artificial Intelligence for Algorithm Discovery: A Three-Dimensional Framework Cagatay Catal
43	Markov chain modeling of BPSO with different transfer functions for optimal parameter tuning Sameh Kessentini

Parallel Session C-1: IoT & Network Security	
Room: CALIGULA	
Chair: Mariem Thaalbi, University of Tunis, Tunisia	
Paper ID	Title & Authors
177	Quantum Machine Learning for IoT Security: A Comprehensive Survey Imene Achouri, Youssouf Achouri, Rima Djellab and Chaker Essid
87	A User-Centric Dashboard Framework for Machine Learning Driven IoT Security Bilel Arfaoui, Hichem Mrabet and Abderrazak Jemai
82	Securing Smart TVs in Smart Home Ecosystems Through Machine Learning Approaches Bilel Arfaoui, Hichem Mrabet and Abderrazak Jemai

Parallel Session C-2: NLP & Ontologies	
Room: CASSIUS	
Chair: Fawzi Ben Messaoud, AI Program Director, Indiana University Indianapolis, USA	
Paper ID	Title & Authors
100	Ontology population from online press articles on road accident using web scryping and NLP tools Mouhamadou Gaye and Koumba Thiongane
141	Ontology matching: Impact of candidates selection on ontology matching with LLMs Mouhamadou Thiam, Abdoulaye Diallo, Mansour Diouf and Abdoulaye Djibril Kandji
59	Towards a predictive and explainable mapping of soil organic carbon stocks with TabPFN and SHAP: a case study from agro-sylvo-pastoral ecosystems in Senegal Mame Diarra Diouf, Samba Diaw, Mandicou Ba, Etienne Delay, Alassane Bah and Dominique Masse

Parallel Session C-3: Computer Vision & Imaging	
Room: CORNLIA	
Chair : Ramzi Mahmoudi, University of Monastir	
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156	Comparative study on Image Indexing Techniques for Information Retrieval Systems: Classical and Intelligent Approaches Sonia Benbelgacem, Mohamed Benbelgacem, Larbi Guezouli and Rachid Seghir
125	Robust Hyperspectral Identification of Food Adulteration via a Hybrid MSE-SAM Autoencoder Safa Khaloui, Leila Ben Othman, Akram Hakiri and Heithem Abbes
115	Trustworthy LLM-based Recommenders: Uncertainty, Conformal Prediction, and Hallucination Mitigation Saloua Zammali

Parallel Session C-4: Communication & Smart Systems	
Room: CESAR	
Chair : Hamza Drid, Algeria	
Paper ID	Title & Authors
109	Data Caching Strategies for the Internet of Vehicles: A Comprehensive Review and Future Directions. Assem Rezki, Lyamine Guezouli and Abderrazak Benyahia
75	A Comprehensive Survey on IoT and Artificial Intelligence for Smart Bins and Intelligent Waste Management Systems Nourhene Ellouze and Houda Alaya
133	A Comprehensive Framework for Real-Time Detection of Cyberattacks in Drone Networks Amine Hedfi, Wafa Boulares, Aida Ben Chehida, Ryma Abassi, Mohamed Aymen Chalouf and Omessad Hamdi

Parallel Session D-0: Smart Energy & Intelligent Industrial Systems	
Room: CESAR	
Chair: Maria DI MASCOLO , CNRS, France	
Paper ID	Title & Authors
86	LLM EnergyAdvisor: An Explainable ReAct Agent for Local Multimodal District Heating Interpretation Hamid Mirshekali , Mohammad Reza Shadi and Hamid Reza Shaker
166	Quantification of thermal and water leak consequences in district heating systems through simulation: A Danish case study Henrik Alexander Nissen Søndergaard , Lasse Kappel Mortensen and Hamid Reza Shaker
145	Achieving Verifiable Fairness in Global Supply Chains: A Zero-Knowledge Proof and Blockchain Framework for Selective Disclosure Lina Mounni , Hamouma Mouden and Lahcene Guezouli

Parallel Session D-1: Wireless & Antenna Systems II	
Room: CALIGULA	
Chair: Monia Najjar, University of Tunis el Manar	
Paper ID	Title & Authors
34	Efficient Electromagnetic Characterization of Dielectric Waveguide Devices Using the GEC Approach : Application to breast tissue Abdessalem Kouki , Fethi Mejri and Taoufik Aguili
116	EBG-Integrated 24.6GHz Patch Antenna for Breast Microwave Imaging Kalthoum Ouerghi , Zied Harouni , Mohamed Salah Karoui , Said Ghnimi , Ali Gharsallah and Ridha Ghayoula
88	A New Design of a Frequency Selective Surface For Beam-Switching Antenna Moubarek Traii , Zied Harouni , Mohamed Fawar , Said Ghnimi and Ali Gharsallah
120	Design and Analysis of an ACM-Assisted Wearable Off-Body Antenna for WBAN Applications Fatimetou Sy , Rachida Bedira , Ali Gharsallah , Muhammad Zaka Ali and Mourad Nedil

Parallel Session D-3 (Online): AI Applications & Computer Vision	
Room: CASSIUS	
Chair: Nourhene Ellouze, University of Tunis el Manar, Tunisia	
Paper ID	Title & Authors
135	Explainability in Deep Learning Healthcare Recommender Systems: A Comprehensive Review Soumeya Bouslah , Saber Benharzallah and Moumen Hamouma
157	Towards Explainable and Deployable Medical Imaging Models: Mobile Vision Transformers with Kolmogorov-Arnold Networks Bouldjedri Oussama
136	Custom Object Detection for Automobiles using COCO API integration with Resnet 50 and Embedded Basler Industrial Camera Shilpa Anand
174	Hybrid Approaches in Artificial Intelligence for Foreign Exchange Market Forecasting: A Literature Review and Extended Methodological Framework Hana Jamali

Parallel Session D-4 (Online): Wireless, Energy & Smart Systems	
Room: CORNLIA	
Chair: Hamza Drid, Algeria	
Paper ID	Title & Authors
150	Design of a new microstrip antenna topology in circular polarization: application to the RIS. Farah Hamdi and Fethi Mejri
91	Isolation in MIMO Antenna Arrays at 26 GHz for 5G and IoT Applications Chouikhi Linda , Essid Chaker and Sakli Hedi
167	AI-Enhanced Backstepping and Deep Reinforcement Learning for Adaptive DC Microgrid Management Charfeddine Monia and Jouili Khalil
192	Design of a Compact mmWave MIMO Array with SRR-Enhanced Isolation for Future 6G Networks Chafai Abdelhamid , Chaker Essid , Wyssem Fathallah , Abdelilah Mansour and Hedi Sakli
158	A Shared-Memory-Based Hybrid Cryptographic Architecture for Secure Systems Sabri Salima and Malek Mammeri

Parallel Session D-2: Advanced Engineering Technologies and Applications	
Room: COLISEE	
Chair: Wissem Fathallah, University of Sousse	
Paper ID	Title & Authors
138	Resolution of 2D Time Domain Electric Field Integral Equation: Novel formulation of RWG associated to Laguerre Polynomials Auns Khaled , Dorsaf Omri and Taoufik Aguili
152	Emerging TEG-Based Thermoelectric Energy Harvesting Technology for Self-Powered Implantable Medical Devices Hamdi Gmati , Dorsaf Omri and Taoufik Aguili
151	Design of a Low-Loss 433-MHz 90° Hybrid Coupler for Underground Wireless Sensor Networks Applied to Smart Agriculture Maroua Said , Ahmed Laiche , Hamza Ben Hamadi , Said Ghnimi and Noureddine Boulejfen

Parallel Session E-0: Advanced AI & Cognitive Systems	
Room: COLISEE	
Chair: Cherif Bachir DEME, Alioune Diop University of Bambey ,Senegal	
Paper ID	Title & Authors
180	Cognitive Recursive Fragmentation Syndrome (CRFS): A Framework for Understanding Pathological Self-Modifying Behavior in Advanced AI Systems Fawzi Benmessaoud, Kelvin Kapteyn, Lauren A. Shaffer and Athena Benmessaoud
	Ultra-Optimized Weighted Ensemble Framework for High-Precision Bitcoin Daily Return Prediction: XGBoost, LightGBM, and the Surprising Failure of LSTM on Engineered Financial Features Isslam Dhia Alhak Soualah, Yassmina Saadna and Mezzoudj Saliha
119	Visual Encoding and Transfer Learning for Malware Detection: A CNN-Based Comparative Study Raid Abderrahim Smail, Ali Behloul and Assaad Zeghina

Parallel Session E-1: Artificial Intelligence Applications III	
Room: CALIGULA	
Chair: Houda Alaya, University of Tunis El Manar, Tunisia	
Paper ID	Title & Authors
102	Multimodal Forest Fire Detection in Northern Algeria using Bayesian Fusion Ayoub Louaye Bouaziz
132	A systematic Review on Automatic sleep apnea detection based on bio-signals data using Machine Learning/Deep Learning algorithms Ghada Ben Salah, Chokri Abdelmoula and Mohamed Masmoudi
54	A Distributed FL–ML Framework for Eutrophication Monitoring in the Bizerte Lagoon Mejri Hana, Elloumi Imene and Aguili Taoufik

Parallel Session E-2: Intelligent Distributed Systems & Emerging Technologies	
Room: CASSIUS	
Chair: Saloua Zammeli, University of Tunis el Manar, Tunisia	
Paper ID	Title & Authors
85	A Blockchain-Based Student Learning Pathway with Federated Skill Intelligence Naima Kalkil, Hamouma Moumen and Djamila Bouhata
137	FLSTM: Enhancing FRL in Swarm Robotics through Sequential Decision-Making for Optimal Energy and Robustness Aicha Hafid, Riadh Hocine, Lahcene Guezouli and Hamouma Moumen
6 (Online)	GRU-based strategies for latency reduction in fog computing: a comparison with LSTM Youssou Kassé, Birane Koundoul, Fatoumata Balde and Bamba Gueye

Parallel Session E-3: Artificial Intelligence and Medical Application V	
Room: CESAR	
Chair:Adrien BASSE, Alioune Diop University of Bambey ,Senegal	
Paper ID	Title & Authors
60	Personalized Drug Recommendation: A Hybrid Variational AutoEncoder and Graph Neural Network Framework Oussama Abdeddayem, Alaa Bessadok and Hedi Sakli
175	Radiation Behavior of an Encapsulated Biomedical Antenna for Wearable Medical Devices in the IMoT Healthcare Framework Auns Khaled, Dorsaf Omri and Taoufik Aguili
193	AI-Enhanced Backstepping and Deep Reinforcement Learning for Adaptive DC Microgrid Management Charfeddine Monia and Jouili Khalil