

SMARTTECH-24 3rd Edition

Marrakech 21-23, Nov. 2024

21 November 2024 – Day 1

8:30 – 9:30: Inauguration

9:30 – 10:30: 1st Keynote Speech – Dr. Mohamed Abid

Mars 2020 Deputy Chief Mechanical Engineer, Mars 2020 Cruise Entry Descent & Landing (CEDL) MSE, Mars Sample Return SRL Payload Chief Engineer JPL / NASA

Title of the Talk: *Mars Missions: Past, Present, and Future. From fiction to Reality*

10:30 – 11:00: Coffee Break

11- 12:30 : Session AIH: Artificial Intelligence in Healthcare (6 papers)

1. Paper 2784

- **Title:** Improving Breast Cancer Detection in BUS Images Using Multimodal Deep Learning and Grad-CAM Fusion
- **Authors:** Zeeshan Mubeen, Zulfiqar Ali, Rahmat Ullah and Muhammad Haroon Ahmad

2. Paper 5063

- **Title:** A Fusion Framework of Transformer and CNN for Non-Small Cell Lung Cancer Classification
- **Authors:** Samia Nawaz Yousafzai, Inzamam Mashood Nasir, Sara Tehsin, Muhammad Attique Khan, Jawad Ahmad and Wadii Boulila

3. Paper 3205

- **Title:** Echoes of the Mind: Navigating the Depths with Deep Learning and Transfer Learning in Predicting Anxiety and Depression
- **Authors:** Tariq Mian, Eman Atawi and Hisham Saeed

4. Paper 5306

- **Title:** A Spatio-Temporal OSM Knowledge Graph for Accident Prediction Based on GCN-GRU Model
- **Authors:** Mohamed Amine Ben Rhaiem, Mouna Selmi and Imed Riadh Farah

5. **Paper 4502**

- **Title:** Ethical Implications of AI in Healthcare
- **Authors:** Yousif Al-Saleem, Fahad Al-Medyan, Osama Al-Obaid and Yasir Javed

6. **Paper 457**

- **Title:** Advancing Human Activity Recognition using Ensemble Deep CNN-GRU Network
- **Authors:** Muhammad Hassan Khan, Nazish Ashfaq, Aleena Asif and Dr. Muhammad Shahid Farid

12:30 – 14:00: Lunch Break

14:00 – 15:15 : Session AALP : Advances in Arabic Language Processing (5 papers)

1. **Paper 763**

- **Title:** Arabic Image Captioning Using Transformer-Based Encoder-Decoder Model
- **Authors:** Yasser Alhabashi, Lahouari Ghouti and Anis Koubaa

2. **Paper 1252**

- **Title:** Enhanced Arabic Retrieval Augmented Generation Using Nested Embedding Models
- **Authors:** Omer Nacar, Serry Sibae and Anis Koubaa

3. **Paper 8845**

- **Title:** Enhancing Arabic Text to Gloss Machine Translation by Data Augmentation
- **Authors:** Doaa Alghamdi, Mansour Alsulaiman, Yousef Alohal, Mohamed A. Bencherif and Mohammed Algabri

4. **Paper 9310**

- **Title:** Enhanced Arabic Spelling Correction with Sequential Transformer Models.
- **Authors:** Samar Ahmed, Nour Qandos, Serry Sibae and Omar Nacar

5. **Paper 1597**

- **Title:** ArPA: A Novel Speech Analysis and Correction Tool for Arabic-Speaking Children
- **Authors:** Lamia Berriche, Maha Driss, Areej Almuntashri, Asma Lghabi, Heba Almudhi and Munerah Almansour

15:15 – 15:45: Coffee Break

15:45 – 17:00: Session IoT1 : Internet of Things - (5 papers)

1. Paper 1612

- **Title:** Modeling of Air Pollution Dispersion Coupled with Video Intelligence Systems for Smart Cities
- **Authors:** Pedro Gea, Antonio Segura, Samuel Pineiro, David Cartelle and Javier Carrillo

2. Paper 3077

- **Title:** IoT-Enabled Scheduling Optimization: Revolutionizing Manufacturing Efficiency in Green Reconfigurable Systems
- **Authors:** Atef Gharbi and Maha Driss

3. Paper 1691

- **Title:** Design and Implementation of a Connected Stabilometric Platform to Assess Human Balance and Static Postural Stability
- **Authors:** Faten Ben Aicha, Siwar Bellalah and Med Ali Fatmi

4. Paper 2579

- **Title:** Enhancing IoT **Security** through Self-Supervised Graph Neural Networks
- **Authors:** Safa Ben Atitallah, Maha Driss, Wadii Boulila and Anis Koubaa

5. Paper 3958

- **Title:** Implementing the Concept of Smart Cities in Amman: Reality and Aspirations Review
- **Authors:** Mohammad Al Rawajbeh and Hassan Al-Zoubi

22 November 2024 – Day 2

8:30 – 10:00: Session CYS1: Cybersecurity (6 papers)

1. Paper 3986

- **Title:** Transfer Learning-based Contagious Diseases Transmission Video Surveillance: A COVID-19 Case Study
- **Authors:** S Muhammad Ahmed Hassan Shah, Asad Ullah, Sana Ullah Jan and Bill Buchanan

2. Paper 4180

- **Title:** Optimizing Fire Safety: Reducing False Alarms Using Advanced Machine Learning Techniques
- **Authors:** Muhammad Hassan Jamal, Abdulwahab Alazeb, Shahid Allah Bakhsh, Wadii Boulila, Syed Aziz Shah, Aizaz Ahmad Khattak and Muhammad Shahbaz Khan

3. Paper 4529

- **Title:** Secure Electronic Voting System using Blockchain technology
- **Authors:** Siwar Rekik, Areej Alharbi Alharbi, Jhan Alsakait, Hajer Altuwijri and Kouloud Alqhatani

4. Paper 4825

- **Title:** Enhancing Cloud Security through Anomaly Detection: An Artificial Intelligence Driven Approach to Secure Authentication and Authorization in SAML and OAuth 2.0 Protocols
- **Authors:** Morgan Nwaiku, Muhammad Diyan, Ikram Asghar and Akinade Olugbenga

5. Paper 6190

- **Title:** IEC61131-3 Input Output Hashing Validation
- **Authors:** Eliot Bolster, Aydin Hoday, Nikolaos Pitropakis and Christos Chrysoulas

6. Paper 1413

- **Title:** A Multiplicative Attention-based Deep Learning Framework for Intrusion Detection in IIoT Networks
- **Authors:** Asadullah Momand, Sana Ullah Jan and Naeem Ramzan

10:00 – 10:30: Coffee Break

10:30 – 11:30: 2nd Keynote Speech: Prof. Anis Koubaa

Prof. of CS at Prince Sultan University, Riyadh, Saudi Arabia

Title of the talk: *The Frontier of Intelligence: How Generative AI and LLMs Are Reshaping the Business Transformation*

11-30 – 12:30 : Session: AI2: Artificial Intelligence Applications (4 papers)

1. Paper 4637

- **Title:** Fine-Tuning a Large Language Model for Dialogue Summarization
- **Authors:** Omnia Aljuhani and Lena Alahmadi

2. Paper 4961

- **Title:** Sentiment Urgency Emotion Detection for SAP Business Intelligence
- **Authors:** Dr. Tariq Soussan and Professor Marcello Trovati

3. Paper 5627

- **Title:** Comparative Analysis of Deep Learning Algorithms for Forecasting PV Production and Energy Consumption
- **Authors:** Kaoutar Aitchaoui, Hassan El Fadil, Oumaima Choukai and Oumaima Ait Omar

4. Paper 5933

- **Title:** Influence of KNN on Genetic Algorithm to Attain Better Routing in TSP Problem
- **Authors:** Hala Khankhour, Najat Rafalia and Jaafar Abouchabaka

12:30 – 14:00: Lunch Break

14:00 – 15:00: 3rd Keynote Speech: Dr. Antonio J. Jara

Chief Scientific Officer at Libelium.

Title of the Talk: *Smart Systems and Emerging Technologies for Smart Cities: Leveraging Digital Twins for Pollution and Traffic Assessment*

15:00 – 16:00 : Session: NETUM: Networks and Unmanned Systems (4 papers)

1. Paper 4924

- **Title:** Non-Visual Terrain Navigation for UAVs: A Comparative Study in GPS-Denied Environments
- **Authors:** Imen Jarraya, Mohamed Abdelkader, Khaled Gabr and Anis Koubaa

2. Paper 6542

- **Title:** Unmanned Aerial Systems Architecture and Security Concerns: A Cyber-Physical System Perspective
- **Authors:** Fahd Dehbi, Mohamed Zraib and Ahmed Chebak

3. Paper 9853

- **Title:** Enhancing Vehicular Ad Hoc Networks (VANETs): Communication Protocols, Applications, Challenges, and Future Directions
- **Authors:** Muhammad Umair Munir, Zahid Khan, Nauman Khan, Anis Koubaa and Ihsan Ali

4. Paper 7132

- **Title:** Optimizing Urban Lighting Systems Through Data-Driven Graph Models and Machine Learning.
- **Authors:** Yassine Laarichi, Oualid Rholam, Amal Aloui and Mariem Elkaf

16:00 – 16:30: Coffee Break

16:30 – 17:30: Session – EMT: Emerging Technologies (4 papers)

1. Paper 293

- **Title:** X-Cross: Image Encryption Featuring Novel Dual-Layer Block Permutation and Dynamic Substitution Techniques
- **Authors:** Hansa Ahsan, Safee Ullah, Jawad Ahmad, Aizaz Ahmad Khattak, Muhammad Ali and Muhammad Shahbaz Khan

2. Paper 1494

- **Title:** An intelligent big data analysis approach for real-time data processing: A case study on META stock price prediction using LSTM model
- **Authors:** Zineb El Falah, Jaafar Abouchabka and Najat Rafalia

3. Paper 6088

- **Title:** Advanced Control Strategies for Nonlinear Continuous Stirred Tank Reactors Using Emerging Technologies
- **Authors:** Selma Hussein, Mohammed El-Affendi and Ahmed Abdellatif

4. Paper 7271

- **Title:** Optimizing Software Development Projects: Implementing a Scope Tracker Application to Mitigate Scope Creep
- **Authors:** Florence Chioma Ogbuagu, Ikram Asghar, Sunnia Amjad and Rahmat Ullah

7:30 – 10:30 : GALA DINNER

23 November 2024 – Day 3

8:30 – 10:00: Session AI2: Artificial Intelligence (6 papers)

1. Paper 2828

- **Title:** Possibilistic distance measure of heterogeneous data: Numeric and Nominal
- **Authors:** Wided Ben Marzouka, Basel Solaiman and Mohamed Farah

2. Paper 6868

- **Title:** Integrating Hybrid Deep Learning for Improving Traffic Flow Prediction
- **Authors:** Idriss Moumen, Najat Rafalia and Jaafar Abouchabaka

3. Paper 7114

- **Title:** FAQs System for the University using Generative AI with Large Language Models
- **Authors:** Aisha Ahmad, Waad Alhejali, Soumaya Chaffar and Anis Koubaa

4. Paper 7460

- **Title:** Enhancing Speaker Diarization in Forensic Audio: A Comparative Analysis of Machine Learning Algorithms for Gender Classification
- **Authors:** Rahmat Ullah, Ikram Asghar, Gareth Evans, Rab Nawaz, Saeed Akbar and Dorothy Anne Roberts

5. Paper 8209

- **Title:** Smart Tech Roulette: Insights for Exploring AI's Impact on Learning, Cognitive Development, and Ethics in Context
- **Authors:** Tahira Hoke

6. Paper 488

- **Title:** An Innovative Approach to Privacy Preservation in CP-ABE Through GAN-Enhanced Policies for Resource-Constrained Environments
- **Authors:** Akram Chhaybi, Jihane Jebrane and Saiida Lazaar

10:00 – 10:30: Coffee Break

10:30 – 11:30: Panel Discussion: Impact of AI on Touristic Business development

Panel members: TBA

11–30 – 12:30 : 4th Keynote Speech: **Dr. Muhammad Abdul-Mageed**

Canada Research Chair in Natural Language Processing and Machine Learning,
The University of British Columbia & MBZUAI.

Title of the Talk: *Multimodal Arabic Large Language Models*

12:30 – 14:00: Lunch Break

14:00 – 15:00: Session AI2: Artificial Intelligence & Cybersecurity (4 papers)

1. Paper 1183

- **Title:** FLIGHTGEN: ROS2-Powered Automated UAV Dataset Generator
- **Authors:** Mohamed Abdelkader, Khaled Gabr, Omer Nacar, Imen Jarraya and Anis Koubaa

2. Paper 8663

- **Title:** How does e-GP system improve overall quality of e-governance? Based on a conceptual model
- **Authors:** Qazi Mahdia Ghyas and Taslima Akter

3. Paper 9676

- **Title:** An Approach for Android Forensics: TikTok, Instagram and Facebook Use-Cases
- **Authors:** Issraa Ben Mnaouer, Ayman Samsudeen, Salah Eddine Choutri, Gandeve Bayu Satrya and Adel Ben Mnaouer

4. Paper 9946

- **Title:** Securing Smart City Networks by Analysing Vulnerabilities in LoRaWAN and Zigbee Networks
- **Authors:** Aminu Bello Usman and Mujeeb Ur Rehman

15:00 – 16:00: Coffee Break & Closing Ceremony