

## Program at a Glance

Day 1: Tuesday, November 14, 2023	
Time	Program
08:00 – 16:00	Registration
<b>Morning</b>	
08:00 – 09:30	Welcome & Light Breakfast
09:30 – 10:00	Opening Ceremony, Dr. Fekri Kharbash, Acting Dean, College of Information Technology <i>Auditorium: G020</i>
10:00 – 12:15 13:45 – 16:30	Students' Poster Session, <i>Exhibition Hall: G023</i>
10:00 – 11:00	Keynote I: Mr. Alessandro Cremonesi, Executive Vice President, ST Microelectronics International NV <i>Auditorium: G020</i>
11:00 – 11:15	Coffee break
11:15 – 12:15	Keynote II: Prof. Albert Zomaya, The University of Sydney <i>Auditorium: G020</i>
12:30 – 13:30	Lunch
<b>Afternoon</b>	
13:30 – 16:30	Tutorial I: Dr. Parag Kulkarni, United Arab Emirates University <i>Room: 2022 Lab</i>
13:30 – 14:30	Day 1 - Session #1 (Artificial Intelligence in Data Science) Session Chair: Dr. Rafat Damseh <i>Room: 1027</i> <ul style="list-style-type: none"> <li>• <b>1570939210:</b> Nour A M Abujabal, Ibrahim Kamel Tamer Rabie, Path Planning Techniques for Multi-robot Systems: A Systematic Review</li> <li>• <b>1570953524:</b> Mohammed Baziyad, Nour A M Abujabal Raouf Fareh, Tamer Rabie, Ibrahim Kamel, Maamar Bettayeb, A Direction for Swarm Robotic Path Planning Technique Using Potential Field Concepts and Particle Swarm Optimization</li> <li>• <b>1570954721:</b> Shamma Esmaeel Jamali, Mohammad Mehedy Masud, Orbit Propagation and Determination using Genetic Algorithms</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>1570954757:</b> <i>Muluberhan Woga, Solomon Ghebretatios, Hermon Teklesenbet, Naod Yemane, Abdelkader Nasreddine Belkacem, A Wearable Device for Drowsy User Detection</i></li> </ul> <p><b>Day 1 - Session #2</b> (Artificial Intelligence in Data)  <b>Session Chair: Dr. Yasir Mahmood</b>  <b>Room: 1036</b></p> <ul style="list-style-type: none"> <li>• <b>1570953927:</b> <i>Aryan Jadon; Sachin Sharma; Shashank Kumar; Global Message Ordering using Distributed Kafka Clusters</i></li> <li>• <b>1570954151:</b> <i>Hassan Ahmed Khalil; How are user movie ratings predicted using collaborative filtering</i></li> <li>• <b>1570955526:</b> <i>Ahmed M ElMassry; Abdulla AlShamsi; Ahmed Abdulhameed, Mohamed Sharaf and Nazar Zaki; Hassan Khosravi; A Regression Analysis Approach for Feature Selection in Student Achievement Data</i></li> <li>• <b>1570955539:</b> <i>Muhammad Arslan; Christophe Cruz; Enabling Digital Transformation through Business Text Classification with Small Datasets</i></li> </ul>
<p><b>14:30 – 15:30</b></p>	<p><b>Day 1 - Session #3</b> (Artificial Intelligence in Data Science)  <b>Session Chair: Dr. Rafat Damseh</b>  <b>Room: 1038</b></p> <ul style="list-style-type: none"> <li>• <b>1570946037:</b> <i>Asma Wasfi, Bisni Fahad Mon, Mohammad Hayajneh, Ahmad Slim, Enhancing Assessment Placement and Curriculum Structure via Graph-Theoretic Approach</i></li> <li>• <b>1570952486:</b> <i>Hassan Nawaz, Ikram Ud Din, Ahmad Almogren, Ali Nawaz, Abdul Mohiz Malik, Autoencoder for Epileptic Seizure Recognition: An Unsupervised Approach</i></li> <li>• <b>1570953917:</b> <i>Jonayet Miah Razib Hayat Khan, Duc M Cao, Md Abu Sayed Lemon, SM Yasir Arafat, Fuad Mahmud, Improving Traffic Density Forecasting in Intelligent Transportation Systems Using Gated Graph Neural Networks</i></li> <li>• <b>1570956980:</b> <i>Ahmed Abdelhadi Ahmed, Yousif Badri and Asaad Shamseldin, Application of Nonlinear Gaussian Process Regression Models for CO2 Emissions Prediction</i></li> </ul> <p><b>Day 1 - Session #4</b> (Artificial Intelligence in Data Science)  <b>Session Chair: Dr. Omar El Harrouss</b>  <b>Room: 1027</b></p> <ul style="list-style-type: none"> <li>• <b>1570955510:</b> <i>Fatima Ahmed ALraeesi, Mariam Khaled Al Kuwaiti, Jose Berengueres, Enhancing Autism Education: Exploring Interactive Videos and AI Integration for Effective Teaching</i></li> </ul>

	<ul style="list-style-type: none"> <li>• <b>1570956809:</b> <i>Nadia Agti, Sabri Lyazid, Okba Kazar, Abdelghani Chibani, A CNN-MLP Deep Model for Sensor-based Human Activity Recognition</i></li> <li>• <b>1570958178:</b> <i>Ching-Jung Huang, Munkhjargal Gochoo, Tan-Hsu Tan, Two-Stream Architecture Using RGB-based ConvNet and Pose-based LSTM for Video Action Recognition</i></li> <li>• <b>1570958195:</b> <i>Elarbi Badidi, Hermon Teklesenbet, Nahom H. Demoz, Igor H. Jabiro and Yonatan R. Tesfay, Real-time Road Signs Detection and Recognition for Enhanced Road Safety</i></li> </ul> <p><b>Day 1 - Session #5</b> (Security and Privacy in the Age of AI)  <b>Session Chair: Dr. Amir Ahmad</b>  <i>Room: 1028</i></p> <ul style="list-style-type: none"> <li>• <b>1570950219:</b> <i>Abdulaziz Y.I. Abu Shawish, Mohammed Baziyad, Tamer Rabie, Ibrahim Kamel, Minimizing Distortion in Secret Image Retrieval: A Novel Solution to Combat Data Loss in Steganography.</i></li> <li>• <b>1570954866:</b> <i>Sidra Aslam, Ala Altaweel, Ibrahim Kamel, Impact Study and Analysis of Hidden-mode of Wormhole Attack in Opportunistic Mobile Networks.</i></li> <li>• <b>1570955650:</b> <i>Rafika Saadouni, Amina Khacha, Jr., Yasmine Harbi, Chirihane Gherbi, Saad Harous, Zibouda Aliouat, Secure IIoT networks with hybrid CNN-GRU model using Edge-IIoTset.</i></li> <li>• <b>1570958262:</b> <i>Nour El Houda Sayah Ben Aissa, Abderrahmane Lakas, Ahmed Korichi, Chaker Abdelaziz Kerrache, Abdelkader Nasreddine Belkacem, Robust Detection of Adversarial Attacks for EEG-based Motor Imagery Classification using Hierarchical Deep Learning.</i></li> </ul>
15:15 – 15:45	Coffee break
15:30 – 16:30	<p><b>Day 1 - Session #6</b> (Internet of Smart Things)  <b>Session Chair: Dr. Munkhjargal Gochoo</b>  <i>Room: 1027</i></p> <ul style="list-style-type: none"> <li>• <b>1570954362:</b> <i>Imene Ayat, Djamilia Mechta, Saad Harous, Tasks classification across edge servers nodes using K-means With multi-objective constraints Chebyshev distance</i></li> <li>• <b>1570958271:</b> <i>Doua Kosaji, Anas Chaari, Chihab Ezzaki, Hamza Mohammed, Sara Abumousa, Herbert Jelinek, Kinda Khalaf, and Mohammad I. Awad, Enhancing Paediatric Rehabilitation Through Data-Driven Sensory Integration and Interactive Engagement</i></li> <li>• <b>1570957987:</b> <i>Ahmed Abdelhadi Ahmed, Munkhjargal Gochoo, Mohamad Taghizadeh, Munkh-Erdene Otgonbold, Ganzorig Batnasan, ESL127: Emirate Sign Language Dataset(s) and e-Dictionary (Version 2.0) Utilizing Deep Learning Recognition Models</i></li> </ul>

	<p><b>Day 1 - Session #7 (Security and Privacy in the Age of AI)</b>  <b>Session Chair: Prof. Mohammad Masud</b>  <b>Room: 1036</b></p> <ul style="list-style-type: none"> <li>• <b>1570958914:</b> <i>Mohammed Alkhyeli, Shaheen Alkhyeli, Khalifa Aldhaferi, Hanane Lamaazi, Secure Chat Room Application Using AES-GCM Encryption and SHA-256.</i></li> <li>• <b>1570946329:</b> <i>Reem AlNuaimi, Fady Alnajjar, Hassan Abdulmouti, PEEP with Cloud Encryption: A Dual-Layered Privacy Solution for Emotion Recognition Systems.</i></li> <li>• <b>1570946347:</b> <i>Saida Hafsa Rafique, Amira Abdallah, Khaled Shuaib, IoT-Facilitated Intimate Partner Abuse.</i></li> <li>• <b>1570957546:</b> <i>Taimur Bakhshi, Bogdan Ghita, Levgeniia Kuzminykh, SAFE: a Standardized Automotive Forensic Engine for Law Enforcement Agencies.</i></li> </ul>
<b>19:00 – 22:00</b>	<b>Gala Dinner, Al Ain</b>

<b>Day 2: Wednesday, November 15, 2023</b>	
<b>Time</b>	<b>Program</b>
<b>08:00 – 12:00</b>	<b>Registration</b>
<b>Morning</b>	
<b>08:00 – 08:30</b>	<b>Light Breakfast</b>
<b>08:30 – 12:15</b> <b>13:45 – 16:00</b>	<b>Students' Poster Session,</b> <i>Exhibition Hall: G023</i>
<b>08:30 – 09:30</b>	<b>Keynote III:</b> Prof. Natalie Mrachacz-Kersting, University of Freiburg <i>Auditorium: G020</i>
<b>11:00 – 11:15</b>	<b>Coffee break</b>
<b>11:15 – 12:15</b>	<b>Keynote IV :</b> Prof. Mohamed Seghier, Khalifa University <i>Auditorium: G020</i>
<b>12:25 – 13:10</b>	<b>Panel discussion (45 minutes):</b> Mr. Alessandro Cremonesi, Prof. Albert Zomaya, Prof. Natalie Mrachacz-Kersting, Prof. Mohamed Seghier, and Dr. Frank Breitinger Moderator: Dr. Belkacem <i>Auditorium: G020</i>
<b>13:15 – 14:30</b>	<b>Lunch</b>

Afternoon	
13:30 – 16:30	<b>Tutorial II:</b> <b>Dr. Frank Breitinge</b> r, University of Lausanne <b>Room: 2022 Lab</b>
13:30 – 14:30	<b>Day 2 - Session #1</b> (Internet of Smart Things) <b>Session Chair: Dr. Munkhjargal Gochoo</b> <b>Room: 1028</b> <ul style="list-style-type: none"> <li>• <b>1570958289:</b> Farman Ullah, Muhammad Jalal Khan, Qizal Arsalan, Javeria Khattak, Uzma Abid Siddiqui, Afsah Abid Siddiqui, IoT Platform for Remote Monitoring and Controlling Small-scale Ventilator for SAR Patient</li> <li>• <b>1570954069:</b> Mohammed Abduljabbar, Munkhjargal Gochoo, Mohamad T. Sultan, Ganzorig Batnasan, MunkhErdene Otgonbold, Jose Berengueres, Fady Alnajjar, Ashika Abdul Rasheed, Ahmed Alshamsi, Naser Alsaedi, A Cloud-Based 3D Digital Twin for Arabic Sign Language Alphabet Using Machine Learning Object Detection Model</li> <li>• <b>1570955252:</b> Irfana Ilyas Jameela Manzil, Ruhul Amin Khalil, and Nasir Saeed, Performance Analysis of LoRa for Internet of Underground Things in Agriculture 4.0</li> </ul> <b>Day 2 - Session #2</b> (Artificial Intelligence in Data Science) <b>Session Chair: Dr. Norziana Jamil</b> <b>Room: 1036</b> <ul style="list-style-type: none"> <li>• <b>1570953977:</b> Noori Memon, Sentence Level Language Identification in Code-mix Gujarati Language with Transformers</li> <li>• <b>1570955130:</b> Nazar Zaki, Harsh Singh, Anusuya Baby Hari Krishnan Krishnan, Aisha Alnaqbi and Shamma Alneyadi, Sara Sulaiman Khalfan Alnaqbi, Sarah Khameis Ejmei Alhindaassi and Muneeba Alam, Afaf Kamal-Eldin, Transfer Learning and Explainable Artificial Intelligence Enhance the Classification of Date Fruit Varieties</li> <li>• <b>1570955795:</b> Sarit Maitra, Vivek Mishra, Goutam Kumar Kundu, Kapil Arora, Integration of Fractional Order Black-Scholes Model with Neural Network</li> </ul> <b>Day 2 - Session #3</b> (Security and Privacy in the Age of AI) <b>Session Chair: Dr. Thangavel Murugan</b> <b>Room: 1027</b> <ul style="list-style-type: none"> <li>• <b>1570954829:</b> Mariam Subaih Alkaabi, Mohammad Mehedy Masud, Fatima Salem Alketbi, Amna Ahmed Abdulla Rashed Alhammadi, Alyazia Abdulla Alkaabi, Meera Mohammed Alblooshi, An Enhanced</li> </ul>

	<p><i>Deepfake Video Detection Technique.</i></p> <ul style="list-style-type: none"> <li>• <b>1570958091:</b> <i>Shama Saif Alalawi, Safa Baalfaqih, Maitha Almeqbaali, Mohammad Mehedy Masud, Social Media Misinformation Propagation and Detection.</i></li> <li>• <b>1570958941:</b> <i>Heba Saleous, Marton Gergely, Khaled Shuaib, Utilization of Artificial Intelligence for Social Media and Gaming Moderation.</i></li> <li>• <b>1570939077:</b> <i>Sayed Ebrahim Hosseini, Effects of Smartphone Application Training on Iranian Elderly's Quality of Life.</i></li> </ul>
<p><b>14:30 – 15:30</b></p>	<p><b>Day 2 - Session #4</b> (Artificial Intelligence in Data Science)  <b>Session Chair: Dr. Yasir Mahmood</b>  <b>Room: 1028</b></p> <ul style="list-style-type: none"> <li>• <b>1570955884:</b> <i>Mahamudul Hasan and Rajia Bashir Rahi; An Multi-threaded Collaborative Filtering Approach in Recommendation System</i></li> <li>• <b>1570958317:</b> <i>Smita Kapoor; Ravi Singh; Deepika Verma; Identifying and Categorizing Spam Messages and Emails via Machine Learning Techniques</i></li> <li>• <b>1570958938:</b> <i>Alia AlNeyadi, Ashwaq AlMarri and Salha AlKuwaiti; Amir Ahmad; A Study of the Effect of Vaccinated Populations on the Prediction Accuracy of the Regression Models for Daily Covid-19 Cases Prediction</i></li> <li>• <b>1570946044:</b> <i>Medha Mohan Ambali Parambil, Amna Mohammed Abdulla Alhammadi, Fady Alnajjar, Zouheir Trabelsi, Luqman Ali and Muhammed Swavaf; Visualizing Student Attention in Smart Classrooms: A Preliminary Study</i></li> </ul> <p><b>Day 2 - Session #5</b> (Artificial Intelligence in Data Science)  <b>Session Chair: Dr. Omar El Harrouss</b>  <b>Room: 1036</b></p> <ul style="list-style-type: none"> <li>• <b>1570953918:</b> <i>Jonayet Miah, Duc M Cao, Ehsanur Rashid Lipu and Fuad Mahmud, Md Abu Sayed Lemon, SM Yasir Arafat, Improving Cardiovascular Disease Prediction Through Comparative Analysis of Machine Learning Models: A Case Study on Myocardial Infarction</i></li> <li>• <b>1570954393:</b> <i>Abdelhadi Hireche, Rafat Damseh, Parikshat Sirpal, Abdelkader Nasreddine Belkacem, EEG-based epileptic seizure pattern decoding using vision transformer</i></li> <li>• <b>1570958014:</b> <i>Heba M. Khater, Abubaker Suliman, Deep Learning-Based ECG Analysis for Myocardial Infarction Detection</i></li> <li>• <b>1570958024:</b> <i>Asadullah Tariq, Heba M. Khater, Farag Sallabi, Mohamed Adel Serhani, Ezedin Barka, Federated-Edge Computing Based Cyber-Physical Systems Framework for Enhanced Diabetes Management</i></li> </ul>

	<p><b>Day 2 - Session #6</b> (Artificial Intelligence in Data Science)  <b>Session Chair: Dr. Norziana Jamil</b>  <b>Room: 1027</b></p> <ul style="list-style-type: none"> <li>• <b>1570958097:</b> Sunil Choenni, Tony Busker, Mortaza S. Bargh, <i>Generating Synthetic Data from Large Language Models</i></li> <li>• <b>1570958332:</b> Ashika Sameem Abdul Rasheed, Mohammad Mehedy Masud, Mohammed Abduljabbar, <i>A Comparative Study of Transformer Based Pretrained AI Models for Content Summarization</i></li> <li>• <b>1570956480:</b> Ngozi Nneke, Keeley Crockett, Huw Lloyd, <i>Quantification of Explainability in Black Box Models using Complexity Measures</i></li> </ul>
<b>15:15 – 15:45</b>	<b>Coffee break</b>
<b>16:00 – 17:00</b>	<b>Closing Ceremony, Auditorium: G020</b>

\* If you have any inquiries, kindly reach out directly to the conference chair, Dr. Abdelkader Nasreddine Belkacem, via email at [belkacem@uaeu.ac.ae](mailto:belkacem@uaeu.ac.ae)



# Innovations

15<sup>th</sup> INTERNATIONAL CONFERENCE ON INNOVATIONS  
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