

# ICICS 2023 Technical Program

The 14th International Conference on Information & Communication Systems

Nov 21<sup>st</sup> – 23<sup>th</sup> 2023, Irbid, Jordan



**Tuesday, Nov 21<sup>st</sup>**

Time	Location	
8:30-9:30	(Front Desk - Salaheddin Auditorium)	Registration
9:30-9:50	Room 1	<p>Conference Opening</p> <ul style="list-style-type: none"> <li>The Royal Anthem of the Hashemite Kingdom of Jordan</li> <li>Recitation from the Holy Quran</li> <li>Welcoming Remarks: Prof. Muneer Bani Yaseein, Dean of CIT, JUST and General Chair, ICICS2023</li> </ul>
9:50-10:50	Room 1	<p>Keynote Speech:</p> <p><b>Unlocking the Power of Large Language Models: Exploring Architectures, Evolving Trends, and Revolutionary Applications</b></p> <p>Prof. Ghaith Abandah Chair: Qanita Bani Baker</p>
10:50-11:20	Salaheddin Auditorium	Coffee Break
11:20-12:40	Room 1	<p>Session 1: <b>AI and Machine Learning (1)</b> Chair: Dana Elrushaidat</p>
12:40-13:40	Just Restaurant	Lunch Break
13:40-16:00	Room 1	<p>Session 2: <b>AI and Machine Learning (2)</b> Chair: Farah Alshanik</p>
13:40-15:40	Room 2	<p>Session 3: <b>AI and Machine Learning (3)</b>  Chair: Luay Alawneh</p>
13:40-16:00	Room 3	<p>Session 4: <b>Data Science and Big Data</b> Chair: Rasha Obeidat</p>
15:45-21:00	<b>@@@ Welcome Dinner -- Trip to Umm Qais @@@</b>	

## The 14th International Conference on Information &amp; Communication Systems

Nov 21<sup>st</sup> – 23<sup>th</sup> 2023, Irbid, JordanWednesday, Nov 22<sup>th</sup>

Time	Location	
9:00-10:00	(Front Desk - Salaheddin Auditorium)	Registration
10:00-12:20	Room 1	<b>Session 1:</b> <b>Natural Language Processing and Applications</b> Chair: Malak Abdullah
10:00-12:20	Room 2	<b>Session 2:</b> <b>Security, privacy, and digital forensics</b> Chair: Omar Al Mousa
12:20-13:20	Just Restaurant	Lunch Break
13:20-16:00	Room 1	<b>Session 3:</b> <b>Health Informatics</b> Chair: Amal Alzubi
13:20-15:00	Room 2	<b>Session 4:</b> <b>Cloud and Fog/Mobile Edge Computing</b> Chair: Husam Qublan
15:00- 16:00	Room 2	<b>Session 5:</b> <b>Communication Systems, electronics, and Signal Processing</b> Chair: Mahmoud Khodeir
13:20- 15:20	Room 3	<b>Session 6:</b> <b>Networking, and Internet of Things (IoT)            Software &amp; web Engineering, and Information Systems</b> Chair: Hamza ALKofahi
18:00-21:00	<b>@@@ Gala Dinner -- Grand Omayya Restaurant, Wasfi Al Tall Street @@@</b>	

Thursday, Nov 23<sup>th</sup> , Friday, Nov 24<sup>th</sup>

**@@@ Trip to Petra and Aqaba for two days @@@ (Paid) consult the front desk**

## Detailed Program

1 <sup>st</sup> DAY	Tuesday, Nov 21 <sup>st</sup>
8:30-9:30	Registration
9:30-9:50	<p style="text-align: center;"><b>Conference Opening</b></p> <ul style="list-style-type: none"> <li>• The Royal Anthem of the Hashemite Kingdom of Jordan</li> <li>• Recitation from the Holy Quran</li> <li>• Welcoming Remarks: Prof. Muneer Bani Yaseein, Dean of CIT, JUST and General Chair, ICICS2023</li> </ul>
9:50-10:50	<p style="text-align: center;"><b>Keynote Speech:</b></p> <p style="text-align: center;"><b>Unlocking the Power of Large Language Models: Exploring Architectures, Evolving Trends, and Revolutionary Applications</b></p> <p style="text-align: center;"><i>Prof. Ghaith Abandah</i></p> <p style="text-align: center;"><b>Chair: Qanita Bani Baker</b></p> <p style="text-align: right;"><b>Room 1</b></p>
10:50-11:20	<p style="text-align: center;"><b>Break</b></p> <p style="text-align: right;"><b>Salaheddin Auditorium</b></p>
11:20-12:40	<p style="text-align: center;"><b>Session 1: AI and Machine Learning (1)</b></p> <p style="text-align: center;"><b>Chair: Dana Elrushaidat</b></p> <p style="text-align: right;"><b>Room 1</b></p>
11:20-11:40	<p><b>2:</b> Prediction of Cryptocurrencies Prices Using Long Short Term Memory and Technical Indicators <b>Omar Al-Qudah*</b>, <b>Hamzah Zureigat</b>, <b>Amer Al-Badarneh</b> and <b>Saleh Abu-Soud</b></p>
11:40-12:00	<p><b>14:</b> Anti-Laundering Approach for Bitcoin Transactions <b>Khalid Alkhatib</b> and <b>Sayel Abualigah*</b></p>
12:00-12:20	<p><b>15:</b> Intelligent Requirements Engineering: Applying Machine Learning for Requirements Classification <b>Moath Shatnawi*</b>, <b>Ahmad Audat</b> and <b>Marah Saraireh</b></p>
12:20-12:40	<p><b>32:</b> Performance comparison between YOLO v4 and Mask R-CNN in detecting potato tubers running on post-harvest conveyors <b>Ighodaro Emwinghare</b> and <b>Ahmad Al-Mallahi*</b></p>
12:40-13:40	<p style="text-align: center;"><b>Lunch Break</b></p>

<b>13:40-16:00</b>	<p align="center"><b>Session 2: AI and Machine Learning (2)</b> Chair: <b>Farah Alshanik</b></p> <p align="right"><b>Room 1</b></p>
13:40-14:00	<b>34:</b> Autonomous Vehicles Trajectory Prediction Approach Using Machine Learning <b>Raed Bani-Hani, Suhaib Aljbour* and Mohammad Shurman</b>
14:00-14:20	<b>51:</b> Detection of Bone Fracture through Deep Learning: To Maintain the Health of Patients <b>Ahed Alkhatib*, Mohamad Alharoun and Areej Alzoubi</b>
14:20-14:40	<b>72:</b> A Deep Learning Approach for Varicocele Detection from Ultrasound Images <b>Omar Alzoubi, Mohammad Abu Awad*, Ayman M. Abdalla, Laaly Samraie, Aya Migdady and Muneer Bani Yassein</b>
14:40-15:00	<b>78:</b> Machine Learning-driven Dynamic Pricing Strategies in E-Commerce <b>Raouya El Youbi*, Fayçal Messaoudi and Manal Loukili</b>
15:00-15:20	<b>83:</b> PEACE: Private and Energy-efficient Algorithm for Cardiac Evaluation on the EDGE using Modified Split Learning and Model Quantization <b>Ahmad Ayad*, Mahdi Barhoush, Johnson Loh, Tobias Gemmeke and Anke Schmeink</b>
15:20-15:40	<b>84:</b> Explainable Artificial Intelligence in Drones: A Brief Review <b>Omar Banimelhem and Baghdad Al-Khateeb*</b>
15:40-16:00	<b>88:</b> Time Series Forecasting Model for E-commerce Store Sales using FB-Prophet <b>Alyaa Bajoudah*, Mohammad Alsaïdi and Ahmad Alhindi</b>
<b>13:40-15:40</b>	<p align="center"><b>Session 3: AI and Machine Learning (3)</b> Chair: <b>Luay Alawneh</b></p> <p align="right"><b>Room 2</b></p>
13:40-14:00	<b>90:</b> New User Engagement Prediction Using Machine Learning Algorithms <b>Malak Abdullah, Kefah Alissa* and Omaimah Alzoubi</b>
14:00-14:20	<b>91:</b> A Comparative Study for Predicting the Product Type based on the Characteristics of the Customer Complaint for Orange Jordan Telecommunication Company <b>Aya Ammous, Yara Alharahasheh, Raneem Qaddoura*, Bassam Kasasbeh and Sinan Kamal</b>
14:20-14:40	<b>92:</b> Using Ensemble Machine Learning Algorithms to Predict the Scrabble Player's Rating <b>Malak Abdullah, Doaa Obeidat * and Heba Nammas</b>
14:40-15:00	<b>95:</b> Comparative Analysis of Deep Learning Models and Preprocessing Techniques for Anomaly Detection in Syslog <b>Katerina Mackova*, Martin Srotyr and Dominik Benk</b>
15:00-15:20	<b>99:</b> Pepper Leaf Diagnosis Using Deep-Net with Low-dimensional Image Classification <b>Lamees Rababa*, Naseem Ali, Rana Alesna and Ahmad Alzu'Bi</b>
15:20-15:40	<b>103:</b> Automatic Disease Diagnosis System Using Deep Q-Network Reinforcement Learning <b>Qanita Bani Baker, Safa Swedat* and Kefah Alesna</b>

<b>13:40-16:00</b>	<b>Session 4: Data Science and Big Data</b> Chair: <b>Rasha Obeidat</b>	<b>Room 3</b>
13:40-14:00	<b>5: Detecting ChatGPT Generated Fake Reviews using Supervised Machine Learning</b> <b>Arwa Bader*, Yazan Suhweil, Doa'A Shaheen, Bushra Alhijawi and Saleh Abu-Soud</b>	
14:00-14:20	<b>7: Testing Lasso Regression and XGBOOST on Crypto-Currency Volatility and Price Prediction</b> <b>Lama Arabiat*, Ghadeer Saleh and Amer Al-Badarneh</b>	
14:20-14:40	<b>13: Analysis of Arabs Publications In the Field of Computer Networks</b> <b>Emran El-Bashabsheh*, Mutaz Younes and Mohammed Shatnawi</b>	
14:40-15:00	<b>23: Generating Fashion Sketches Using Generative Adversarial Networks</b> <b>Amira Al-Samawi*, Shatha Mallak and Rehab Duwairi</b>	
15:00-15:20	<b>24: Graph Clustering based on Frobenius Norm Low-Rank Approximation</b> <b>Esraa Al-Sharoua*</b>	
15:20-15:40	<b>48: Using Adversarial Training in Developing Robust Models for COVID-19 X-Ray Detection</b> <b>Abdallah Odeh*, Ayah Alomar and Shadi Aljawarneh</b>	
15:40-16:00	<b>71: Data Analysis and Classification of the Complaint Case Type for Orange Jordan Telecom Company</b> <b>Sadeen Al Tamimi, Raneem Qaddoura*, Yara Alharahsheh, Bassam Kasasbeh and Sinan Kamal</b>	
<b>15:45-21:00</b>	<b>@@@ Welcome Dinner -- Trip to Umm Qais @@@</b>	

<b>2<sup>nd</sup> DAY</b>	<b>Wednesday, Nov 22<sup>st</sup></b>	
<b>9:00-10:00</b>	<b>Registration</b>	
<b>10:00-12:20</b>	<b>Session 1: Natural Language Processing and Applications</b> Chair: <b>Malak Abdullah</b> <b>Room 1</b>	
10:00-10:20	<b>54:</b> Arabic Paraphrasing Detection Using Multiple Extracted Features <b>Ebtehal Omoush, Abeer Shdefat, Nailah Al-Madi* and Bassam Hammo</b>	
10:20-10:40	<b>67:</b> The Performance of ChatGPT in Emotion Classification <b>Omar Banimelhem and Wlla Amayreh*</b>	
10:40-11:00	<b>69:</b> Towards a Comprehensive Metric for Evaluating Text Simplification Systems <b>Almotasem Bellah Al Ajlouni*, Jinlong Li and Moataz Ajlouni</b>	
11:00-11:20	<b>70:</b> Sentiment Analysis of COV19 Impact on Education and Economy Sectors using Arabic Tweets <b>Omar Alzoubi, Ahmad Alaiaad, Aya Migdady* and Muneer Bani Yassein</b>	
11:20:11:40	<b>97:</b> A Sentiment Analysis Study of Twitter Users' Reactions to the COVID-19 Vaccine <b>Suboh Alkushayni*, Zakaria Alomari and Dua Al-Zaleq</b>	
11:40-12:00	<b>102:</b> Is ChatGPT a Good English to Arabic Machine Translation Tool? <b>Omar Banimelhem and Wlla Amayreh*</b>	
12:00-12:20	<b>105:</b> Arabic News Summarization based on T5 Transformer Approach <b>Qusai Ismail*, Kefah Alissa and Rehab Duwairi</b>	
<b>10:00-12:20</b>	<b>Session 2: Security, privacy, and digital forensics</b> Chair: <b>Omar Al Mousa</b> <b>Room 2</b>	
10:00-10:20	<b>16:</b> Secure Protocols in VANETs: Availability Considerations <b>Mosab Manaseer and Maram Bani Younes*</b>	
10:20-10:40	<b>53:</b> Analysis of TOR Artifacts and Traffic in Windows 11: A Virtual Lab Approach and Dataset Creation <b>Morad Rawashdeh*, Qasem Abu Al-Haija and Malik Qasaimeh</b>	
10:40-11:00	<b>58:</b> Reversed Forward Feature Selection Algorithm for Website Fingerprinting Attacks Mitigation <b>Suhaib Aljbour*, Ahmed Shatnawi and Basheer Al-Duwairi</b>	
11:00-11:20	<b>76:</b> Execution Time Reduction Approach for ML-Based Network Intrusion Detection System <b>Suhaib Aljbour*, Ahmed Shatnawi and Basheer Al-Duwairi</b>	
11:20:11:40	<b>79:</b> Cybersecurity Empirics: Evaluating Machine Learning Techniques for Phishing Detection <b>Samar Hendawi*, Yaser Jararweh, Yazan Zreqat and Shadi Alzubi</b>	
11:40-12:00	<b>87:</b> Utilizing the blockchain technology for higher education in the era of pandemics: A systematic review <b>Feda'A Al-Tawara*, Malik Qasaimeh, Dana Jarad and Raad S. Al-Qassas</b>	
12:00-12:20	<b>107:</b> Comparative Evaluation of Machine Learning-Based Controller Area Network IDS <b>Omar Al-Jarrah*, Omar Ramadan, Baha Alsaify and Suboh Alkushayni</b>	

<b>12:20-13:20</b>	<b>Lunch Break</b>	
<b>13:20-16:00</b>	<b>Session 3: Health Informatics</b> Chair: <b>Amal Alzubi</b>	
	<b>Room 1</b>	
13:20-13:40	<b>8:</b> Using Machine Learning Algorithms for Predicting Stroke Disease <b>Safaa Alyasein*, Romaisaa Alqaran and Ahmad Al-Aiad</b>	
13:40-14:00	<b>37:</b> Lung Cancer Detection Using Deep Learning and Explainable Methods <b>Ayah Alomar*, Moayed Alazzam, Hala Mustafa and Ahmad Mustafa</b>	
14:00-14:20	<b>38:</b> Brain Tumor Detection Using Deep Learning <b>Romaisaa Alqaran*, Safaa Alyasein and Ahmad Mustafa</b>	
14:20-14:40	<b>65:</b> From Farm to Algorithms: AI-Infused Aquaculture & Natural Antidotes as a Game-Changer in Disease Mitigation <b>Heider Wahsheh and Mohammad Wahsha*</b>	
14:40-15:00	<b>73:</b> Ovarian Cancer Detection in CT Scan Images Using Transfer Learning <b>Mohammad Abu Awad*, Laaly Samraie, Ayman M. Abdalla, Omar Alzoubi, Aya Migdady and Muneer Bani Yassein</b>	
15:00-15:20	<b>89:</b> A Virtual Reality Educational Tool for Complex Brain Anatomy <b>Shaikhah Alhmoudi, Sumyah Alkatheri, Shamma Alghafri, Abdel Rahman Idrais and Rafat Damseh*</b>	
15:20-15:40	<b>93:</b> Utilizing Machine Learning techniques to predict adverse reactions to COVID-19 vaccines in individuals with allergies <b>Saja Nakhleh*, Rama Irsheidat, Raneem Mahmoud Alruosan and Hassan Najadat</b>	
15:40-16:00	<b>104:</b> Assessing the Effectiveness of COVID-19/SARS CoV 2 Vaccinations in Terms of Mortality Rates <b>Tariq Sha'Ban*, Hamzeh Hailat, Awes Nawafleh and Hassan Najadat</b>	
<b>13:20-15:00</b>	<b>Session 4: Cloud and Fog/Mobile Edge Computing</b> Chair: <b>Husam Qublan</b>	
	<b>Room 2</b>	
13:20-13:40	<b>20:</b> Effective Task Scheduling in Critical Fog Applications Using Critical Task Indexing (CTIS) <b>Imran Taj*, Asad Khattak and Bashir Hayat</b>	
13:40-14:00	<b>21:</b> Cooperative Resource Sharing Between Agents in Multi-Distributed Fog Nodes <b>Anfal Malkawi* and Mohammad Shurman</b>	
14:00-14:20	<b>22:</b> Task Offloading Scheduling in Fog Computing Using Hybrid Genetic Algorithm <b>Samaa Aleteemat* and Mohammad Shurman</b>	
14:20-14:40	<b>42:</b> Optimizing Cloud Energy Consumption Using Static Task Scheduling Algorithms: A Comparative Study <b>Abdelhamid Khiat*</b>	
14:40-15:00	<b>44:</b> Mean and Maximum Task Waiting Times of Edge-Enabled Fair Scheduling in Smart Cities <b>Mohammad Banat and Mahmoud Al-Qudah*</b>	
<b>15:00-16:00</b>	<b>Session 5: Communication Systems, electronics, and Signal Processing</b> Chair: <b>Mahmoud Khodeir</b>	
	<b>Room 2</b>	

15:00-15:20	<b>61:</b> The Performance of Millimeter-Wave Over FSO Communication Systems Under Adverse Atmospheric Conditions for 6G Applications <b>Aseel M. Rwaiidi, Aser M Matarneh and Saqer S. Alja'afreh*</b>
15:20-15:40	<b>86:</b> Robust and Low-Computational Cost Eye Tracking System Using a Generic Webcam <b>Moataz Ajlouni*, Areen Al-Bashir, Waed Al-Shrida and Almotasem Bellah Al Ajlouni</b>
15:40-16:00	<b>96:</b> Optimized DC-DC Boost Converter with Inverted Gamma Filter Based on Genetic Algorithm <b>Salahaldeen Alzoubi* and Awos Kanan</b>
<b>13:20- 15:20</b>	<p style="text-align: center;"><b>Session 6:</b></p> <ul style="list-style-type: none"> <li>• <b>Networking, and Internet of Things (IoT)</b></li> <li>• <b>Software &amp; web Engineering, and Information Systems</b></li> </ul> <p style="text-align: center;">Chair: <b>Hamza ALKofahi</b></p> <p style="text-align: right;"><b>Room 3</b></p>
13:20-13:40	<b>47:</b> Machine Learning-Enhanced Microfluidic SIW Sensor for Water-in-Fuel Detection Applications <b>Amjaad Altakhaineh and Saqer Alja'afreh*</b>
13:40-14:00	<b>12:</b> Adaptive Smart Cities in Pandemics and Natural Disasters <b>Mohammad Banat and Anas Saeed*</b>
14:00-14:20	<b>52:</b> IOECCH: Improved Optimized Energy-Efficient Connected Coverage Heuristic Algorithm in WSNs <b>Doaa Qawasmeh* and Omar Banimelhem</b>
14:20-14:40	<b>100:</b> Design and FPGA Implementation of the Henon Chaotic Map for Image Encryption <b>Eyad Taqieddin, Dheya Mustafa*, Ahmed Shatnawi, Osama Al-Khaleel and Christos Papachristou</b>
14:40-15:00	<b>74:</b> Predicting Bug Severity Using Machine Learning and Ensemble Learning Techniques <b>Sujood Hamouri, Raed A. Shatnawi, Omar Alzoubi, Aya Migdady* and Muneer Bani Yassein</b>
15:00-15:20	<b>85:</b> Application of Natural Language Processing Techniques in Agile Software Project Management: A Survey <b>Remah Younisse* and Mohammad Azzeh</b>
<b>18:00-21:00</b>	<b>@@@ Gala Dinner -- Grand Omayya Restaurant, Wasfi Al Tall Street @@@</b>

Thursday, Nov 23<sup>th</sup>, Friday, Nov 24<sup>th</sup>

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