ACIT'2024

UBT
جامعة الأعمال و التكنولوجيا
UNIVERSITY OF BUSINESS AND TECHNOLOGY

IEEE

25th International Arab Conference on Information Technology
Zarqa University, Jordan, December 10-12, 2024

ACIT24: CONFERENCE PROGRAM

Conference Day 1 Tuesday 10-12-2024	

08:00-10:00	**Registration** (Conference Hall)
10:00-10:45	**Opening Ceremony** (Conference Hall)
10:45-11:30	**Coffee Break** (Presidential Building Lobby)
11:30-12:30	**Plenary 1** (Conference Hall) **Keynote Speaker:** Prof. Reda Alhaj, School of Computing, University of Galgary, Canada.
12:30-14:00	**4 Parallel Sessions:** • **Session-1.1:** Computer Networks (A128 (IT Hall)) Chair: Dr. Qassem Al-Radaideh Co-Chair: Fatima Haymor - 46: Improving WebRTC Quality-of-Service Using SDN and a Load Balancing Strategy. (Monji Kherallah) - 140: State of the Art in Auto Electrification. (Adnan Shaot) - 190: Fractional Fourier Transform-Based OFDM System with low complexity equalizer for Underwater Acoustic Communications. (Hani Attar) - 191: Simulating a Finite State Markov Chain for Rayleigh Block Fading Channel based on its Mathematical Model and Practical Representation. (Hani Attar) - 192: Enhancing Wireless Communication with Compact SIW Resonator-based UWB Fork Monopole Antenna. (Hani Attar) - 203: Real-Time VPN Anomaly Detection System. (Amneh Alamleh) - 224: A Comprehensive Review of VANET Attacks Predictive Models Vulnerability Management and Defense Selection. (Abeer Al-Mohtaseb) - 230: Real-time vehicle detection and classification using deep-transfer learning. (Kenza Bengoud)

• **Session-1.2**: AI and Image Processing (Lib-104)
Chair: Dr. Osama Badawi
Co-Chair: Isra'Abu ALSauod

- 102: Evaluation of Three Different Operators for Object Highlighting in Medical RGB Images Canny Roberts and Log in Independent Color Spaces. (Jafar Ababneh)
- 124: Facial Recognition Utilizing the CLM Model and Supervised Machine Learning a Comparative Analysis. (Musab Iqtait)
- 159: Filling the Gaps: A Comprehensive Review of Image Inpainting. (Tuqa Saleem)
- 171: Intelligent System for Classifying of Acoustic Endoscopic Images of the Pancreas Based the Analysis of Walsh Spectra of Local Windows. (Ashraf Shaqadan)
- 182: Leveraging Knowledge Distillation in Vision Transformers for Binary Classification of Kidney Tumors from CT Radiography Images. (Monji Kherallah)
- 196: From Monochrome to Technicolor: A Comprehensive Review of Video Colorization. (Zahoor M. Aydam)
- 231: Criteria-based Unsupervised Feature Selection Techniques: A Comparative Study Over Chest CT Scan. (Shrouq AL-Daajah)

• **Session-1.3**: Natural Language Processing (Libl-106)
Chair: Dr. Mohammad Al-Bitar
Co-Chair: Ula Nassr

- 32: Correlation-Driven Feature Selection and Penalty-Enhanced Autoencoder for Dimensionality Reduction. (Bilal Mokhtari)
- 202: A Comparative Evaluation of Retrieval-Augmented Generation for Arabic Documents. (Bassam Mohd)
- 233: Enhanced Arabic Feature Selection using an Improved Whale Optimization Algorithm. (Hadni Meryeme)
- 237: Detecting Spam and Malware Using BERT and LLMs. (Shahad Al-Tamimi)
- 245: Unveiling Deception: Different Strategies for Combatting Arabic Fake News. (Nada Khattab)
- 260: Semantic Textual Similarity (STS) in Arabic using Lexical-Semantic Analysis. (Nedhal A.Al-saiyd, Intisar A. Al-saiyd)
- 287: A Review study on Utilizing Deep Learning in Arabic Text Classification. (Qutaibah Althebyan)

	• **Session-1.4**: IT in Education, e-Learning, and Health Care (A239 (Arts Hall)) Chair: Dr. Ahmad Dalalah Co-Chair: Muna AL-Qawaqneh - 13: Classifying Psychiatric Patients Using Machine Learning. (Waleed Amer) - 14: Diabetes Prediction Using Machine Learning Techniques: A Case Study from Jordan. (Deana Al-Omari) - 87: Escape Rooms and E-Learning Unite for Smart Cities Education Entertainment. (Raghad Tawafak) - 119: Predicting Students' Performance using Machine Learning Classifiers. (Gheed AlSalem) - 164: Retinal Blood Vessels Segmentation Using Classical Edge Detection Filters and the Watershed. (Huda Dhari) - 209: Evaluating the Impact of Multi-Layer Data on Machine Learning Classifiers for Predicting Student Academic Performance. (Mohammad AlShaikh hasan) - 289: Exploring Digital Twins in Higher Education: Redefining Educational Technology in Jordanian Universities. (Mohammad AL-Abdallat) - 269: Sustainability in Three Dimensions. (Aktham Alarabi)
14:00-15:00	**Lunch Break**
15:00-16:30	**4 Parallel Sessions** • **Session-1.5**: Embedded Systems, IoT, and security (A128 (IT Hall)) Chair: Dr. Hani Harb Co-Chair: Amira Al-doghmi - 7: Hardware Embedded Fingerprinting Based on Electric Noise. (Adnan Shaout) - 10: Proactive Insider Threat Detection Using Facial and Behavioral Biometrics. (Ayoub AL-Sarhan) - 18: An Intelligent Embedded Alcohol Detection System for Drivers. (Adnan Shaout) - 31: Theft Alarm and Notification System for Medical Applications. (Adnan Shaout) - 57: VSK A Tripartite Development Model based on the V-Model the Scrum and the Kanban Methodologies. (Adnan Shaout) - 75: IoT security based on lightweight cryptographic (LWC) algorithms: A survey. (Mohammad AL-Mousa) - 116: A Multi-Rounds Lightweight Cryptography Method for Internet of Things Devices. (Mohammad Al-Mousa) - 201: Security Risk Assessment of Humanoid Robotics: DARWIN-OP2 as Case Study. (Bassam Mohd)

• Session-1.6: Cyber Security (Lib-104)

Chair: Dr. Mohammad Jaidi

Co-Chair: Ala'a AL-Dhathim

- 22: Machine Learning as the Shield: Mitigating ARP Poisoning Attacks in - Software Defined Networks. (Rabee Alquran)
- 69: Harnessing ML and NLP for Enhanced Cybersecurity: A Comprehensive Approach for Phishing Email Detection. (Rabee Alquran)
- 79: An Overview of Tools and Techniques in Network Forensics. (hasan Al-Dweikat)
- 81: Main Confidentiality Challenges in Network Security: A Literature Review. (Waleed Amer)
- 195: Enhancing Printed Document Security with QR Code-Based Digital Signatures. (Jehad Nasereddin)
- 204: AI-enabled Metaheuristic Optimization to Prevent Selfish Mining Attacks in the Blockchain Mining Process. (Osama Badawy)
- 211: A Blockchain-Based Framework for Efficient and Secure E-Certification Sharing and Verification. (Suhail Odeh)
- 217: Comparative Steganography Study for Different Types of Digital Images. (Yusra ALNajjar)

• Session-1.7: Machine Learning Applications (1) (Lib-106)

Chair: Dr. Sattam Al-Matarneh

Co-Chair: Deana AL-Omari

- 15: Heart Prediction Using Machine Learning Techniques: A Case Study from Jordan. (Esraa Abu Elsoud)
- 16: Classification of Sleep-Related Disorders Using Machine Learning Techniques. (Ola Nasir)
- 24: Utilization of Machine Learning in Breast Cancer Detection. (Nidal Yosuf)
- 35: Application of Machine Learning in Mental Diseases Diagnosis. (Rahaf Alsawi)
- 103: Automated Detection of Alzheimer Disease Using EfficientNet-B3 Architecture with Transfer Learning (Ahmad Aburomman)
- 174: Innovative Machine Learning Solutions for Automated Kidney Tumor Detection in CT Imaging Through Comparative Analysis. (Saleh Oqili)
- 271: Enhancing Convergence Efficiency in Federated Learning Models. (Ala' Elhilo)

	• **Session-1.8:** IT and Engineering (A239 (Arts Hall))
	 Chair: Dr. Thiab Taha
	 Co-Chair: Ahad Izzat
	   - 30: Controlling DC Motor Speed with FoPID-Controllers. (Rania Saadeh)
	   - 52: Carbon Dioxide Emission Forecasting using Machine Learning and Time Series Statistical Models. (Khalid Mansour)
	   - 95: An Empirical Study on Measuring the Impact of Code Smells on Web Applications. (Hamed Fawareh)
	   - 106: Intelligent Farm Irrigation and Safety System. (Adnan Al-Smadi)
	   - 129: Research into the accuracy of complex sensorimotor responses of operators to joystick-run technological equipment. (Ilya Tanryverdiev)
	   - 177: Feature Selection for Geomagnetic Storm Forecasting Using Particle Swarm Optimization. (Jafar Ababneh)
	   - 212: Analyzing Chaotic Jerk System with Hyperbolic Sine: a new algorithm for Engineering Applications. (Ahmed Qazza)

15:00-16:00	**CCIS General Committee Meeting** (Presidential Building - Meeting Hall)

Conference Day 2   Wednesday 11-12-2024

09:30-10:30	**Plenary 2** (Conference Hall). **Keynote Speaker:** Prof. Alaa Sheta, Southern Connecticut State University Computer Science Department in New Haven, CT, USA.
10:30-11:00	**Coffee Break** (Presidential Building Lobby).

11:00-12:30	**4 Parallel Sessions:**
	 • **Session-2.1:** IT in Business and Health Care (A128 (IT Hall))
	 Chair: Dr. Raed Al-Azaideh
	 Co-Chair: Fatima Haymor
	   - 147: A Proposed Approach for Risk Planning and Management. (Mohammed Alrefai)
	   - 173: The Impact of Artificial Intelligence Tools on the Quality of Financial Reports in Service Companies. (Abdul Razzak ALSehadeh)
	   - 234: Evolutionary Insulin Management: A Digital Health Solutions for Type 1 Diabetes Support. (Randa Salman)
	   - 276: Blockchain Role in Emerging Markets. (Ahmad Bani Ahmad).
	   - 278: From Insights to Impact. (Mahmoud Allahham)
	   - 279: From Interaction to Action. (Mahmoud Allahham)
	   - 280: Smart Logistics Services. (Wasef Almajali)
	   - 282: Supply Chain Innovation on Acceleration Decision Making. (Samar Sabra)

• **Session-2.2**: AI and Optimization (Lib-104)
Chair: Dr. Alaa' Al-Shaikh
Co-Chair: Hanadi Bani Hamad

- 34: Multi Label Classification Based on Ensemble Learning: Investigave Study. (ola Nasir)
- 84: Multi Label Classification Algorithm Based on Conditional Local Correlations among Labels and Ensemble Learning. (Raed Alazaideh)
- 131: Optimizing Exit Selection in Dense Crowds: A Probabilistic Model with Dynamic Counting Areas. (Omar Alidmat)
- 232: Evaluation of Chest Ct-Scan Anomaly Detection Models Using Principal Component Analysis (PCA). (Alaa AL-Yabroudi)
- 210: Energy-Efficient Parallel Approach for Cloud Service Broker Scheduling. (Hebatullah Khattab)
- 112: Offline signature verification using lightweight deep learning. (Fatima Al-hadidi)

• **Session-2.3**: Blockchain (Lib-106)
Chair: Dr. Mohammad AL-Mousa
Co-Chair: Muna Alqawaqneh

- 114: Cloud Security: Analyzing Threats and Challenges. (Sultan Albilasi)
- 161: The power of Network penetration testing. (Loai Attiany)
- 183: Usage of Blockchain Technology for Improving Computer Security. (Adai AL-Momani)
- 250: Leveraging Blockchain for Ethical Sourcing and Sustainability in Supply Chains: A Systematic Review. (Hatem Mosa)
- 132: Enhanced Dynamic Parameter Model for Efficient Multi-Exit Crowd Evacuation in Asymmetrical Layouts. (Omar Alidmat)
- 148: Bridging Machine Learning and Formal Concept Analysis for Effective Crowd Detection. (Karim A. Al-Oraiqat)
- 254: Fingerprint Authentication Method using Two Steps Verification Algorithm. (Jafar Ababneh)

	• **Session-2.4**: Software Engineering (A239 (Arts Hall)) Chair: Dr. Ahmad Samhan Co-Chair: Alaa Asa'ad - 12: Prediction of Hypertension Disease Using Machine Learning Techniques: Case Study from Jordan. (Anwar Katrawi) - 86: Towards Combining Model Driven Engineering and Software Product Line Engineering Based on Variability. (Mohamed Salah Benselim) - 105: Software Code De-Compilation Techniques and Approaches: A Comparative Study. (Hamed Fawareh) - 128: A Comparative Study between Agile and Waterfall Methodologies During Software Development Process. (Hamed Fawareh) - 138: Investigates the Impact of AI-generated Code Tools on Software Readability Code Quality Factor. (Hazem AL-Shaifat) - 236: Ethical Considerations in AI-Driven HCI Systems in Software Engineering. (Hamzeh Aljawawdeh) - 247: A Comparative Analysis of Goal-Oriented Requirements Engineering and Model-Based Systems Engineering Frameworks for Managing Requirements of Systems of Systems. (Suhair AlHaj Hassan) - 267: A Review of AI-Assisted Impact Analysis for Software Requirements Change. (Suhair AlHaj Hassan)
11:00-12:30	**ACIT Steering Committee Meeting** (Presidential Building - Meeting Hall)
12:30-14:00	**4 Parallel Sessions:** • **Session-2.5**: High-Performance Computing (A128 (IT Hall)) Chair: Dr. Ahmad Al-Qerm Co-Chair: Shrouq AL-Daajah - 60: Application of Big Data Analytics in Hashemite Kingdom of Jordan: Perspectives on the Mobile Telecommunications Industry. (Hazem Badarneh) - 93: Tiny Bootloader. (Adnan Shaout) - 118: (VR) Applying Extended Reality Technology in Teaching New Languages A Study from Academics Perspective in Australian Universities. (Noura Tegoan) - 143: Maximize Leader Election Algorithm Performance in Bi-Directional Ring Networks With Both Links Down Between Two Nodes. (Mohammed Alrefai) - 162: Advanced Machine Learning Models for Real-Time Drone and Bird Differentiation in Aerial Surveillance Systems. (Mowafaq AL-Zboon) - 239: Heavy-Tailed Distributions: Their Impact on Noncontiguous Allocation and Job Scheduling in 2D Mesh NoCs. (Batool Alzyod)

	• **Session-2.6:** IT in Law and Legal Issues (Lib-104)
	Chair: Dr. Nidal Yousef
	Co-Chair: Isra'Abu ALSauod
	  - 76: Using Artificial Intelligence Techniques in Law Enforcement: A Survey. (Esam AL-Nsour)
	  - 85: Breaking Bad: Ranking Bots Malevolence in Twitter. (Noor Abu-el-rub)
	  - 113: Digital Evidence and Forensic Tools in Cyber Law: A Comprehensive Analysis. (Samah Al-Zou'bi)
	  - 134: The Values of Digital Citizenship Among Social Media Users in Jordan: A Case Study of Facebook. (Luma Abdul Razzak)
	  - 216: Guidelines to Develop a Cybersecurity Policy in Schools: Perspectives Informed from Jordanian Cybercrime Law. (Ahmad Ghandour)
	  - 277: Building Trust : The Role of Strategic Decision-Making in Digital Market Confidence. (Ahmad Ayasrah)

12:30-14:00	• **Session-2.7:** Deep Learning applications (Lib-106)
	Chair: Dr. Israa AL-hinawi
	Co-Chair: Deana AL-Omari
	  - 38: Enhanced accuracy of deep learning method for fruit classification. (Ahmad Aburomman)
	  - 49: Deep Learning content-based search in media files. (Leila Benarous)
	  - 137: Deepfake Video Detection: Analysis for Deep Learning models using Transfer Learning. (Shahad Al-Tamimi)
	  - 167: Review of Challenges of Using Generative AI Applications in Electronic Commerce (Mostafa Al-Shaikh)
	  - 207: Diabetic Retinopathy Detection and Classification Using Deep-wavelet and multiple classifiers. (Huda Dhari)
	  - 272: Unveiling Android Malware: A Deep Learning Perspective Using RNN and LSTM. (Ali Abu Zaid)
	  - 223: Deep Learning Approaches for Malware Detection in the Industrial Internet of Things: A Comprehensive Analysis. (Abeer Al-Mohtaseb)

	• **Session-2**.8: Machine Learning Applications(2) (A239 (Arts Hall)) Chair: Dr. Nabil AL-Milli Co-Chair: Alaa AL-Yabroudi - 135: Machine Learning in Higher Education: Predicting and Mitigating Student Dropout at Ajman University. (Mohammed AlBetar) - 176: Automatic Diagnosis of Sarcoidosis Stage Using Machine Learning Algorithms. (Jafar Ababneh) - 194: multiclass classification algorithm for ocular diseases classification using machine learning techniques. (Mennatallah Sherif) - 242: Advancing Stroke Prediction: Explainable Machine Learning Models and Data Augmentation Strategies. (Rahma Abu Salma) - 244: Detection of Thyroid Disease Through Machine Learning Technique. (Mutaz AlMomani) - 261: Machine Learning Approaches for Early Detection of Heart Diseases. (Hanadi Bani Hamad) - 288: Solar Panel Soiling Classification Using Machine Learning Algorithms. (Ala' Khalifeh)
14:**30**	**Gala Lunch**

Conference Day 3   Thursday 12-12-2024

Leaving at 09:30	**Trip to the Dead Sea**

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ACIT24: CONFERENCE PROGRAM – Online Sessions

Conference Day 1   Tuesday 10-12-2024

11:30-13:30	**Session-A:** Chair: Dr. Hani Omar Co-Chair: Dr. Qutada Al-Jawazneh - 2: Explainable AI for Epileptic Seizure Prediction: A SHAPE and LIME Approach. (Sohag Mondal) - 3: Transformer-based Text Classification on Unified Bangla Multi-class Emotion Corpus. (Md Sakib Ullah Sourav) - 4: Continuous Wavelet Transform Spectral Image-Based Epileptic Episode Classification. (Md Nuhi Alamin) - 11: Securing the Internet of Vehicles IoV Communications: A Biometric and Hash-Key Derivation Function HKDF-Based Approach. (Hanay Almomani) - 25: A Novel Electrocardiogram Denoising Approach based on convex fused-Lasso Denoising with Non-Convex Regularization and WATV. (Brahim Nasraoui) - 54: Future IoT sensing: Silvaco simulation of graphene-gated p-i-n photosensor on SOI for blue and ultraviolet light. (Shonak Bansal) - 63: Hybrid ResNet-ViT Model for Lung Cancer Classification from Histopathology Images. (Naglaa noaman) - 91: Two-Stage Dynamic Cooperative Evolution Algorithm for Constrained Multi-objective Optimization. (Jie Chen) - 108: An Adaptive Two-Stage MOEAD for Solving Constrained Multi-Objective Problem. (Hangyu Fan) - 45: Hybrid Diabetes Mellitus Prediction Modeling and Analysis Using Machine Learning Techniques. (Salim Khiat)

Online Session A Link: https://bit.ly/3B4IWEK

14:00-16:00	**Session-B:** Chair: Dr. Ahmad AlSmadi Co-Chair: Shorouq Al-Daajah - 39: Design and Simulation of a Network Infrastructure for a Multi-Branch Organization Using Cisco Packet Tracer. (Issa Al-Aiash) - 65: COVID-19 Infection Detection in X-Ray Images Using Enhanced Image Segmentation and Machine Learning Models. (Rabia Al Mamlook) - 89: Unraveling the Safe Harbor A Crucial Balance between Liability and Expression in Social Media Networks. (Shuq Hussein) - 90: Legal Aspects Public Interest and Legitimate Interest in Processing Personal Data to Operate Autonomous Car. (Shuq Hussein) - 120: Big Data Potentials to Reduce Uncertainty in Strategic Decision-Making Process. (Zina Houhamdi) - 144: Optoelectronic Characteristics of Bilayer Graphene ZnO Nanowire Heterojunction UV photodetector for IoT Applications A Simulation Study. (Shonak Bansal) - 155: A Data-Driven Approach Towards Software Regression Testing Quality Optimization. (Abdallah Moubayed) - 157: Optimizing One-Stage Object Detection for URLLC: A Two-Stage Pipeline with Oculi SPU. (Abdallah Moubayed) - 158: A Comparative Study of Gaze Estimation Models. (Abdallah Moubayed) - 227: Efficient Road Status Monitoring in Vehicular Ad-Hoc Networks: An Optimization Framework. (Hussain Turki)

Online Session B Link: https://bit.ly/4g3AXqi

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Conference Day 2	**Wednesday 11-12-2024**

10:00-12:00	**Session-C:**
	Chair: Dr. Hani Omar
	Co-Chair: Dr. Qutada Al-Jawazneh
	- 166: Decision Support in Goal-Oriented Requirements Engineering. (Zina Houhamdi)
	- 175: Civil Liability of The Data Controller For Data Storage: A General Perspective In Light of The UAE Personal Data Protection Law. (Mustafa kndeel)
	- 206: TKG-RAG: A Retrieval-Augmented Generation Framework with Text-chunk Knowledge Graph. (Wei Xiao)
	- 213: A Sensitive Analysis for Teacher Burnout Identification using Machine Learning Method: Jordan Case Study. (Khaleel AL-Gohany)
	- 215: Smart Contract Security Vulnerability Through The NIST Cybersecurity Framework 2.0 Perspective. (Charles Gomarga)
	- 219: Enhanced Support Vectors-based Oversampling Method. (Thabit Sabbah)
	- 238: Enhancing Skin Cancer Detection Across Skin Tones with Style Transfer Augmentation. (Neil Patel)
	- 246: Automating the Diagnosis of Cucumber Plant Diseases Using Machine Learning. (Ahmad Bani Mustafa)
	- 255: Investigating Principle Component Analysis Impact on the Performance of Machine Learning Classifiers: A Health Informatics Application. (Ahmad Bani Mustafa)
	- 153: Two-Stage Archive Evolutionary Algorithm for Multimodal MultiObjective Optimization. (Zhengwei Qiao)
	- 198: A MOEAD Framework Based on Memory Differential Cooperation Mechanism for Dynamic Multiobjective Optimization. (Shaohuo Gao)

Online Session C Link: https://bit.ly/4gcFbf4

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12:00-14:00	**Session-D:** Chair: Dr. Ahmad AlSmadi Co-Chair: Ola Naser - 152: Impact of User Innovativeness on Metaverse Adoption. (Said Salloum) - 268: Navigating Artificial Intelligence in Strategic Management in Schools and Organizations. (Abdulrasheed Olowoselu) - 273: The Ethical Considerations of Using Artificial Intelligence. (Abdellateef Alqwasmi) - 275: Student Teachers' Attitudes Towards the Use of ChatGPT in Teaching. (dima farhat) - 281: Social Media Transparency. (Musab Hijazi) - 283: ESG Risk Management Sustainability Oriented Firms. (Mohamed elmoghrabi) - 284: Using Monte Carlo Simulation for Real Estate Price Valuation. (Shorouq Eletter) - 285: Building Trustworthy AI systems. (Yazzan Alahmed) - 286: Exploring Healthcare. (Eman Zaaitoun) - 27: Adaptive Parameter Tuning with Double Layer Genetic Algorithm for Solving TSP. (Qingxi Chen)

Online Session D Link: https://bit.ly/3CTPvue