[Conference](#) »Program

2020 International Conference on Innovation and Intelligence for Informatics, Computing and Technologies (3ICT) Program

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Time   **Elsewhere**

Sunday, December 20

12:00-12:05	**OC-1:** *Opening Ceremony*
12:05-12:10	**OC-2:** *Quran Recitation By*
12:10-12:20	**OC-3:** *Talk by His Excellency President of the University of Bahrain*
12:20-12:40	**K-1:** *Keynote Speech -1: "Innovation toward digital payment"*
12:40-12:50	**OC-4:** *Presentation for accepted paper statics by Dean of IT College*
12:50-13:00	**Keynote-2:** *The role of 5G in a post-pandemic economy*
13:00-13:20	**B-1:** *Break 1*
13:20-13:50	**KS-3:** *Keynote Speaker-3: "Artificial Intelligence in Cloud Computing and Internet-of-Things"*
13:50-14:20	**KS-4:** *Keynote Speaker-4: From Cloud to Fog Computing Scheduling Real-Time Applications*
14:20-15:20	**LB::** *Lunch Break Day-1*
15:20-16:40	**S1-A:** *Machine Learning in Finance*,
	S1-B: *Convolutional Neural Network-1*,
	S1-C: *Smart Cities*,
16:40-17:00	**S1-D:** *E-Learning; Multimedia; Educational Technology*,
	S1-E: *Informatics-1*
17:00-17:30	**P:** *Prayer*
17:30-18:50	**S2-A:** *Machine Learning for Big Data Analytics*,
	S2-B: *Convolutional Neural Network-2*,
	S2-C: *Cyber Security-1*,
18:50-19:10	**S2-D:** *Software Engineering*,
	S2-E: *Informatics -2*
19:10-19:30	**B2:** *Break 2*
19:30-20:00	**VT:** *Virtual Tour to Bahrain*

Monday, December 21

12:00-12:50	PD -:	*Panel Discussion: "Women in Tech"*
12:50-13:20	B3:	*Break 3*
13:20-15:00	S3-A:	*Internet of Things,*
	S3-B:	*Cloud Computing & Machine Learning,*
	S3-C:	*Telecommunication and Networking,*
	S3-D:	*Robotics, Computer Vision, and HCI*
15:00-16:00	LB-2:	*Lunch Break Day-2*
16:00-16:30	KS-5:	*Keynote Speaker-5: Preserving Data/Query Privacy Using Searchable Symmetric Encryption*
16:30-17:00	KS-6:	*Keynote Speaker-6: Network Automation: Challenges and Opportunities*
17:00-17:30	P:	*Prayer*
17:30-19:10	S4-A:	*Cyber Security & Machine Learning,*
	S4-B:	*Wireless Sensor Network,*
	S4-C:	*Blockchain & Cyber Security-2,*
	S4-D:	*Deep & Machine Learning*
19:10-19:30	CS:	*Closing Session*

Sunday, December 20

Sunday, December 20 12:00 - 12:05 (Asia/Bahrain)

OC-1: Opening Ceremony ↑

     Chair: Faisal Hammad

Sunday, December 20 12:05 - 12:10 (Asia/Bahrain)

OC-2: Quran Recitation By ↑

Dr. Ahmed Zeki

     Chair: Faisal Hammad

Sunday, December 20 12:10 - 12:20 (Asia/Bahrain)

OC-3: Talk by His Excellency President of the University of Bahrain ↑

Prof. Riyad Hamzah

     Chair: Faisal Hammad

Sunday, December 20 12:20 - 12:40 (Asia/Bahrain)

K-1: Keynote Speech -1: "Innovation toward digital payment" ↑

Mr. Abdulwahed Janahi, Chief Executive, The Benefit Company

     Chair: Faisal Hammad

Sunday, December 20 12:40 - 12:50 (Asia/Bahrain)

OC-4: Presentation for accepted paper statics by Dean of IT College ↑

Dr. Lamya Al jasmi

     Chair: Faisal Hammad

Sunday, December 20 12:50 - 13:00 (Asia/Bahrain)

Keynote-2: The role of 5G in a post-pandemic economy ↑

Mr. Anas Shahadi

     Chair: Faisal Hammad

Characteristics and the promise of 5G technology; Macroeconomic benefits of 5G; 5G Value Chain and stakeholders : Education institutes importance in preparing next wave economy development talents; Potential Use cases contribution on UN sustainable development goals (SDGs). Stakeholders shall align and cooperate to fully realize the socio-economic value that 5G can deliver through its defining key features and to unlock various use cases across multiple industry sectors, using the 5G Ecosystem Cycle as a framework by defining key actions that stakeholders can take to contribute to the successful deployment of 5G.

Sunday, December 20 13:00 - 13:20 (Asia/Bahrain)

B-1: Break 1 ↑

Sunday, December 20 13:20 - 13:50 (Asia/Bahrain)

KS-3: Keynote Speaker-3: "Artificial Intelligence in Cloud Computing and Internet-of-Things" ↑

Prof. Vincenzo Piuri - Professor at the Università degli Studi di Milano, Italy

Chair: Noora Alghatam

Recent years have seen a growing interest among users in the migration of their applications to the Cloud computing and Internet-of-Things environments. However, due to high complexity, Cloud-based and Internet-of-Things infrastructures need advanced components for supporting applications and advanced management techniques for increasing the efficiency. Adaptivity and autonomous learning abilities become extremely useful to support configuration and dynamic adaptation of these infrastructures to the changing needs of the users as well as to create adaptable applications. This self-adaptation ability is increasingly essential especially for non expert managers as well as for application designers and developers with limited competences in tools for achieving this ability. Artificial intelligence is a set of techniques which greatly can improve both the creation of applications and the management of these infrastructures. This talk will discuss the use of artificial intelligence in supporting the creation of applications in cloud and IoT infrastructures as well as their use in the various aspects of infrastructure management.

Sunday, December 20 13:50 - 14:20 (Asia/Bahrain)

KS-4: Keynote Speaker-4: From Cloud to Fog Computing Scheduling Real-Time Applications 🔊 ↑

Prof. Helen Karatza - Professor Emeritus at Aristotle University of Thessaloniki, Greece

Chair: Ahmed Fahad

Cloud computing has become an emerging area of research for many years now. Particularly important in cloud computing is to run delay-sensitive applications. It is essential that effective scheduling techniques are utilized ensuring timeliness. This can be achieved due to cloud's high-performance computing capacity for real-time processing. In recent years there is an expansion of the Internet of Things (IoT). IoT applications generate huge amounts of data and it is critical to process these data in real-time and provide immediate decisions. As a result, fog computing has been introduced as a computing paradigm extending the cloud to the edge of the network, thus reducing the latency of IoT data transmission. The potential of the research on cloud and fog computing is strong due to the challenges in dealing with real-time applications in the IoT domain. However, the computational capacity of fog servers is usually restricted, therefore it is necessary to explore alternative techniques that involve the collaboration between the cloud and fog resources. Consequently, appropriate scheduling of time-sensitive applications is required to fully exploit the capabilities of cloud and fog computing so that the deadlines are met. In this keynote we will present various aspects of cloud and fog computing, from the perspective of scheduling real-time applications and we will conclude with future research directions in the cloud and fog computing areas.

Sunday, December 20 14:20 - 15:20 (Asia/Bahrain)

LB: Lunch Break Day-1 ↑

Sunday, December 20 15:20 - 17:00 (Asia/Bahrain)

S1-A: Machine Learning in Finance ↑

Chairs: Ebrahim Abdulla Mattar, Athraa Almosawi

15:20 *Fraudulent Transaction Detection in FinTech using Machine Learning Algorithms* 📄📄
Khadijah AbdulSattar and Mustafa Hammad

15:40 *Intrusion Detection System using Feature Selection With Clustering and Classification Machine Learning Algorithms on the UNSW-NB15 dataset* 📄📄
Mohamed Hammad, Yasser Ismail and Wael M El-Medany

16:00 *A Novel Design of a Fully Seamless Payment Experience* 📄📄
Hesham Mohamed al-Ammal, Fatema Albalooshi, Maan Aljawder, Abdulla Aldoseri, Mohammed A. Almeer and Ajmal Kottilingal

16:20 *Evaluation of Graphical Password Schemes in Terms of Attack Resistance and Usability* 📄📄
Jaffar AbdulJalil Jaffar and Ahmed M. Zeki

16:40 *Predicting Price of Daily Commodities using Machine Learning* 📄📄
Md Nur Amin

S1-B: Convolutional Neural Network-1 ↑

Chairs: Alauddin Yousif Al-Omary, Ahmed M. Zeki

15:20 *Real Time AI-Based Pipeline Inspection using Drone for Oil and Gas Industries in Bahrain* 📄📄
Aysha Khaled Alharam, Ebrahim Almansoori and Wael M El-Medany

15:40 *Reinforcement Learning for Physics-Based Competitive Games* 📄📄

Abdulla Rashed Albuainain and Christos Gatzoulis

16:00 *Prediction of Traffic Crash Severity Using Deep Neural Networks: A Comparative Study*

Khaled Assi

16:20 *Compression Techniques for Handwritten Digit Recognition*

Hassan Ahmed Alsobaie and Irfan Ahmad

16:40 *Neural Networks Representation For Semantic Networks*

Nabil Hewahi and Yaser Khateeb

S1-C: Smart Cities ⌖

Chairs: Isa Salman Qamber, Ehab Juma Adwan

15:20 *Capacity Margin Probabilities Neuro-Fuzzy Model Development and LOLE Calculation*

Isa Salman Qamber

15:40 *Monetary Benefits of Solar Energy for Smart Cities Development*

Muhammad Abrar ul Haq, Hafiz Abid Mahmood Malik, Farheen Akram and Ebrahim Khalil Al Mutawa

16:00 *Design and Implementation of Smart Home using WSN and IoT Technologies*

Marwa Assim and Alauddin Yousif Al-Omary

16:20 *A Secured and Authenticated State Estimation Approach to Protect Measurements in Smart Grids*

Israa T Aziz, Ihsan H Abdulqadder, Sabah M Alturfi, Rasool Imran and Firas M.F. Flaih

16:40 *Multi-Input Multi-Output DC-DC Converter Network For Hybrid Renewable Energy Applications*

Farhan Mumtaz, Nor Zaihar Yahaya, Sheikh Tanzim Meraj, Ramani Kannan, Balbir Singh Mahinder Singh and Oladimeji Ibrahim

Sunday, December 20 15:20 - 16:40 (Asia/Bahrain)

S1-D: E-Learning; Multimedia; Educational Technology ⤒

Chair: Ali H Zolait

15:20 *Barriers to the Adoption of Technology in Learning and Assessment of Undergraduate Architecture Students* 📄 📄

Harveen Bhandari, Urvashi Tandon, Kanika Bansal and Amit Mittal

15:40 *Digital Media and Students' AP Improvement: An Empirical Investigation of Social TV* 📄 📄

Mohammed Habes, Sana Ali, Said Salloum, Mokhtar Elareshi and Abdulkrim Ziani

16:00 *Arab Film TV School*

Mona Elsabban

16:20 *Influence of Work-based Learning on Students' Ethical Orientation* 📄 📄

Saleh Alwahaishi

S1-E: Informatics-1 ⤒

Chair: Jihene Kaabi

15:20 *Parametric Modeling of the Cost of Power Plant Projects* 📄 📄

U Gazder, Muhammad Islam and Md. Arifuzzaman

15:40 *Future Job Market of Information Technology in the Kingdom of Bahrain*

Athraa Almosawi, Hussain AlArayedh and Lamya Al jasmi

16:00 *A Software trigger based synchronization for multipurpose distributed acquisition systems* 📄 📄

Harsha Vardhana Jetti and Simona Salicone

16:20 *Generating Object Placements for Optimum Exploration and Unpredictability in Medium-Coupling Educational Games* 📄 📄

Pratama Wirya Atmaja and Sugiarto Sugiarto

Sunday, December 20 17:00 - 17:30 (Asia/Bahrain)

P: Prayer ⤒

Sunday, December 20 17:30 - 19:10 (Asia/Bahrain)

S2-A: Machine Learning for Big Data Analytics ⤒

Chairs: Riyadh Ksantini, Nabil Benamar

17:30 *Towards harnessing based learning algorithms for tweets sentiment analysis* 📄 📄

Khadijah AbdulSattar, Qasem Obeidat and Mohammed Akour

17:50 *Support Vector Regression based Direction of Arrival Estimation of an Acoustic Source* 📄 📄

Mohd Wajid, Faisal Alam, Shardul Yadav, Mohd Atif Khan and Mohammed Usman

18:10 *DBMS, NoSQL and Securing Data: the relationship and the recommendation* 📄 📄

Omar Khaldoon Abahussain and Abdulla Alqaddoumi

18:30 *An overview on Big Data Mining Using Evolutionary Techniques* 📄 📄

Fadia Alaeddin, Ala Khalifeh and Khalid A. Darabkh

18:50 *Measuring Performance Portability of Stencil Kernels on CPUs and GPUs*

Abdulla Ebrahim

S2-B: Convolutional Neural Network-2 ⬆

Chairs: Hala Hatoum, Salah Al-Majeed

17:30 *Toward Hybrid Deep Convolutional Neural Network Architectures For Medical Image Processing* 📄📄
Zaineb Loukil and Salah Al-Majeed

17:50 *Convolutional Neural Network with Attention Modules for Pneumonia Detection* 📄📄
Ghadir Moemen Ali, Ahmed Shahin, Mohamed Elhadidi and Mustafa Elattar

18:10 *Classification of Chicken Meat Freshness using Convolutional Neural Network Algorithms* 📄📄
Esa Prakasa, Ghiri Putra and Calvin Calvin

18:30 *Evaluation of CNN Models with Transfer Learning for Recognition of Sign Language Alphabets with Complex Background* 📄📄
M Faisal Nurnoby, El-Sayed M. El-Alfy and Hamzah Luqman

18:50 *Visual Drone Terrain Classification: A Manual Classification Approach* 📄📄
Joon du Randt and Kevin Meehan

S2-C: Cyber Security-1 ⬆

Chairs: Abdulla Alasaadi, Hosam Alamleh

17:30 *Privacy Engineering Methodologies: A survey* 📄📄
Yaqoob S Al-Slais

17:50 *Architecture for Continuous Authentication in Location-Based Services* 📄📄
Hosam Alamleh and Ali Abdullah S. AlQahtani

18:10 *Evolution of the Security Models in Cognitive Radio Networks: Challenges and Open Issues* 📄📄
Y Sudha and Sarasvathi V

18:30 *RPL rank attack detection using Deep Learning* 📄📄
Wijdan Choukri, Hanane Lamaazi and Nabil Benamar

18:50 *A Systematic Literature Review of ECC Security Schemes for IoT Healthcare Applications*
Marwa Fouda

S2-D: Software Engineering ⬆

Chairs: Lamya Al jasmi, Fawzi Albalooshi

17:30 *Word2Vec Duplicate Bug Records Identification Prediction Using Tensorflow* 📄📄
Hussain Mahfoodh and Mustafa Hammad

17:50 *An Automatic Approach to Measure and Visualize Coupling in Object-Oriented Programs* 📄📄
Afrah Ali Yusuf and Mustafa Hammad

18:10 *Software Risk Estimation Through Bug Reports Analysis and Bug-fix Time Predictions* 📄📄
Hussain Mahfoodh and Qasem Obeidat

18:30 *Improving Software Reuse Prediction Using Feature Selection Algorithms* 📄📄
Mariam Amin and Mustafa Hammad

18:50 *Software Change Proneness Prediction Using Machine Learning* 📄📄
Raja Abbas, Fawzi Albalooshi and Mustafa Hammad

Sunday, December 20 17:30 - 18:50 (Asia/Bahrain)

S2-E: Informatics -2 ⬆

Chairs: Muain Aljamlan, Jafla Al-Ammari

17:30 *The PANDA approach as a method for creating female STEMpreneurs* 📄 📄
Victoria Wolf, Renata Dobrucka, Robert Przekop and Stephan Haubold

17:50 *Research trends in Sentiment Analysis and Opinion Mining from Knowledge Management approach: A science mapping from 2007 to 2020* 📄 📄
Mariano Alberto Casas-Valadez, Alberto Faz-Mendoza, Cesar Esau Medina, Manuel Jesus Cobo, Nadia Karina Gamboa-Rosales and José Ricardo López-Robles

18:10 *Vision-based Approach for Automated Social Distance Violators Detection* 📄 📄
Abdalla Said Gad, Gasm Elbary, Mohammad Alkhedher and Mohammed Ghazal

18:30 *Virtual Reality Street-Crossing Training for Children with Autism in Arabic Language* 📄 📄
Sara Aloufi, Amani Alharbi, Rahaf Assar and Maram Meccawy

Sunday, December 20 19:10 - 19:30 (Asia/Bahrain)

B2: Break 2 ⬆

Sunday, December 20 19:30 - 20:00 (Asia/Bahrain)

VT: Virtual Tour to Bahrain 🔊 ⬆

Chair: Abdulla Alqaddoumi

Monday, December 21

Monday, December 21 12:00 - 12:50 (Asia/Bahrain)

PD -: Panel Discussion: "Women in Tech" ⬆

Mrs. Mariam Jumaan, Mrs. Muna Al Hashemi, Mrs. Najwa Abdul Rahim, and Dr. Lamya Al jasmi,

Chair: Hessa Al-Junaid

Monday, December 21 12:50 - 13:20 (Asia/Bahrain)

B3: Break 3 ⬆

Monday, December 21 13:20 - 15:00 (Asia/Bahrain)

S3-A: Internet of Things ⬆

Chairs: Aisha Bushager, Ala Khalifeh

13:20 *Internet of Things Based Environment Monitoring and PM10 Prediction for Smart Home* 📄 📄
Jagriti Saini, Maitreyee Dutta and Gonçalo Marques

13:40 *Modelling Industrial IoT System Complexity* 📄 📄
Lucas Freund and Salah Al-Majeed

14:00 *Collaborative Data Anonymization for Privacy-Preserving Vehicular Ad-hoc Network* 📄 📄
Tarak Nandy, Mohd Yamani Idna Idris, Rafidah Md Noor, Sananda Bhattacharyya and Norjihan Abdul Ghani

14:20 *IoT Based Intelligent Control System for Smart Building* 📄 📄
Rajendiran Kishore, Vigneshwari u R, Nagaradjane Prabagarane, Kirubaveni Savarimuthu and S Radha

14:40 *A Novel Low-Energy CNTFET-Based Ternary Half-Adder Design using Unary Operators* 📄 📄

Ramzi A. Jaber, Bilal Owaidat, Abdallah Kassem and Ali Massoud Haidar

Ramzi A. Jaber, Bilal Owaidat, Abdallah Kassem and Ali Massoud Haidar

S3-B: Cloud Computing & Machine Learning ⭱

Chairs: Mazen Ali, Ayman A. Abdel-Hamid

13:20 *Combining Spot Instances Hopping with Vertical Auto-scaling To Reduce Cloud Leasing Cost*
Ali Jassim and Mustafa Hammad

13:40 *An Incentive Mechanism for Computing Resource Allocation in Vehicular Fog Computing Environment*
Ossama Nazih, Nabil Benamar and Adnane Addaim

14:00 *A Cloud-based Mobile Healthcare Monitoring Framework with Location Privacy Preservation*
Mahmoud Ahmed Abdo, Ayman A. Abdel-Hamid and Heshem Elzouka

14:20 *Detecting Malicious DNS over HTTPS Traffic Using Machine Learning*
Sunil Kumar Singh and Pradeep Kumar Roy

14:40 *Forensic Gender Discrimination in Malaysian Population Using Machine Learning Methods*
Lee Loong Chuen, LC Lee, Siti Norfaraan Abd Sanih and Nur Izzati Bohari

S3-C: Telecommunication and Networking ⭱

Chair: Aysha Ebrahim

13:20 *Delay Tolerant Network protocols for an Expanding Network on a Railway*
Eugene Tikhonov, Donat Schneps-Schneppe and Dmitry Namiot

13:40 *Overlay Convergence Analysis in P2P Networks: An Assessment of the 2PC Algorithm*
Adriel Santos, Cristiano M. Silva and Eliseu C Miguel

14:00 *RPL Assessment using the Rank Attack in Static and Mobile Environments*
Saloua Ibrahimy, Hanane Lamaazi and Nabil Benamar

14:20 *Scene Change Based Video Watermarking Algorithm*
Khalid A. Darabkh, Rasha M. Al-Sheikh, Russia F. Haddad and Ala Khalifeh

14:40 *Security Concerns in Smart Traffic Routing System*
Farooq Pervaiz Ali Baksh

S3-D: Robotics, Computer Vision, and HCI ⭱

Chairs: Fatema Albalooshi, Resala Aladraj, Dr

13:20 *Deep Learning Enhanced Electromagnetic Imaging Scheme*
Abdulla Desmal

13:40 *Interactive Manipulator Arm*
Mohammed Majid M. Al-Khalidy, Zainab Alaboo and Alaa Jasim

14:00 *Real-time Shadow Detection and Removal by Illumination Drop Point Analysis*
Abdalla Said Gad, Maha Yaghi, Mohammad Alkhedher and Mohammed Ghazal

14:20 *An Exploratory Pilot Study on Human Emotions during Horror Game Playing*
Anas Ali and Christos Gatzoulis

14:40 *Self-Driving Car Lane-keeping Assist using PID and Pure Pursuit Control*
Mohamed Khaled Diab, Hossam Ammar and Raafat E. Shalaby

Monday, December 21 15:00 - 16:00 (Asia/Bahrain)

LB-2: Lunch Break Day-2 ⌖

Monday, December 21 16:00 - 16:30 (Asia/Bahrain)

KS-5: Keynote Speaker-5: Preserving Data/Query Privacy Using Searchable Symmetric Encryption ⌖

Prof. Kevin Curran - Professor of Cyber Security at Ulster University

Chair: Abdulla Alqaddoumi

The benefits of Cloud computing include reduced costs, high reliability, as well as the immediate availability of additional computing resources as needed. Despite such advantages, Cloud Service Provider (CSP) consumers need to be aware that the Cloud poses its own set of unique risks that are not typically associated with storing and processing one's own data internally using privately owned infrastructure. Recent years have seen a number of such incidents occur, whereby customer data hosted on the Cloud has been leaked. The ideal solution to achieving an optimal balance of data security and functionality within the Cloud involves the CSP having the ability to search and operate on data while it is in encrypted form. New techniques such as Fully Homomorphic Encryption and Searchable Encryption have arisen to make this a reality. Fully-Homomorphic Encryption supports computations over data in encrypted form but an efficient Fully-Homomorphic Encryption remains someway off. Searchable Encryption however, despite being a relatively obscure form of Cryptography is now at the point that it can be deployed and used within the Cloud. Searchable Encryption can allow CSP customers to store their data in encrypted form, while retaining the ability to search that data without disclosing the associated decryption keys to CSPs. Symmetric Search Encryption (SSE) represents one of the few forms of Searchable Encryption that is achievable using established standardised encryption algorithms. This talk will discuss a Searchable Symmetric Encryption scheme which is efficient enough to be deployed in a Cloud environment to achieve industry acceptable search speeds whilst maintaining Data Privacy.

Monday, December 21 16:30 - 17:00 (Asia/Bahrain)

KS-6: Keynote Speaker-6: Network Automation: Challenges and Opportunities⌨ ⌖

Prof. Raouf Boutaba, The University of Waterloo.

Chair: Hessa Al-Junaid

Automation has been the holy grail of network management research for decades; it aims at achieving autonomous networks, i.e., networks capable to autonomously monitor their status, analyze problems, make decisions, and execute corrective actions. Despite several attempts to achieve autonomous networks in the past, their practical deployments have largely remained unrealized. Several factors are attributed to this, including the existence of many stakeholders with conflicting goals, reliance on proprietary solutions, the inability to process network monitoring data at scale, and the lack of global visibility restricting network-wide optimizations. The stars are now aligned to realize the vision of network automation thanks to (i) advances in network softwarization; (ii) recent breakthroughs in machine learning; and (iii) the availability of large-scale data processing platforms. However, a number of challenges must be addressed in order to create the synergy between these different technology domains and achieve autonomous networks. This talk will discuss some of these challenges with particular focus on programmable network monitoring leveraging network softwarization, predictive machine learning for automated management decision making, and on-demand orchestration of network services.

Monday, December 21 17:00 - 17:30 (Asia/Bahrain)

P: Prayer ⌖

Monday, December 21 17:30 - 19:10 (Asia/Bahrain)

S4-A: Cyber Security & Machine Learning ⌖

Chairs: Abdul Fattah Salman, Wael Farag

17:30 *Multi-Agent Reinforcement Learning using the Deep Distributed Distributional Deterministic Policy Gradients Algorithm* 📄 📄

Wael Farag

17:50 *A Review of Various Attack Methods on Air-Gapped Systems* 📄 📄

Mohammad Tazeem Naz and Ahmed M. Zeki

18:10 *An Experimental Evaluation of the Advanced Encryption Standard Algorithm and its Impact on Wireless Sensor Energy Consumption* 📄 📄

Ala Khalifeh, Faris Alsyayid, Hussam Armoush and Khalid A. Darabkh

18:30 *Technology Acceptance Model Based on Needs, Social Influence and Recognized Benefits* 📄 📄

Zakaria Saleh, Omar Saleh and Othman Saleh

18:50 *Ali: The Intelligence Agent for E-government Services with Framework for Privacy and Security*

Latifa Mohammed Al Abbasi

S4-C: Blockchain & Cyber Security-2 ⬆

Chairs: Maan Aljawder, Mohamed Abdeazeem

17:30 *Blockchain Decentralized IoT Trust Management*

Ammar Ibrahim Elsayed, Mahmoud Abdel Aziz and Mohamed Abdeazeem

17:50 *Energy Trading Based on Smart Contract Blockchain Application*

Mohamed Abdallah Abdelwahed, Tarek A. Boghdady, Ahmed Madian and Raafat E. Shalaby

18:10 *Privacy-Preserving Blockchain Framework Based on Ring Signatures (RSs) and Zero-Knowledge Proofs(ZKPs)*

Zeba Mahmood

18:30 *Cyber-Physical Systems as Sources of Dynamic Complexity in Cyber-Physical-Systems of Systems*

Lucas Freund and Salah Al-Majeed

18:50 *Revolutionising Higher Education by Adopting Blockchain Technology in the Certification Process*

Mona J Alshahrani, Natalia Beloff and Martin White

S4-D: Deep & Machine Learning ⬆

Chairs: Qasem Obeidat, Ayman Al-khazraji

17:30 *Elastic Net to Forecast COVID-19 Cases*

Tim K Johnsen and Jerry Gao

17:50 *Comparison of Naive Bayes and Decision Tree for Classifying Hepatocellular Carcinoma (HCC)*

Qisthina Syifa Setiawan, Zuherman Rustam, Sri Hartini, Afifah Rofi Laeli and Ilsya Wirasati

18:10 *Effect of Mindfulness Meditation toward Improvement of Concentration based on Heart Rate Variability*

Lim Chee Chin, Fatin Farhana Rosli, Chong Yen Fook, Vikneswaran Vijean, Saidatul Ardeenawatie and Rajkumar Palaniappan

18:30 *Detection of Parkinson's Disease (PD) Based On Speech Recordings using Machine Learning Techniques*

Azian Azamimi Abdullah, Nurul Nurain Norazman, Wan Khairunizam Wan Ahmad, Saidatul Ardeenawatie Awang and Wei Jian Foong

18:50 *Detecting Medical Rumors on Twitter Using Machine Learning*

Fatima Dito, Haleema Alqadhi and Abdulla Alasaadi

Monday, December 21 19:10 - 19:30 (Asia/Bahrain)

CS: Closing Session ⬆

Dr. Lamya Al jasmi

Chair: Abdulla Alqaddoumi

Monday, December 21 17:30 - 19:10 (Asia/Bahrain)

S4-B: Wireless Sensor Network ⬆

Chair: Mohamed Baqer

17:30 *Proposition of Low-Cost Wireless Sensor Network for Real-Time Monitoring and Early Wildfire Detection in Lebanon's Forests*

Mostafa Rizk, Hassan Hmaydan and Mohammad Hajj

17:50 *Study of Attenuation of Centimetric Waves of the Fifth Generation of Cellular Telephony in Vegetation Areas using the Kriging Model*

Paulo Tibúrcio Pereira, Fernando Sousa Ramos and Glaucio L. Ramos

18:10 *A New technique for Underwater Wireless Sensor Network: Modified-Slotted-ALOHA Protocol*

Mohammed Badawy, Ehab Khater, Maha Tolba, Dina Ibrahim and Nawal El-Fishawy

18:30 *A Novel Genetic Model for Drone Positioning in Wireless Sensor Networks*

Barbara Z Silva, Thaís A. Nascimento, Cristiano M. Silva, Rone Ilidio da Silva and Sergio de Oliveira

18:50 *Co-Design Approach and Co-Simulation Tools for Networked Cyber-Physical Control Systems*

Necdet Sinan Özbek