

Personal Information

Name	Dr. Mohammed Salem Atoum
Place and date of birth	Jerash 5-8-1979
Faculty	King Abdullah II School of Information Technology
Department	Computer Science

Qualifications

Qualification	Specialization	University of donor rank	Date
Bachelor	Computer Science	Irdid National University	1998-2002
Master	Computer Science / information Security	Al-Albayt University	2007-2009
PhD	Computer Science/ Cyber Security	University Technology Malaysia	2011-2014

Specialization and domain of interest

Specialization	Cyber Security
Domain of interest	Information and network security

Specialization and domain of interest**Title and abstract of the doctoral thesis (within 150 words)**

MP3 Audio Steganography Using Extended Least Significant Bit Technique: Audio Steganography is the process of concealing secret messages into audio file. This research offers an extended Least Significant Bit (XLSB) technique in order to circumvent the weakness. The secret message is scrambled before embedding. Scrambling technique is introduced in two steps; partitioning the secret message (speech) into blocks followed by block permutation, in order to confuse the contents of the secret message. To enhance difficulty for attackers to retrieve the secret message, the message is not embedded in every byte of the audio file. Instead the first position of embedding bit is chosen randomly and the rest of the bits are embedded only in even value of bytes of the audio file. For extracting the secret message, the permutation code book is used to reorder the message blocks into its

original form. Md5sum and SHA-256 are used to verify whether the secret message is altered or not during transmission. Experimental results measured by peak signal to noise ratio, bit error rate, Pearson Correlation and chi-square show that the XLSB performs better than SLSB.

Career Experience

Job Title	Place of work	Date
Lecturer	Jordan university	2-10-2022
Assistant Professor	Irbid National university	11-6-2014 to 31-8-2021

Administrative works and committees

Administrative work and committee	Date
Chair of computer science department Irbid National University	25/9/2016 to 1/10/2017
Committee Member of the Steering Committee of the National Technology Parade	June 2017 – 2019
Committee Member , Jordan Academicians Society, Amman – Jordan	June 2014 to Present
Committee Member , Arab Researchers ID (ARID), Malaysia	December 2014 to Present
Editor of International Journal of Engineering Research and Technology	December 2014 to Present
Editor in International Journal of Computer Networks and Communications Security	December 2014 to Present

Recent Publications within last five years

Name of researcher	Research title, Publisher, Date
Alhaddad, M.J., Alkinani, M.H., Atoum, M.S. , Alarood, A.A.	Evolutionary detection accuracy of secret data in audio steganography for securing 5G-enabled internet of things, <i>Symmetry</i> , 2020, 12(12), pp. 1–18, 2071. (Q2, IF-2.645)
Mohammad Alnabhan, Enas Al-qatawneh, Ahmad Abadleh, Mohammed Atoum , Mohammad Alnawyseh,	Efficient Handover Approach in 5G Mobile Networks, <i>International Journal on Advanced Science, Engineering, Information and Technology</i> , 2020 (Scopus Q2)
Khaleel Bataineh , Mohammed Atoum , Lama Alsmadi and May Shikhali	A Silver Lining of Coronavirus Jordanian Universities Turn to Distance Education, <i>International Journal of Information and Communication Technology Education</i> , 2020, (Scopus Q3).
Mohammad Alnabhan, Sajeda Al-jaafreh, Ahmad Abadleh, Mohammed Atoum , Awni Hammouri and Mahmoud Al-dalahmeh	Enhanced D2D Communication Model in 5G Networks, <i>International Journal of Computing and Digital Systems</i> , 2020, (Scopus Q4).
Najah Al-Shanableh and Mohammed Atoum	Predicting the Number of Multiple Chronic Conditions in Arizona State Using Data Mining Algorithms, <i>International Journal of Advanced Trends in Computer Science and Engineering</i> , 2020, (Scopus Q4).

Khalid Nahar, Amerah Jaradat, Mohammed Atoum , Firas Ibrahim	Sentiment Analysis And Classification Of Arab Jordanian Facebook Comments For Jordanian Telecom Companies Using Lexicon-Based Approach And Machine Learning, 2020, (Scopus).
Alaeddin Banikalef, Khaleel Al Bataineh, Mohammed Atoum	Exploring Facebook affordances in natural disaster: case study of the 2018 dead sea flash floods in Jordan, International Journal of Engineering & Technology, 2019, (Scopus Q4).
Najah Al-Shanableh and Mohammed Atoum	Predicting the Number of Multiple Chronic Conditions in Arizona State Using Data Mining Algorithms, , International Journal of Advanced Trends in Computer Science and Engineering, 2020, (Scopus Q4).

Scientific conferences and symposia

Conference Title	Place and date of conference	Type of participation
International Conference on Intelligent Systems and Computer Vision (ISCV), Morocco, IEEE, 2018	2D Visualization for Object-Oriented Software Systems, Mohammad Alnabhan, Awni Hammouri, Mustafa Hammad, Mohammed Atoum and Omamah Al-Thnebat,.	Presenter
Proceedings of the New Trends in Information Technology (NTIT), Jordan	Arabic to English Machine Translation, M Abu Shquier, Mohammed Atoum and O M Abu Shqeer, , 2017.	Presenter

4th International Conference on Advanced Computer Science Applications and Technologies, Malaysia, IEEE, 2015.	Applying AWGN MP3 Steganography Attack in BILSB and SLSB techniques, Mahmood Salih and Mohammed Atoum ,	Presenter
International Conference on Advanced Computer Science Applications and Technologies, Malaysia , IEEE, 2013	Exploring the Challenges of MP3 Audio Steganography, Mohammed Atoum , Subariah Ibrahimn, Ghazali Sulong, Akram Zeki, Adamu Abubakar.,	Presenter

Training courses

Name of course	Date
CCNA	2020
Blockchain Professional	2022
CEH	2022

Teaching activities

Taught Courses	Bachelor	Graduate
Discrete Mathematics	■	<input type="checkbox"/>
C++	■	<input type="checkbox"/>

Membership in scientific and professional bodies and societies

Name and place of scientific body and society	Date
Member in cyber security committee in computer science department	5-10-2022
Member in strategy committee in computer science department	5-10-2022

Awards

Name of Award	Donor and place of award	Date