

CURRICULUM VITAE

SHADI NASHWAN

PROFESSOR IN COMPUTER AND NETWORKS SECURITY

Cyber Security Department

Faculty of Information Technology.

Middle East University

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OVERVIEW

- More than 20 years' experience in mobile and wireless networks security research and development.
- Strong background in designing and improving cryptography algorithms.
- Strong background in modeling, simulation, and analysis of authentication protocols.
- Experience in curriculum development for Bachelor's & Master's degrees in Cybersecurity.

A. PERSONAL DETAILS

- Family Name : Nashwan
 - First and Middle Name : Shadi Ismail
 - Date of birth : August 15, 1978
 - Gender : Male
 - Nationality : Jordanian
 - Marital status : Married
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B. ACADEMIC QUALIFICATIONS

B.1 2005 - 2009

- Degree : **(Ph.D.) in Computer Science/ Computer and network security**
- Faculty : Science and Technology/Department of Design and Technology
- Institution : Anglia Ruskin University, Chelmsford-UK
- Conclusion : February 2009
- Thesis Title : **Performance Analysis of a New Dynamic Authentication Protocol (DAKA) of 3G Mobile Systems Based on a Novel Cryptography Algorithm “Anglia”.**

B.2 2001 - 2003

- Degree : **(M.Sc.) Master in Computer Science**
- Faculty : IT/Department of Computer Science
- Institution : University of Jordan, Amman-Jordan
- Conclusion : July 2003

B.3 1996 – 2001

- Degree : **(B.Sc.) Bachelor in Computer Science**
- Faculty : Science/Department of Computer Science
- Institution : Al-Azhar University, Palestine
- Conclusion : August 2001

C. PROFESSIONAL EXPERIENCE

C.1 Administrative experience

C.1.1 April 2023 – Present

- Head of Software Engineering Dept & Cyber security Dept.
- College of Information Technology.
- **Middle East University**, Jordan.

C.1.2 February 2018 – March 2023

- Publication Chair of Annual International Conference on Computer and Information Sciences (ICCIS).
- College of Computer Science and information.
- **Jouf University**, Saudi Arabia.

C.1.3 September 2017 – September 2019

- Assistant Dean for Academic Affairs.
- College of Computer Science and information.
- Jouf University, Saudi Arabia.

C.1.4 October 2015 – April 2017

- Chairman.
- Computer Science Department.
- College of Computer Science and Information.
- Jouf University, Saudi Arabia.

C.1.5 January 2013 – September 2015

- Chairman.
- Information Systems Department.
- College of Computer Science and information.
- Jouf University, Saudi Arabia.

C.2 Academic Experience

C.2.1 March 2023 – Present

- Professor.
- Cyber Security Department.
- Faculty of Information Technology.
- Middle East University, Jordan.

C.2.2 December 2022 – April 2023

- Professor.
- Computer Science Department / Master of Science in Cybersecurity program.
- College of Computer Science and information.
- Jouf University, Saudi Arabia.

C.2.3 January 2018 – December 2022

- Associate Professor.
- Computer Science Department/ Master of Science in Cybersecurity program.
- College of Computer Science and information.
- Jouf University, Saudi Arabia.

C.2.4 September 2010 – January 2018

- Assistant Professor.
- Computer Science Department.
- College of Computer Science and information.
- Jouf University, Saudi Arabia.

C.2.5 February 2009 – September 2010

- Assistant Professor.
- Computer Science Department.
- Faculty of Science and Information Technology.
- Al-Zaytoonah University, Jordan.

C.2.6 October 2003 – September 2005

- Lecturer.
- Computer Science Department.
- Faculty of Science and Information Technology.
- Al-Zaytoonah University, Jordan.

D. TEACHING

D.1 University of Jordan – Part time (B.Sc. programs)

Course Code	Course Name
1901102	Computer Skills 1
1900100	Computer Skills 1

D.2 Al-Zaytoonah University – Full time (B.Sc. programs)

Course Code	Course Name
0102102	Computer Skills 1
0107231	Information Security
0102341	Design & Analysis Of Computer Algorithm.
0107341	Computer Graphics and its applications
0102352	Database Systems (1)
0102482	Image processing

0102378	Operating Systems
0102262	Computer Networks (1)
0102462	Computer Networks (2)
0102223	Computer Architecture
0102209	Internet Technology
0102495	Graduation Project

D.3 Jouf University – Full time (B.Sc. programs)

Course Code	Course Name
CSCI 101	Introduction to Computers and Programming
CS 471	Information Security.
CSCI 335	Operating Systems.
CSCI 49	Distributed Systems.
CSCI 375	Computer Graphics & H.C.I.
CSCI 325	Database Systems (1).
CSCI 426	Database Systems (2).
CSCI 494	Graduation Project (1).
CSCI 495	Graduation Project (2).

D.4 Jouf University – Full time (M.Sc. program)

Course Code	Course Name
CS 611	Cryptography for Cybersecurity.
CS 624	Security of mobile systems.
CS 698	Synthetic capstone.

D.5 Jouf University – Supervision of Final Year Student Projects samples (B.Sc. programs)

No.	Title	Date
1	Learning Management System (LMS) Online Exams System.	2016
2	College of Computer Engineering and Sciences Web Site.	2017
3	Work Flow System with Document Signing.	2018
4	Developing a Secure Authentication Protocol for Mobile query.	2019
5	Steganography Algorithm based on T-BOX in 8-bit color Image.	2020

D.6 Jouf University – Supervision of Master thesis samples (M.Sc. program)

No.	Title	Date
1	Fully Authentication Services Scheme for NFC Mobile Payment Systems.	2021
2	Secure Three-Factor Authentication Scheme for Remote Healthcare Systems.	2021
3	Formal Verification of AAA-WSN Authentication Scheme.	2022
4	Post-Quantum Secure Authentication Scheme for IoT-Based Irrigation Systems.	2022

D.7 Middle East University– Full time (B.Sc. programs)

Course Code	Course Name
0413401	Computer Networks.
0414401	Wireless Networks.
0433406	Internet of Thing (IoT).
0452301	Cybersecurity Fundamentals

E. RESEARCH (PROJECTS/GRANTS/AWARDS)**E.1 Research Area**

- Authentication Protocols of Mobile and Wireless Network.
- Cryptography Algorithm Analyzes and Design.
- Software quality for Cryptography.
- Mobility Management.
- Simulation and Modeling of Authentication Protocols of Mobile and Wireless Network.

E.2 Research Funding

- **Shadi Nashwan**, Bandar Alshammari, “Designing of a new dynamic authentication protocol for ATM in Saudi Arabia banking”, *Jouf University*, grant No. (33/141) 2013.
- Bandar Alshammari, **Shadi Nashwan**, “Metrics for Quantifying Information Security of Higher Educational Universities in the Kingdom of Saudi Arabia”, *Jouf University*, grant No. (35/344), 2015.
- Saeed Saloum, **Shadi Nashwan**, “Online identification of Jouf University students based on handwriting texts – tool for blackboard system”, *Jouf University*, grant No. (37/386), 2016.
- Mohammed G. Shagreen, Kumar Chandan Srivastava, Kiran Kumar Ganji, Mohammad Khursheed Alam, **Shadi Nashwan**, Yousef Khader, “Dental therapy in Metabolic Syndrome, Preterm low birth, Weight and gestational diabetes patients”, *Jouf University*, grant No. (DSR2022-RG-1057), 2022.

E.3 Awards

- **Shadi Nashwan**, Distinguished Faculty Member Award - Third Rank, Jouf University, 2019.
- **Shadi Nashwan**, Quality Award for Scientific Publication, Jouf University, 2017.
- **Shadi Nashwan**, Quality Award for Scientific Publication, Jouf University, 2018.

F. PUBLICATIONS

F.1 Journal Papers (Accepted to be published).

- “Enhancing Stroke Prediction Using Generative Adversarial Networks for Intelligent Medical Care”, International Journal of Crowd Science, accepted to be published (Manuscript ID IJCS-08-2023-0042.R2). (Indexed within Scopus).

F.2 Journal Papers (Submitted to be published).

- Mustafa Fayoumi, **Shadi Nashwan**, “Formal Verification of AAA-WSN Authentication Scheme for wireless sensor networks in big data environment”, submitted to be published. (Indexed within Scopus && SCIE).
- Mustafa Fayoumi, Shadi Nashwan, “ASAS-SIS: Anonymous and Secure Authentication Scheme for Smart Irrigation Systems” , Submitted to be published. (Indexed within Scopus && SCIE).

F.3 Journal Papers (Published).

- Ahmad al-Qerem, Ali Mohd Ali, Hani Attar, Shadi Nashwan, Lianyong Qi, Mohammad Kazem Moghimi, Ahmed Solyman, “Synthetic Generation of Multidimensional Data to Improve Classification Model Validity” Journal of Data and Information Quality, Vol 15, no. 2, 2023. (Indexed within Scopus).
- Ahmad al-Qerem, Ali Mohd Ali, **Shadi Nashwan**, Ala Hamarsheh , Ahmad Nabot , Issam Jebreen “Transactional Services for Concurrent Mobile Agents over Edge/Cloud Computing-Assisted Social Internet of Things”, Journal of Data and Information Quality, Vol 15, no. 3, 2023. (Indexed within Scopus).
- Yazan Al-Smadi, Mohammed Eshtay, Ahmad Al-Qerem, **Shadi Nashwan**, Osama Ouda, A. A Abd El-Aziz “Reliable Prediction of Software Defects Using Shapley Interpretable Machine Learning Models”, Egyptian Informatics Journal, Vol 24, no. 3, 2023. (Indexed within Scopus && SCIE).
- Mohammad Khursheed Alam, Kamalakannan Vadivel, Ayyanr Natesan, Mohammed Ghazi Sghareen, Kiran Kumar Ganji, Kumar Chandan Srivastava, **Shadi Nashwan**, Yousef Khader, “Design of highly sensitive biosensors using hollow-core microstructured fibers for plasma sensing in aids with human metabolism’, Optical and Quantum Electronics, Vol 55, no. 2, 2023. (Indexed within Springer, Scopus && SCIE).

- Mohammed G. Shagreen, Yazan Al-Smadi, Ahmad Al-Qerem, Kumar Chandan Srivastava, Kiran Kumar Ganji, Mohammad Khursheed Alam, **Shadi Nashwan**, Yousef Khader, “Machine Learning Approach for Metabolic Syndrome Diagnosis Using Explainable Data-Augmentation-Based Classification”, *Diagnostics*, Vol 12, no. 12, 2022. (Indexed within Scopus && SCIE).
- Mustafa Al-Fayoumi, **Shadi Nashwan**, Mohammad Al-Fawa'reh, “Network Traffic Classification of VPN and Non-VPN Traffic Using Time-Related Features”, *Materials and Continua CMC*, vol.72, no.2. 2022. (Indexed within Scopus && SCIE).
- Mohammad Al-Fawa'reh, Mustafa Al-Fayoumi, **Shadi Nashwan**, Salam Fraihat, “Cyber Threat Intelligence using PCA-DNN Model to detect Abnormal Network Behavior”, Published in *Egyptian Informatics Journal.*, Vol. 23, no. 2, 173-185, 2022. (Indexed within Scopus && SCIE).
- **Shadi Nashwan**, “Secure Authentication Scheme using Diffie Hellman Key Agreement for Smart IoT Irrigation Systems”, *Electronics* 11 (2), 188, 2021. (Indexed within Scopus && SCIE).
- Munefah Alshammari, **Shadi Nashwan**, “Fully Authentication Services Scheme for NFC Mobile Payment Systems,” *Intelligent Automation & Soft Computing (IASC)*, vol.32, no.1, 2022. (Indexed within Scopus && SCIE).
- Munayfah Alanazi, **Shadi Nashwan**, “Secure Three-Factor Authentication Scheme for Remote Healthcare Systems,” *Computer Systems Science & Engineering (CSSE)*, vol.42, no.2, 2022. (Indexed within Scopus && SCIE).
- **Shadi Nashwan**, “Analysis of the Desynchronization Attack Impact on the E2EA Scheme,” *Computer Systems Science & Engineering (CSSE)*, vol.41, no.2, 2022. (Indexed within Scopus && SCIE).
- Kouter Alshammari, Ayman Mostafa, **Shadi Nashwan**, “Avalanche Analysis of Variant Polynomials for AES”, *Turkish Journal of Computer and Mathematics Education*, Vol. 12, No. 14, 2021. (Indexed within Scopus).
- **Shadi Nashwan**, I.I.H. Nashwan, “Reducing the overhead messages cost of the SAK-AKA authentication Scheme for 4G/5G mobile networks,” *IEEE Access*, vol.9, 2021. (Indexed within Scopus && SCIE).
- **Shadi Nashwan**, I.I.H. Nashwan, “An analytic model for reducing authentication signaling traffic in an End-to-End authentication scheme,” *sensors*, vol.21, no.15, 2021. (Indexed within Scopus && SCIE).
- **Shadi Nashwan**, “An End-to-End Authentication Scheme for Healthcare IoT Systems Using WMSN,” *Computers, Materials and Continua*, vol. 68, no. 1, 2021. (Indexed within Scopus && SCIE).
- **Shadi Nashwan**, “AAA-WSN: Anonymous Access Authentication Scheme for Wireless Sensor Networks in Big Data Environment”, *Egyptian Informatics Journal*, vol. 22, no. 1, 2021 (Indexed within Scopus && SCIE).

- A. Hamarshah, Y. Abdalaziz, and **Shadi Nashwan**, “Recent impediments in deploying IPv6,” Adv. Sci., Technol. Eng. Syst. J., vol. 6, no. 1, Jan. 2021. (Indexed within Scopus).
- N. Almrezeq, L. T. Almadhoor, T. Alrasheed, A. A. A. El-Aziz, and **Shadi Nashwan**, “Design a secure IoT architecture using smart wireless networks,” Int. J. Commun. Netw. Inf. Secur., vol. 12, no. 3, 2020. (Indexed within Scopus).
- A. Al-Qerem, F. Kharbat, **Shadi Nashwan**, Ashraf, and K. Blaou, “General model for best feature extraction of EEG using discrete wavelet transform wavelet family and differential evolution,” Int. J. Distrib. Sensor Netw., vol. 16, no. 3, 2020. (Indexed within Scopus && SCIE).
- Mustafa Al-Fayoumi, **Shadi Nashwan**, “Performance Analysis of SAP-NFC protocol”, International Journal of Communication Networks and Information Security (IJCNIS), Vol. 10, No. 1, 2018. (Indexed within Scopus).
- **Shadi Nashwan**, “SE-H: Secure and Efficient Hash Protocol for RFID System”, International Journal of Communication Networks and Information Security (IJCNIS), Vol. 9, No. 3, 2017. (Indexed within Scopus).
- Ahmad al-Qerem, Ala Hamarshah, **Shadi Nashwan**, “ OCC-Mix Approach for Concurrent Mixture of Fixed and Mobile Transactions”, Journal of Digital Information Management (JDIM), Vol. 15, No. 5, 2017. (Indexed within Scopus).
- **Shadi Nashwan**, “SAK-AKA: A Secure Anonymity Key of Authentication and Key Agreement protocol for LTE network”, International Arab Journal of Information Technology (IAJIT), Vol. 14, No. 5, 2017. (Indexed within Scopus && SCIE).
- **Shadi Nashwan**, “Secure Authentication Protocol for NFC Mobile Payment Systems”, International Journal of Computer Science and Network Security (IJCSNS), Vol. 17, No. 8, 2017. (Indexed within ESCI).
- **Shadi Nashwan**, “Synchronous Authentication Key Management Scheme for Inter-eNB Handover over LTE Networks”, International Journal of Advanced Computer Science and Applications, (IJACSA), Vol. 8, No. 8. 2017. (Indexed within Scopus && ESCI).
- **Shadi Nashwan**, Ala Hamarshah, “An Extended Approach for Enhancing Packet-Loss of inter-SGSN in 3G Mobile Networks”, International Journal of Computer Network and Information Security (IJCNIS), Vol. 9, No. 11, 2017. (Indexed within ESCI).
- **Shadi Nashwan**, Bandar Alshammari, “Formal Analysis of MCAP Protocol against Replay Attack”, British Journal of Mathematics & Computer Science (BJMCS), 2017, Vol. 22, No.1.

F.4 Conferences Papers

- Mustafa Al-Fayoumi, **Shadi Nashwan**, Sufian Yousef, “Exploiting Public Key Cryptography against Third-Party Attacks in GSM, GPRS, UMTS and 4G Wireless”, 2005 Fourth Generation Mobile Forum Conference (4GMF’2005) in San Diego, California, **USA**, 2005.
- Mustafa Al-Fayoumi, **Shadi Nashwan**, Sufian Yousef, Abdel-Rahman Alzoubaidi, “New Hybrid Approach of Symmetric/Asymmetric Authentication Protocol for Future Mobile Networks”, published in the IEEE computer society journal, IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2007), **USA**, 2007.
- Emad Nashwan, **Shadi Nashwan**, “Recursive algorithm for the reliability of connected-(1, 2)-or-(2, 1)-out-of-(m, n): linear and circular lattice system”, published in proceeding of the 13th International Arab Conference on information Technology (CCIS), **Jordan**, 2012.
- **Shadi Nashwan**, Bandar Alshammari, “Mutual Chain authentication protocol for SPAN Transactions in Saudi Arabian Banking”, 2014 4th International Conference on computer communication and management (ICCC 2014), **Paris**, 2014. Published in International Journal of computer and communication engineering, **USA**, Vol. 3, No. 5, 2014.

F.5 Book Chapters.

- A. Al-Qerem, B. Abutahoun, **Shadi Nashwan**, S. Shakhathreh, M Alauthman, A. Almomani, “Network-Based Detection of Mirai Botnet Using Machine Learning and Feature Selection Methods”, Handbook of Research on Multimedia Cyber Security/IGI Global, 2020.

G. WORKSHOPS

- Workshop on Characterization of Program and Courses of Study, Deanship of Development and Quality, Jouf University, Aljouf – KSA 2010.
- Workshop on Description of Program and Courses of Study, Deanship of Development and Quality, Jouf University, Aljouf – KSA 2011.
- Workshop on Strategic planning, Deanship of Development and Quality, Jouf University, Aljouf – KSA 2011.
- Workshop on Establishing data analysis and reporting systems based on NCAAA requirements, Deanship of Development and Quality, Jouf University-, Aljouf – KSA, Feb 2012.
- Academic Programs and Course Descriptions, Deanship of Development and Quality, Jouf University, Aljouf – KSA, November, 2013.

- Naseej training course in IEEE publisher, Deanship of library affairs, Jouf University, Aljouf – KSA, April, 2013.
- Naseej training course in EBSCO publisher, Deanship of library affairs, Jouf University, Aljouf – KSA, April, 2013.

H. ACADEMIC ACTIVITIES & SERVICES

H.1 University Committees

- Member of the Organization Committee - 2019 International Conference on Computer and Information Sciences (2019 ICCIS), 10 – 11 of April 2019, Jouf University, Aljouf, Kingdom of Saudi Arabia.
- Head of Scientific Committee of 2019 International Conference on Computer and Information Sciences (2019 ICCIS), 10 – 11 of April 2019, Jouf University, Aljouf, Kingdom of Saudi Arabia.
- Member of the Permanent Committee of Development the Preparatory Year Courses, Deanship of Preparatory Year, Jouf University, 2017- 2018.
- Member of the Permanent Committee of Development the University Requirement Courses, Office of Vice Rector for Academic Affairs, Jouf University, 2017- 2018.
- Head of The Permanent Committee to Create the Post Graduate Programs, Deanship of Postgraduate Studies, Jouf University, 2014- 2015.
- Member of the Permanent Committee of Allowances, Deanship of Faculty Affair and Employees, Jouf University, 2014- 2016.

H.2 College Committees

- Member of Technical Committee of the 4th International Conference on Information Technology (ICIT-2009), Faculty of Science and Information Technology, Al-Zaytoonah Private University, 2009.
- Head of the Scientific Committee of the 1th Students Scientific Week (SSW1), College of Computer Science and Information, Jouf University, 2011.
- Head of the scientific committee of the 2th Students Scientific Week (SSW2), College of Computer Science and Information, Jouf University, 2012.
- Head of the quality and Academic Accreditation Committee, College of Computer Science and Information, Jouf University, 2011- 2013.
- Member of appointing faculty members' committee, College of Computer Science and Information, Jouf University, 2015- 2016.

- Member of college of Computer Science and Information board, College of Computer Science and Information, Jouf University, 2013- to 2017.
- Member of the steering committee to develop the academics programs specifications. College of Computer Science and Information, Jouf University, 2017- to 2018.
- Head of the committee to develop the curriculum of Master's degrees in Cybersecurity, College of Computer Science and Information, Jouf University, 2018- to 2019.

H.3 Department Committees

- Member of Computer Science board, Jouf University, College of Computer Science and Information, Jouf University, 2010- present.
- Head of Department Computer Science board, College of Computer Science and Information, Jouf University, 2015- 2017.
- Head of Department Computer Information System board, College of Computer Science and Information, Jouf University, 2013- 2015.

I. PROFESSIONAL ACTIVITIES

- Publication Chair - 2019 International Conference on Computer and Information Sciences (2019 ICCIS), 10 – 11 of April 2019, Jouf University, Aljouf, Kingdom of Saudi Arabia.
- Guest Editor (Special Issue), International Journal of Information Technology and Web Engineering, 2019.
- Member of Telecommunication Research Group (TERG), Anglia Research group, 2005 – 2009.
- Editorial board member of the International Journal of Business Quantitative Economics and Applied Management Research (ISSN: 2349-5677).
- Editorial board member of the International Journal of Scientific Engineering and Science (IJSES) – (ISSN: 2456-7361).

J. TECHNICAL SKILLS

- Educational technology tool: Blackboard
- Programming Tools: C, C++, and Java.
- Cybersecurity Tool: Kali Linux, ProVerif, AVISPA.
- Computer Architecture Tool: MARIE.
- Network Simulator Tool: OPNET.

K. LANGUAGES

- Arabic : Mother tongue

- English: Very good

L. REFEREES

L.1 Prof. Saleh M Abu-Soud

- Academic Rank : Professor.
- Department : Department of Computer Science.
- School : King Hussein School for Computing Sciences.
- Institution : Princess Sumaya University for Technology.
- Mobile : +962777486610/+962789222555.
- Email : abu-soud@psut.edu.jo.

L.2 Prof. Ahmad AL-Qerem

- Academic Rank : Professor.
- Department : Department of Computer Science.
- School : Information Technology.
- Institution : Zarqa University.
- Mobile : +962795426852.
- Email : ahmad_qerm@zu.edu.jo.

L.3 Dr. Mustafa AL-Fayoumi

- Academic Rank : Associate Professor.
- Department : Department of Computer Science.
- School : King Hussein School for Computing Sciences.
- Institution : Princess Sumaya University for Technology.
- Mobile : +962796538053.
- Email : m.alfayoumi@psut.edu.jo.