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Personal Statement

An accomplished Full Professor of Computer Science with an extensive track record in academic leadership, high-impact research, and student mentorship. Nationally and internationally recognized for expertise in cybersecurity, with specialized focus areas in network traffic analysis, intrusion detection systems (IDS), and machine learning applications for cyber defense. Dedicated to fostering innovative learning environments, supervising advanced postgraduate research, and collaborating on cutting-edge solutions for secure next-generation critical infrastructure.

Accomplishments

2026

- **Exploiting GANs Against IDSs: A Systematic Review, Meta-Analysis, and Case Study Evaluation**
Y. Alslman, M. Alkasassbeh, and M. J. Abdel-Rahman
IEEE Transactions on Artificial Intelligence (Early Access), pp. 1–21, 2026.
- **Heartbeat-Aware Multi-Agent Self-Healing for Availability Resilience in Sliced 5G AMI Networks**
R. Younis and M. AlKasassbeh
Arabian Journal for Science and Engineering, Springer Nature, April 2026.
- **IoT Botnet Intrusion Detection System Using Federated Learning Techniques**
A. Saleh, M. Alkasassbeh, and M. Almseidin
Wireless Networks, pp. 1–17, 2026.

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- **A Self-Adaptive Intrusion Detection System for Zero-Day Attacks Using Deep Q-Networks**
M. Alkasassbeh, E. H. Omoush, M. Almseidin, and A. Aldweesh
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- **A Fog-Based Approach for Theft Detection and Zero-Day Attack Prevention in Smart Grid Systems**
R. Younisse, M. AlKasassbeh, and A. Aldweesh
Computers, Materials & Continua, 2025.
- **Breaking and Healing: GAN-Based Adversarial Attacks and Post-Adversarial Recovery for 5G IDSs**
Y. Alslman, M. Alkasassbeh, and M. J. Abdel-Rahman
IEEE Access, Vol. 13, pp. 132109–132125, 2025.
- **Advanced Technologies to Smart Grid Systems: Challenges and Demands**
R. B. Younisse, M. Alkasassbeh, and A. Aldweesh
IEEE Access, Vol. 13, pp. 117732–117752, 2025.
- **Hybrid Deep Neural Network Optimization with Particle Swarm and Grey Wolf Algorithms for Sunburst Attack Detection**
M. Almseidin, A. Gawanmeh, M. Alzubi, J. Al-Sawwa, A. S. Mashaleh, and M. Alkasassbeh
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- **Innovative Applications of Edge Computing and Machine Learning for Enhanced Efficiency and Security**
N. A. Nameh, S. Almajali, A. Odeh, and M. Alkasassbeh
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- **Next-Generation Critical Infrastructure Security: A Framework for Autonomous Defense Systems**
M. Alauthman, A. Mashaleh, N. Aslam, M. Alkasassbeh, and A. Almomani
Proceedings of the 1st International Conference on Computational Intelligence Approaches, 2025.
- **Evaluating Reinforcement Learning Reward Functions for APT Detection in Industrial IoT Systems**
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- **Evaluating Deep Learning for Detecting Data Integrity Attacks in Energy Smart Grids**

R. Younis and M. Alkasassbeh

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- **Streaming-Based Intrusion Detection System with Big Data and Online Learning Algorithms**

A. Saleh, H. Mosa, and M. Alkasassbeh

Proceedings of the 3rd International Conference on New Trends in Computing Sciences (ICTCS'25), 2025.

- **An Enhanced Model of DDoS Attacks Detection Using One-Hot Encoding of Feature Categories**

S. Alodibat and M. Alkasassbeh

Proceedings of the 3rd International Conference on New Trends in Computing Sciences (ICTCS'25), 2025.

- **Self-Adaptive Moving Target Defense with Cyberdeception for Proactive Defense of IoT Networks**

M. Alkasassbeh, A. Khalil, and M. Almseidin

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- **Automotive and Autonomous Vehicle Cybersecurity**

M. Alauthman, M. S. Alkasassbeh, S. Alateef, A. Al-Qerem, and A. Almomani

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- **Privacy-Preserving Security: Balancing Protection and Data Utility in Digital Systems**

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- **IoT Security Architecture Protecting Interconnected Digital Assets in Smart Environments**

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- **Blockchain Technology in Energy Supply Chain Management: A Path to Transparency, Efficiency, and Sustainability**

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- **Blockchain for Integrated Urban Water and Energy Management**

A. Al Maqousi, A. Almomani, A. Al-Qerem, and M. Alkasassbeh

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- **An Efficient Enhanced K-Means Clustering Algorithm for Best Offer Prediction in Telecom**

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- **Network Fault Detection with Wiener Filter-Based Agent**

M. Alkasassbeh and M. Adda

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- **Network Fault Detection Based on Wiener Filter**

M. Alkasassbeh and M. Adda

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- **Analysis of Mobile Agents in Network Fault Management**

M. Alkasassbeh and M. Adda

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- **The Architecture of the Intelligent Mobile Agent in Network Fault Management**

M. Alkasassbeh and M. Adda

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- **A Survey of Network Fault Management**

M. Alkasassbeh, M. Adda, and A. Peart

Proceedings of the IADAT 2nd International Conference on Telecommunications and Computer Networks, Portsmouth, UK, September 2005.

- **Communication Issues in Large Scale Wireless Ad Hoc Networks**

M. Adda, G. Owen, M. Kasassbeh, A. Paraskelidis, and A. Peart

Proceedings of the International Conference on Computer Science and Information Systems, Athens, 2005.

Journal Referee in:

- Journal Of Network And Computer Applications.
- Journal Of Computer Science.
- The International Arab Journal Of Information Technology- IAJIT.
- KSII Transactions On Internet And Information Systems
- Sensors
- Information
- Computers
- Future Internet
- Cluster Computing
- Transactions On Emerging Telecommunications Technologies
- Applied Sciences
- Applied System Innovation
- Electronics
- IEEE Transactions On Network And Service Management
- International Multi-Conference On Complexity, Informatics And Cybernetics
- Journal Of AI And Data Mining
- Journal Of Intelligent & Fuzzy Systems
- Mathematics

Books

Mobile Agents for Network Fault Detection Based on the Wiener Filter

ISBN: 9783639174366

Published: 30 June 2009

Advisor or Co-Advisor on Thesis Project:

Yasmeen Alslman,2024 - A Novel Framework For Optimized Generative Adversarial Networks-Based Attacks Against Intrusion Detection Systems, PSUT, jordan

Remah Younis,2024 - A Resilient And Secure Framework For 5G-Enabled

Smart Grid Systems Using Multi-Agent Reinforcement Learning And Fog Computing, PSUT, Jordan

Ali Trawnih . 2015- 2019 PhD. A new e-readiness framework for Jordanian municipalities: the development and application of a technological, organisational and environmental model. University of Gloucestershire, UK

Mohammad Abdallah Almseidin. supervisor. 2014-2015 M.Sc. Thesis. **Detection and Classification DDoS Attack using Artificial Neural Network**. Information technology department, Mutah University, Jordan.

Ahmad Ayman Al-Tarawneh. supervisor. 2014-2015 M.Sc. Thesis. **Machine learning for user authentication using keystroke dynamics**. Information technology department, Mutah University, Jordan.

Nosaiba Hamdan Abu-Samhadanh. supervisor. 2014-2015 M.Sc. Thesis. **Computer Network Traffic Classification Using Machine Learning Technique**. Information technology department, Mutah University, Jordan.

Eshraq Mohammad Al-Hawari. supervisor. 2014-2015 M.Sc. Thesis. **A Mechanism for Detecting and Classifying Network Anomaly Using SNMP- MIB**. Information technology department, Mutah University, Jordan.

Alaa Ahmad Lasasmeh. supervisor. 2014-2015 M.Sc. Thesis. **Anomaly Detection in Wireless Sensor Networks (WSNs) by using Machine Learning Techniques**. Information technology department, Mutah University, Jordan.

Esraa Abdelsalam Hasanat. Co-supervisor. 2014-2015 M.Sc. Thesis. **Automated Positioning for Towers and Antenna in WiMAX Networks**. Information technology department, Mutah University, Jordan.

Muna Suleiman Ali AL-Hawawreh. supervisor. 2015-2016 M.Sc. Thesis. **Securing Virtual Cloud Environment from DDoS**. Information technology department, Mutah University, Jordan.

Ahmad AlShamayleh. supervisor. 2015-2016 M.Sc. **New Features Extraction Technique for Low Quality Fingerprints**. Information technology department, Mutah University, Jordan.

Esra Edenat. supervisor. 2016-2017 M.Sc. **Using MPLS to effectively transmit huge traffic amount in SDN**. Information technology department, Mutah University, Jordan

Ameen Al-Mseidein. supervisor. 2017-2018 MSc. **A General Adaptive Structure for Improving the Lifetime and Stability Period of Wireless Sensor Networks**. Information technology department, Mutah University, Jordan

Remah Shaher Al-Thunebat. supervisor. 2018-2019 MSc. **A Load Balancing in Cloud Computing Performance: Empirical Study**. Information technology department, Mutah University, Jordan

Ahmed M. Al-Bustanji. supervisor. 2018-2019 MSc. **Accurate Malware Detection using LightGBM Algorithm.** Information technology department, Mutah University, Jordan.

Omar Hamad Naser Al-Smeheen. supervisor. 2019-2020 MSc. **Dimensionality Reduction for DDOS Database Using PCA.** Information technology department, Mutah University, Jordan.

Nisreen Raeq. supervisor. 2019-2020 MSc. **Multi Mobile Agents Planning for collecting MIB data:Dynamic Time-Effective Approach.** Princess Sumaya University for Technology, Jordan

AlMaha Abu Zuraiq. supervisor.. 2019-2020 MSc. **Intelligent Methods for Accurately Detecting Phishing Websites.** Princess Sumaya University for Technology, Jordan

Malak Ziyad Fraihat . supervisor. 2019-2020 MSc. **New Clustering Approach to Predict the Best Customers.** Princess Sumaya University for Technology, Jordan.

Asshar khamaiseh. supervisor. 2021-2022 MSc. **Unknown Attack Detection based on Multistage One-Class SVM.** Princess Sumaya University for Technology, Jordan.

Zain Salah Ashi. supervisor. 2021-2022 MSc. **Multi-Layered Intelligent Cyber Attack DetectionUsing One-Class SVM.** Princess Sumaya University for Technology, Jordan.

Rama Al Attar. supervisor. 2021-2022 MSc. **Soft computing for anomaly detection to mitigate IoT abuse.** Princess Sumaya University for Technology, Jordan.

Ehab Ali Almasri . supervisor. 2022-2023 MSc. **Towards Generating a Practical SUNBURST Attack Dataset for Network Attack Detections.** . Princess Sumaya University for Technology, Jordan.

Committee Member on Thesis Examination:

Nafea Ali Majeed Alhammadi. 2016. **Comparative Study between (SVM) and (KNN) Classifiers after adding (PCA) to Improve of Intrusion Detection System.** M.Sc. Faculty of Information Technology, Middle East University. Amman, Jordan.

Heba Hashim Al-Nsour. 2016. **Grey wolf optimizer algorithm with probabilistic neural.** Faculty of Graduate Studies at Al-Balqa' Applied University Salt, Jordan.

Moad Abu Qadoura.2016. **Flower Pollination Algorithm with an Artificial Neural Network for Solving classification problems**
. Faculty of Information Technology at Al-Balqa' Applied University Salt, Jordan.

Mohammed Jamal Al-Saaidah.2017. **Enhancement of Queuing Algorithm for improving Network Performance**. Faculty of Information Technology at Al-Balqa' Applied University Salt, Jordan.

Ibrahim Ahmad Alhabash.2017. **TOPOLOGY AWARE MEDIA ACCESS CONTROL PROTOCOL FOR MOBILE AD HOC NETWORK**. King Abdullah School of IT - University of Jordan, Jordan.

Hamza Bassam Bani Ata. 2018. **A Model for Privacy in Mobile Cloud Computing Systems**. King Abdullah School of IT - University of Jordan, Jordan.

Farah Tawfiq Abu-Dabaseh.2018. **Web Applications Forensics for Smartphones**. King Abdullah I School of Graduate Studies and Scientific Research, Princess Sumaya University for Technology

Sarah Khaldun . 2021.. **Blockchain Based E-Voting System for Elections in Jordan** : King Abdullah I School of Graduate Studies and Scientific Research, Princess Sumaya University for Technology

Mo'ath Salem Shatnawi, 2023. **Detecting Emergency Vehicles On Road Networks: A Novel Generated Dataset Using Gans**, Deanship of Academic Research and Graduate Studies Philadelphia University

PhD Committee Member on Thesis Examination:

P.Periyasamy, 2016. **Design and Development Of Link Reliable Energy Efficient Ad Hoc On-Demand Multipath Distance Vector (LR-EE-AOMDV) Routing Protocol For Mobile Ad Hoc Networks**. Doctor Of Philosophy In Computer Science (PhD) Bharathiar University, India.

O. AbuAlghanam,2020. **Lightweight Key Distribution Protocol for Internet of Things**. Doctor Of Philosophy In Computer Science (PhD) Jordan University, Jordan.

H.Alazzam,2020. **An Automatic Lightweight Intelligent Intrusion Detection System For Cyber Security**. Doctor Of Philosophy In Computer Science (PhD) Jordan University, Jordan.

E. Rawashdeh,2020. **A Coevolutionary Framework For Feature Selection And Optimization Of Neural Networks**. Doctor Of Philosophy In Computer Science (PhD) Jordan University, Jordan.

Orieb Talal AbuAlghanam.2021. **Lightweight Key Distribution Protocol for Internet of Things**. Doctor Of Philosophy In Computer Science (PhD) Jordan University, Jordan.

Muhyidean Khaled AlTarawneh .2021. **Data Analytics Framework for Permissioned Blockchains: Hyperledger Fabric**. Doctor Of Philosophy In Computer Science (PhD) Jordan University, Jordan.

Ola Majed Malkawi .2023. **USING MACHINE LEARNING TO DESIGN AND IMPLEMENT AN INTRUSION DETECTION SYSTEM TO SECURE SMART CITIES BASED ON FEATURE SELECTION**. Doctor Of Philosophy In Computer Science (PhD) Jordan University, Jordan.

Professional Work Experience

Sept 18- Present	Full Professor - <i>Computer Sciences Department -King Hussien School for Computing Sciences, Princess Sumaya, University for Technology, Jordan.</i>
Aug 18 - Sept 18	Full Professor - <i>Computer Sciences Department - Mutah University, Jordan</i>
Sept 17 - Aug 18	Associate Professor - <i>Computer Sciences Department - Mutah University, Jordan</i>
Sept 16 - Sept 17	Associate Professor - <i>King Hussien School for Computing Sciences, Princess Sumaya, University for Technology, Jordan (<u>sabbatical leave</u>)</i>
Aug 13 - Sept 16	Associate Professor - <i>IT Department - Mutah University, Jordan</i>
Sept 13 - Sept 14	Head of IT Department - <i>Mutah University, Jordan</i>
Jun 11 - Sept 13	Postdoc Leiden University, Netherlands (Summer time each year)
Aug 08 - Aug 13	Assistant Professor - <i>IT Department Mutah University, Jordan</i>
Aug 08 - Aug 10	Head of the Computer Science Department, IT Department Mutah University, Jordan . (military wing)
Nov 05 - May 08	Part-time Lecturer - <i>Computer Sciences Department, Portsmouth University, UK</i>
Jan 00 - Sept 03	Computer Programmer - <i>Computer Centre, Mutah University, Jordan</i>
Oct 99 - Jan 00	Teacher - <i>Ministry of Education, Jordan</i>
Sept 98 - Sept 99	Computer Programmer and Instructor - <i>Saudi Arabia</i>
Feb 98 - Aug 98	Computer Programmer - <i>National Support Office, Jordan</i>

Education And Certification

Education

2005 - 2008	PhD Computer Science - <i>University of Portsmouth, UK</i> Specialty Network Security: Thesis title " <i>Mobile Agents for Network Fault Detection Based on Wiener Filter</i> ".
2003 - 2004	MSc in Internet Systems Development - <i>University of Portsmouth, UK</i> Specialty Internet Systems.
1994 - 1998	BSc in Computer Science - <i>Mutah University, Jordan</i> Specialty Internet Systems.
1993 - 1994	Scientific Stream - <i>High School, Al karak, Jordan</i>

Certification

- The Complete Nmap Ethical Hacking Course : Network Security
- Learn Burp Suite, the Nr. 1 Web Hacking Tool
- Kali Linux Web App Pentesting Labs

- Cisco CCNA Network Security Packet Tracer Activities
- Hacking From Scratch
- Cisco CCNA Network Security Packet Tracer Activities Guide
- 5G Network Security
- Cisco Certified Network Associate Routing & Switching (CCNA)
- CCNA Security
- CA-OpenIngres User Interface
- CA-OpenIngres SQL
- Application Development in CA-Windows 4GL (CA OpenROAD) DEVWOR

Teaching

Level	Course Name	Course No
PhD	Computer and Network Security	11932
PhD	Advanced Computer Networks	11934
Master	Advance Computer Network	0304720
Master	Computer Simulation	0304730
Master	Network Security	0304740
Master	Design and Development of e-business	1901716
Master	Management Information Systems	1901761
Master	Introduction of Information Technology	1901717
Master	Supervision of Master's Dissertation	
Undergrad	Computer Network	0304424
Undergrad	Internet Programming	0304424
Undergrad	eCommerce Technology	0304431
Undergrad	C++ Programming	0304112
Undergrad	Final Year Projects	0307614
Undergrad	Java Programming	0304215

Research Interests

- Network Traffic Analysis
- Network Fault Detection

- Time Series Analysis
- Intelligent Mobile Agent Systems
- Computer Network Security
- Cloud computing
- AI and machine learnings in network security
- Intrusion Detections Systems (IDS)
- SDN and Traffic engineering
- Router queuing

Referees

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