

Sofian Kassaymeh, Ph.D.

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Academic Qualifications and Degrees

UKM University	Sept. 2021, Malaysia
- Ph.D. in Computer Science/Artificial Intelligence and Software Engineering - Dissertation title: Modified Salp Swarm Algorithms with Back Propagation Neural Network for Software Engineering Prediction Problems - Supervisor: Prof. Dr. Salwani Abdullah	
Hasselt University	Sept. 2009, Belgium
- Master of MIS in Software Engineering - Dissertation title: Improving Cost Estimation Methods to be Useful for Web Applications - Supervisor: Prof. Dr. Jeanne Schreurs	
AABFS University	June 2007, Jordan
- B.S. in Computer Information Systems - Focus on the Intersection of Information Technology and Business applications, such as Business Analysis and Administration, Information Technology Management, Systems Analysis, E-Commerce, Project Management, Information Systems Strategy, and Software Engineering.	

Employment and Academic Experience

- Aqaba University of Technology Head of Software Engineering Dept., Faculty of Information Technology.	2024 - present, Jordan
- Aqaba University of Technology Assistant Professor, Software Engineering Dept., Faculty of Information Technology.	2022 - present, Jordan
- Aqaba University of Technology Scientific Research Dean Assistant.	2023 - 2024, Jordan
- Al-Balqa Applied University Adjunct Faculty, CS Dept., Faculty of Information and Communication Technology.	2021 - 2022, Jordan
- Taif University Graduate Research & Teaching Assistant, Information Technology Dept., College of Computers and Information Technology.	2011 - 2018, Saudi Arabia
- University of Banking and Financial Science Graduate Teaching Assistant (TA), CIT Dept., Faculty of Information Systems and Technology.	2009 - 2011, Jordan

Academic Honors and Awards

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|---|------------------------|
| 1. Best Paper Award of the 1 st Conference of Al-Balqa Applied University on Research Projects (BAURP 2024). | 2024,
Jordan |
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| 2. Best Paper Award of the 8th International Conference on Electrical Engineering and Informatics (ICEEI2021), UKM University. | 2021,
Malaysia |
| 3. Graduate on Time Award, Academic Session 2020/2021, UKM University. | 2021,
Malaysia |
| 4. Certificate of Appreciation and Shield of Excellence for Winning the First Class Upper in the Bachelor Degree, AABFS University.
On the Honor Roll of the University. | 2007,
Jordan |

Peer-Reviewed Publications

Refereed Journal Papers – Published

1. Recent Advances in Multi-Objective Whale Optimization Algorithm, its Versions and Applications
Published: June, 2025 in Journal of King Saud University - Computer and Information Sciences
DOI:
2. Advancements in Global Optimization with an Empowered Capuchin Search Algorithm.
Published: June, 2025 in Neural Computing and Applications
DOI: 10.1007/s00521-025-11421-0
3. Integration of Deep Learning and Image Segmentation in Computational Modeling for Improved Biospeckle Image Analysis
Published: June, 2025 in SN Computer Science
DOI: 10.1007/s42979-025-03872-y
4. Enhanced Dynamic Deep Q-Network for Federated Learning scheduling policies on IoT devices using explanation-driven trust.
Published: 2025 in Knowledge-Based Systems
DOI: 10.1016/j.knosys.2025.113574
5. Recent Advances in Multi-Objective Cuckoo Search Algorithm, its Variants and Applications.
Published: 2025 in Archives of Computational Methods in Engineering
DOI: 10.1007/s11831-025-10240-9
6. Adaptive Ensemble Learning Model-Based Binary White Shark Optimizer for Software Defect Classification.
Published: 2025 in International Journal of Computational Intelligence Systems
DOI: 10.1007/s44196-024-00716-0
7. Optimizing Beyond Boundaries: Empowering the Salp Swarm Algorithm for Global Optimization and Defective Software Module Classification.
Published: June, 2024 in Neural Computing and Applications
DOI: 10.1007/s00521-024-10131-3
8. Hybrid Aquila Optimizer for Efficient Classification with Probabilistic Neural Networks.
Published: June, 2024 in Multiagent and Grid Systems
DOI: 10.3233/MGS-230065
9. Feedforward Neural Network-based Augmented Salp Swarm Optimizer for Accurate Software Development Cost Forecasting.
Published: November, 2023 in Applied Soft Computing Journal
DOI: 10.1016/j.asoc.2023.111008
10. An Enhanced Salp Swarm Optimizer Boosted by Local Search Algorithm for Modelling Prediction Problems in Software Engineering.
Published: September, 2023 in Artificial Intelligence Review Journal
DOI: 10.1007/s10462-023-10618-w
11. Improving Intrusion Detection in the IoT with African Vultures Optimization Algorithm-Based Feature Selection.
Published: 2024, in Int. J. of Data Mining, Modelling and Management
DOI: 10.1504/IJDDMM.2024.10060965
12. Parallel Metaheuristic Algorithms for Solving Imbalanced Data Classification Problems.
Published: October, 2023 in IEEE Access Journal

DOI: 10.1109/ACCESS.2023.3324061

13. Hybrid Black Widow Optimization with Iterated Greedy Algorithm for Gene Selection Problems.

Published: September, 2023 in Heliyon Journal

DOI: 10.1016/j.heliyon.2023.e20133

14. An efficient Convergence-Boosted Salp Swarm Optimizer-Based Artificial Neural Network for the Development of Software Fault Prediction Models.

Published: August, 2023 in Computers and Electrical Engineering Journal

DOI: 10.1016/j.compeleceng.2023.108923

15. Recent Advances in Grey Wolf Optimizer, its Versions And Applications: Review

Published: August, 2023 in IEEE Access Journal

DOI: 10.1109/ACCESS.2023.3304889

16. An Efficient Hybrid Mine Blast Algorithm for Tackling Software Fault Prediction Problem.

Published: July, 2023 in Neural Processing Letters Journal

DOI: 10.1007/s11063-023-11357-3

17. Parameter Identification of a Multilayer Perceptron Neural Network using an Optimized Salp Swarm Algorithm.

Published: September, 2023 in International Journal of Advanced Computer Science and Applications

DOI: 10.14569/IJACSA.2023.01406130

18. A Review of UAV Visual Detection and Tracking Methods.

Published: June, 2023 in Signal Processing Journal

DOI: 10.48550/arXiv.2306.05089

19. Software Effort Estimation Modeling and Fully Connected Artificial Neural Network Optimization Using Soft Computing Techniques.

Published: February, 2023 in Cluster Computing Journal

DOI: 10.1007/s10586-023-03979-y

20. A Hybrid White Shark Equilibrium Optimizer for Power Scheduling Problem Based IoT.

Published: 2022 in IEEE Access Journal

DOI: 10.1109/ACCESS.2022.3229434

21. Self-Adaptive Salp Swarm Algorithm for Optimization Problems.

Published: September, 2022 in Soft Computing Journal

DOI: 10.1007/S00500-022-07280-9

22. Salp Swarm Optimizer for Modeling the Software Fault Prediction Problem.

Published: June, 2022 in Journal of King Saud University - Computer and Information Sciences

DOI: 10.1016/j.jksuci.2021.01.015

23. Backpropagation Neural Network Optimization and Software Defect Estimation Modelling Using a Hybrid Salp Swarm Optimizer-Based Simulated Annealing Algorithm.

Published: May, 2022 in Knowledge-Based Systems Journal

DOI: 10.1016/j.KNOSYS.2022.108511

24. Salp Swarm Optimizer for Modeling Software Reliability Prediction Problems.

Published: December, 2021 in Neural Processing Letters Journal

DOI: 10.1007/S11063-021-10607-6

25. Software Effort and Function Points Estimation Models Based Radial Basis Function and Feedforward Artificial Neural Networks.

Published: 2015 in International Journal of Next-Generation Computing

DOI: 10.47164/ijngc.v6i3.99

26. Estimating the Number of Test Workers Necessary for a Software Testing Process Using Artificial Neural Networks.

Published: 2014 in International Journal of Advanced Computer Science and Applications

DOI: 10.14569/issn.2156-5570

Conference Proceeding

27. Beyond Traditional Motion Planning: A Proximal Policy Optimization Reinforcement Learning Approach for Robotics.

Published: 2024 in Proceedings of The 5th Joint International Conference on AI, Big Data and Blockchain (ABB 2024), 104-116, Springer

28. Interpretable SHAP-Driven Machine Learning for Accurate Fault Detection in Software Engineering

Published: 2024 in Proceedings of The 5th Joint International Conference on AI, Big Data and Blockchain (ABB 2024), 52-66, Springer

29. Enhancing Software Fault Prediction Using a Hybrid Metaheuristic Approach.

Published: 2024 in Proceedings of the 1st Conference of Al-Balqa Applied University on Research Projects (BAURP 2024), Jordan

30. Modified Salp Swarm Algorithm for Software Development Effort Estimation Modeling.

Published: 2023 in Proceedings of the 2023 6th International Conference on Software Engineering and Information Management (ICSIM 2023), Massey University, New Zealand

31. A Hybrid Salp Swarm Algorithm with Artificial Neural Network Model for Predicting the Team Size Required for Software Testing Phase.

Published: Oct 2021 in International Conference on Electrical Engineering and Informatics, ICEEI

DOI: 10.1109/ICEEI52609.2021.9611128

Ph.D Thesis Advisor/Co-Advisor

1. Jameel Saraireh, **Adaptive Ensemble Learning Model Using Evolutionary Metaheuristics for Software Defect Classification**, Co-Supervisor, Department of Management Information Systems, Cyprus International University. July 2025, **Turkey**
2. Ariej Aqel Zayed Al-Bdairat, **An Adaptive Chameleon Swarm Algorithm with Convolutional Neural Network-Enabled Prediction for Amyotrophic Lateral Sclerosis Disease Progression**, Co-Supervisor, CAIT, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia. Jan. 2024, **Malaysia**
3. Safaa Yousef Al-Adwan, **Hybrid Filter-Wrapper Feature Selection using Ensemble Multivariate Filter with Enhanced HHO for the IDS Problem**, Co-Supervisor, CAIT, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia. Spt. 2024, **Malaysia**

M.Sc. Thesis Supervisor

1. Safinaz Ali, **Applying Unsupervised Machine Learning for Strategic Customer Segmentation: A K-Means Clustering Approach in a B2C Context**, Department of Business Intelligence, Aqaba University of Technology. June 2025, **Jordan**
2. Osama Ahmed, **Predicting Customer Churn in the Telecommunications Sector: An XGBoost-Driven Approach for Enhanced Business Intelligence and Strategic Customer Retention**, Department of Business Intelligence, Aqaba University of Technology. June 2025, **Jordan**

M.Sc. Committee Membership

- Ma'en Mohammad Alsarayrah, **Fake News Detection Using Machine Learning Algorithms**, M.Sc. Thesis, Business Faculty, Al-Zaytoonah University of Jordan. May 2024, **Jordan**

Erasmus+ Staff Mobility

1. **Staff Mobility - KA 171, Kastamonu University** Oct. 2024, **Turkey**
 - **Destinations:** Kastamonu University – Turkey
 - **Aim:** to provide staff members with opportunities to enhance their skills, gain new experiences, and foster collaboration with our partner institutions.

Erasmus+ Projects

1. **ERASMUS-EDU-2024-CBHE: MLUMSE** Feb. 2024
 - Strengthening the Quality of Higher Education in Usage of Geospatial Technology Supporting Urban and Rural Areas Planning and Sustainable and Resilient Management

Under Climate Change Threats in Southern Mediterranean (SM) Partner Countries.

- European Commission in the Capacity Building Stream of the Erasmus+ Program (Project ID: 101179645).

2. ERASMUS-EDU-2022-CBHE: RL4Eng

Feb. 2023

- Development of Remote and Virtual Laboratories for Teaching and Training Engineering Students in the South Mediterranean and Sub-Saharan Higher Education Institutions.
- European Commission in the Capacity Building Stream of the Erasmus+ Program (Project ID: 101082939).

Journals Reviewing

1. Springer

- Discover Artificial Intelligence
- Signal Image and Video Processing
- Journal of King Saud University Computer and Information Sciences
- Cluster Computing Journal
- Artificial Intelligence Review Journal
- Arabian Journal for Science and Engineering
- Discover Applied Sciences Journal
- Operations Research Forum
- Archives of Computational Methods in Engineering
- Electrical Engineering
- Journal of Supercomputing

2. Nature

- Scientific Reports Journal

3. Elsevier

- Engineering Applications of Artificial Intelligence

4. Taylor & Francis

- Journal of Experimental & Theoretical Artificial Intelligence

5. Other

- Indonesian Journal of Electrical Engineering and Computer Science
- SLAS Technology Journal
- Int. J. of Mathematical Modelling and Numerical Optimisation

Consulting for ICT Projects and Programs

- **Courses Author for Vocational Training Program in Software Development,** May 2024,
 - Funded by German Foundation for International Cooperation (GIZ).
 - Implemented by Al Meth aleiah for Business Development Company.
 - Owned by Al-Hussein Technical University (HTU).**Jordan**
- **Iraq's Civil Registration and Vital Statistics (CRVS) Project,** Jun. 2023,
 - Funded by UNICEF;
 - Implementation through the Accelerating Digital Transformation Company (ISEET);
 - Owned by the Iraqi government jointly with the Kurdistan Regional Government.**Iraq**
- **Learning Management System (LMS) Project,** Aug. 2023,
 - Implemented by Al Methaleiah for Business Development Company.**Jordan**

Funded Grants (PI or Co-PI)

- **2023-IRG-ENIT-27** Sept. 2023
 Attrition Rate Prediction in Higher Education Institutions: Ajman University Case Study.
 Funded by Artificial Intelligence Research Center (AIRC),
 Ajman University

- **2022-IRG-ENIT-6**

Machine Learning Methods with Metaheuristic Swarm Intelligence Algorithms to tackle Software Engineering Prediction Problems.

Funded by Artificial Intelligence Research Center (AIRC),
Ajman University

Oct. **2022**
- **DSR-2021 #404**

Metaheuristic Algorithms Based on Machine Learning Techniques for Modeling Software Engineering Prediction Problems.

Funded by Deanship of Scientific Research,
Al-Balqa Applied University

Feb. **2022**
- **DSR-2020 #295**

Metaheuristic Mine Blast Algorithm for Modeling Software Reliability Prediction Problems.

Funded by Deanship of Scientific Research,
Al-Balqa Applied University

Jan. **2021**

Services

- Head of Software Engineering Department, IT Faculty, Aqaba University of Technology.
- 2024- present
- Associate Dean for Scientific Research and Graduate Studies, Aqaba University of Technology
- 2023-2024
- Member, Strategic Planning, IT Faculty Committee, Aqaba University of Technology.
- 2023- present
- Co-Chair, IT Faculty Curriculum Committee, Aqaba University of Technology.
- 2023- present
- Member, IT Faculty Research Committee, Aqaba University of Technology.
- 2023- present

Research Interests

- Artificial Intelligence
- Combinatorial Optimization
- Metaheuristics Algorithms
- Machine Learning & Data Mining
- Interpretable Machine Learning
- Causal Machine Learning
- Artificial Neural Networks
- Software Engineering, Requirements, Cost Estimation, and Reliability Modeling

Workshops

- Mastering Research Writing: Crafting Impactful Journal Articles, Aqaba University of Technology.
- May 2024,
Jordan
- How to Write an Impactful Journal Research Article Workshop, Al-Balqa Applied University.
- June 2024,
Jordan

Conferences

- The 5th Joint International Conference on AI, Big Data and Blockchain (ABB 2024).
- Aug 2024,
Austria
- The International Arab Conference on Information Technology, ACIT'2023, Ajman University, Ajman University.
- December 2023, **UAE**
- The 6th International Conference on Software Engineering and Information Management (ICSIM 2023), January 31–February 2, 2023, Massey University.
- 2023, **New Zealand**

- The 8th International Conference on Electrical Engineering and Informatics (ICEEI2021), Oct. 12–13, 2021, UKM University. 2021, **Malaysia**
- The Data Mining and Optimization Training Workshop 2019 took place at UKM University in Dickson Port. 2019, **Malaysia**

Conference Session Chair

- Session Chair in The 8th International Conference on Electrical Engineering and Informatics (ICEEI2021) on Oct. 12, 2021 organized by UKM University, Malaysia. 2021, **Malaysia**

Professional Experiences

- **AABFS University** 2006 - 2008
System Administrator and Web-Developer - IT Center, **Jordan**
- **Al-Balqa Applied University** 2001 - 2006
Web-Developer/Designer - Computer Center, **Jordan**

Academic Teaching

- **Aqaba University of Technology**
 - 2312203-Advanced Artificial Intelligence
 - 313316-Data Mining and Retrieval
 - 2312407-Natural Language Processing
 - 313460-Machine Learning
 - 302401-Software Engineering
 - 312441-IT Project Management
 - 2321415-Software Quality Management
 - 2321402-Software Testing
 - 312356-Software Maintenance & Re-engineering
 - 2321304-Scientific Research and Technical Writing
- **Al- Balqa Applied University**
 - 30801219-Data Structures
 - 30802301-Web Applications and Services
 - 30801204-Object Oriented Programming
 - ICS222- Web Programming
 - A30513251-Introduction to eBusiness and eCommerce
 - 35005101-Computer Skills
- **Taif University**
 - Software Engineering
 - Systems Analysis & Design
 - IT Project Management
 - Computer Architecture and Organization
 - Computer Skills and IT
 - Database Systems
 - Programming in JAVA
 - Programming in C++
 - Data Communications
 - Information Systems in Business
 - Computer Skills

- **UBFS University**
 - Artificial Intelligence
 - Software Engineering
 - IT Project Management
 - Database Management
 - Data Structure
 - Programming with C++
 - Programming with Java
 - Object-Oriented Programming
 - Web Development
 - Management Information Systems

Academic Services

- Member of the Scientific Research Council, Aqaba University of Technology 2023-present
- Member of the committee for updating the bachelor's degree plan in software engineering, IT Faculty, Aqaba University of Technology 2023-present
- Member of the committee for creating a Bachelor's degree in Cybersecurity and Data Privacy, IT Faculty, Aqaba University of Technology 2023-present
- Member of the committee for accrediting a bachelor's degree in software engineering, IT Faculty, Aqaba University of Technology 2023-present
- Member of the Organization Committee of International Conference on Business Environment in Digital Economy and Data Science (DEDS2020), Al-Balqa Applied University, Jordan, 2020
- Member of the Organization Committee of the Fifth Scientific Forum for Students of CIT Faculty, Taif University 2015, Taif, Saudi Arabia 2015
- Member of the Organization Committee of the Fourth Scientific Forum for Students of CIT Faculty, Taif University February 2013, Taif, Saudi Arabia 2013
- ACM Conference on Innovations in Computing & Engineering Machinery (JCM CICEM 2011), Amman, Jordan, 2011
- KBC Group, ICT Seminar, Corvinus University of Budapest, March 5th, 2009 - Budapest, Hungary 2009
- Member of the Organization Committee of the Advanced Computation for Engineering Applications (ACEA08) Workshop, July 2008, Al-Balqa Applied University, Salt, Jordan, 2008
- Member of the Organization Committee of the 2nd Jordan, International Conference on Computer Science and Engineering (JICCSE-2006), Dec 2006, Al-Balqa Applied University, Salt, Jordan, 2006
- Member of the Organization Committee of the 1st Jordan, International Conference on Computer Science and Engineering (JICCSE-2004), Oct 2004, Al-Balqa Applied University, Salt, Jordan, 2004

Technical Skills

- **Online Teaching Platform:** Blackboard, Moodle.
- **Technical Writing:** Latex.
- **Programing Languages:** MATLAB, PHP, Java, C++, VB.Net, Python.
- **Database:** MySql, MS SQL Server, MS-Access.
- **Tools:** MikTex, Eclipse, Visual Studio.Net, MS Project.
- **Web Design:** HTML, CSS, PHP, ASP.Net, MS Visual Studio.

- **Graphic Design:** Adobe Photoshop, Adobe Flash.

Certificates

- IELTS (5.5)
- TOEFL (603)
- ICDL

Languages

- Arabic & English

References

Prof. Dr. Salwani Abdullah

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UKM University,
Bangi, Malaysia

Dr. Gaith Rjoub

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Faculty of Information Technology
Mobile: +962 791800189
e-mail: grjoub@aut.edu.jo
Aqaba University of Technology
Aqaba, Jordan

Dr. Shahed Al Mobydeen

Software Engineering Dept., IT Faculty
Faculty of Information Technology
Mobile: +962 797114343
e-mail: salmobydeen@aut.edu.jo
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Aqaba, Jordan