Ahmad A. Aloqaily

PERSONAL INFORMATION:

Nationality: Jordanian and Australian
Marital Status: Married
Date of Birth: 27 September 1980
Address: 35 Elyas Ghoulah St.
Dahiyat Ar Rashid - Amman, Jordan
Mobile No: + 962 79 5 171 520
Email: aloqaily@hu.edu.jo

My teaching and research objective is to continue learning and hopefully contribute to science through my teaching and research work dedication, and I believe that this is a lifelong process.

EDUCATION:

Doctor of Philosophy (Ph.D.)
Thesis title: "**Modelling, Data Mining and Visualisation of Genetic Variation Data**"
2012
Specialization: **AI/Machine Learning and Data Science**
Faculty of Engineering and Information Technology
University of Technology, Sydney
Sydney, Australia

Master of Science in Computing
Thesis title: "**Application of clustering gene using kernel methods**"
2006
Department of Computing Science
Faculty of Engineering and Information Technology
University of Technology, Sydney
Sydney, Australia

Bachelor of Science in Computer Science
2002
Computer science department
Faculty of Information Technology
Jordan University of Science and Technology
Irbid, Jordan

RESEARCH INTERESTS

- Data Science
- Machine Learning,
- Bioinformatics
- Big Data Analytics
- Sentiment Analysis

PROFESSIONAL EXPERIENCES

National Informatics Centre for Science and Technology — **Director**
The Higher Council for Science and Technology
1/1/2025-current

The Hashemite University — **Vice Dean**
Deanship of Academic Development & International Outreach
1/9/2022 – 1/10/2024

The Hashemite University — **Associate Professor**
Department of Computer science and applications
2-3-2020 – till now

The Hashemite University — **Head of the Information Technology Department**
Department of Information Technology
1/9/2021 – 1/9/2022
Managing three academic programs
- **Data science and AI**
- **BIT**
- **Cybersecurity**

The Hashemite University — **Assistant Professor**
Department of Computer science and applications
3/2/2013 – 2/3/2020

The Hashemite University — **Head of the CSA Department**
Department of Computer science and applications
1/9/2013 – 1/9/2015

University of Technology, Sydney — **Research Assistant**
Department of Software
2/9/2011 – 25/10/2012, Sydney – Australia

University of Technology, Sydney — **Casual Academic**
Department of Software
1/1/2007 – 1/9/2011, Sydney – Australia

The Higher Council for Science and Technology — **IT Trainer**
20/9/2003 – 1/4/2004, Jordan

Ministry of education, Jordan — **High School Teacher**
Computer science department
1/9/2002 – 20/9/2003, Jordan

STATEMENT OF TEACHING PHILOSOPHY

It is my passion to be involved in the teaching and learning environment since my early undergraduate studies. Over the past twelve years, I taught and worked with hundreds of undergraduate and graduate students as a teacher, research advisor, mentor and senior projects advisor. I consider the statement of teaching as a living testimonial that will change over time with new experiences.

I enjoy transferring knowledge and skills to my students, as students are the core of the learning process. This includes cognitive and non-cognitive skills such as critical thinking, problem solving, collaboration, effective communication, motivation, and learning to learn.

The main goal of my teaching philosophy is to be able to apply the concepts learned in the course to an actual work assignment, building scenarios and activities. Eventually, this goal will be shared with my students for a better learning experience. It is important to apply one concept in a real-world application encouraged students to look for ways to incorporate other concepts learned. Regarding graduate students, the primary purpose of my teaching philosophy is to improve "students' experience" in higher education. I emphasize teamwork and soft-skill as the computer science domain is considered a technical and practical domain. Graduate students must have hands-on skills through group-based projects, technical and progress reports, term papers, and presentations. Ultimately, this enables students (especially from the MENA area) to be acquainted with international standards, and as a result to meet modern education quality standards.

Finally, my teaching and research objective is to continue to learn and (I hope) contribute to science through my teaching and research work experience, and I believe that this is a lifelong process.

STATEMENT OF RESEARCH PHILOSOPHY

My research experience has been expanded to establish how theories and insights can be translated into practice and applied science. The information technology field is one of the largest fields in modern science that connects theoretical and applied sciences. The Information and Communication Technology (ICT) domain is under increasing pressure to transfer theory and knowledge to technological and real-life applications. Therefore, there is a real need to conduct applied and collaborative research work to increase the impact of the ICT domain.

Over the last 12 years, my teaching and research experience in information technology has provided me with a solid research background to conduct applied and collaborative research work successfully. My Ph.D. research experience at the University of Technology Sydney (UTS), Australia, and my work experience as a lecturer and researcher at Hashemite University, Jordan, have enabled me to embrace multicultural societies and advocate for multi-disciplinary research. My Ph.D. research work at UTS University was in the Artificial intelligence and Machine-learning domain applied to Bioinformatics, where I published several research papers. Moreover, during my work at Hashemite University, an innovative contribution of my work was part of a team of researchers from various domains and universities around the world (Hashemite University, Jordan University, Yale University and Imperial College London) who came together to discover novel genetic mutations to identify phenotypes and related genotypes. The interdisciplinary team identified a novel mutation in the Jordan population for motor neuropathies. Such discoveries will help understand the biological mechanisms of disease development that will eventually lead to preventive and therapeutic measures to reduce the disease burden on communities and governments. The outcomes of this study, which last for three years of collaboration, may provide the hope to continue studying the disease and the possibility of obtaining treatment with the tremendous scientific progress in this field. This work was published in the Journal of Medical Genetics (with an IF of 5.9).

Furthermore, my research work at Hashemite University is concerned with applying Artificial Intelligence and Machine Learning (ML) theories to address research work related to data science. I have been involved in many research areas, including data science, sentiment analysis and web usage mining, natural language processing, and evolutionary computation. For example, in the data science domain, I have been involved in research works that analyze datasets and build ML models for various domains, including bioinformatics, web-usage mining, and software engineering datasets. In sentiment analysis and natural language processing, several studies investigated the impact of utilizing ML and lexicon-based approaches to classifying Arabic and English text. In these studies, different ML approaches are used to construct multinomial classification models. Another study uses artificial neural networks (ANN) for the classification of business datasets.

My research works have been published in well-known international refereed indexed specialized journals, such as the Journal of Medical Genetics, International Journal of Computational Intelligence Systems, Int. J. Bioinformatics Research and Applications, International Journal of Computer Applications in Technology, International Journal of Business Information Systems.

Finally, I received local and international grants for various research and projects in various areas. I was a member of the e-learning project at Hashemite University. My main task for this project was to build a complete online course for Computer science and bioinformatics courses.

To conclude, my research work will mainly be related to addressing theoretical and practical issues of data science and AI/Machine learning domain.

RESEARCH PUBLICATIONS

Thesis

Aloqaily, A., "**Modelling, Data Mining and Visualisation of Genetic Variation Data**", Ph.D. Thesis, *University of Technology, Sydney (UTS), Sydney, Australia*, 2010.

Aloqaily, A., "**application of clustering gene using kernel methods**", Masters Project, *University of Technology, Sydney (UTS), Sydney, Australia*, 2006.

Journals

[1] Aloqaily, A., Abdallah, E.E., Al-Zyoud, R., Abu Elsoud, E., H., Al-hassan, M., and , Abdallah, A.E. 2025, "**Deep Learning Framework for Advanced De-identification of Protected Health Information**". In Informatics (Vol. 17, No. 1). MDPI.

[2] Aloqaily, A., Abdallah, E.E., AbuZaid, H., Abdallah, A.E. and Al-hassan, M., 2025, "**Supervised Machine Learning for Real-Time Intrusion Attack Detection in Connected and Autonomous Vehicles: A Security Paradigm Shift**". In Informatics (Vol. 12, No. 1, p. 4). MDPI.

[3] Ahmad Aloqaily and others, "**Machine and Deep Learning Classifiers for Binary and Multi-class Network Intrusion Detection Systems**", submitted.

[4] Ahmad Aloqaily and others, "**Machine and Deep Learning Approaches for Detecting Phishing Emails**", submitted .

[5] Al-hassan M., Abu-Salih B., Alshdaifat E., **Aloqaily A.,** Rodan A., (2024), **"An improved Semantic Similarity using ontology for effective Collaborative Filtering**

Recommendation: An Exploration Study". *International Journal of Computational Intelligence Systems*,17(1), pp. 1-18.

[6] Elshqeirat, B, **aloqaily, A.,** Soh, S., Chin, K., Datta, A., (2023), **"On Generating Pareto Optimal Set in Bi-Objective Reliable Network Topology Design**". *International Journal of Grid and Utility Computing*, 14(4), pp 339-355.

[7] **Aloqaily, A,** Tafavogh, S., Harvey, B., Catchpoole, D., & Kennedy, P., (2021). "**Feature Prioritization on Big Genomic Data for Analyzing Gene-Gene Interaction"**. *Int. J. Bioinformatics Research and Applications,* 17(2), pp. 158-177.

[8] Baarah, A., **Aloqaily. A**., Salah, Z., Alshdaifat, E., (2021), "**Sentiment-Based Machine Learning and Lexicon-Based Approaches for Predicting the Severity of Bug Reports**", *Journal of Theoretical and Applied Information Technology,* 99(6), pp. 1386-1401.

[9] **Aloqaily, A.,** Al-Hassan, M., Salah, K., Elshqeirat, B., Almashagbah M. (2020), "**Sentiment Analysis for Arabic Tweets Datasets: Lexicon-Based and Machine Learning Approaches**", *Journal of Theoretical and Applied Information Technology,* 98(4), pp. 612-623.

[10] Al-Dmour, H., **Aloqaily., A,** Al-qaimary, R., Al-hassan, M., (2021), "**The Effect of the Electronic Word of Mouth (EWOM) on Purchase Intention via the Brand Image a Mediating Factor: An Empirical Study**", *International Journal of Networking and Virtual Organizations.* 24(2), pp. 182-199.

[11] Alshdaifat, E., Al-hassan, M., **Aloqaily, A.** (2021) "**Effective Heterogeneous Ensemble Classification: An Alternative Approach for Selecting Base Classifiers",** *ICT Express,* 7(3), pp. 342-349.

[12] Salah, Z., Al-Ghuwairi, A. R., **Aloqaily, A.**, Baarah, A. & Alsarhan, A. (2020). "**A Comparative Investigation of Approaches for Web Search Results Clustering***". International Journal of Advanced Intelligence Paradigms,* 17(3/4), pp. 342-366.

[13] Ververis, A., Dajani, R., Koutsou, P., **Aloqaily, A.,** Nelson-Williams, C., Loring, E., Arafat, A., Mubaidin, A.F., Horany, K., Bader, M.B., Al-Baho, Y., Ali, B., Muhtaseb, A., DeSpenza Jr, T., Al-Qudah, A.A., Middleton, L.T., Zamba-Papanicolaou, E., Lifton, R. & Christodoulou, K. (2020), **'Distal hereditary motor neuronopathy of the Jerash type is caused by a novel SIGMAR1 c.500A>T missense mutation'**, *Journal of Medical Genetics*, 57(3), 178-186.

[14] Alshdaifat, E., Al-shdaifat, A., Zaid, A. and **Aloqaily, A.,** (2020), "**The Impact of Data Normalization on Predicting Student Performance: A Case Study from Hashemite University**", *International Journal of Advanced Trends in Computer Science and Engineering,* 9(4), 4580-4588.

[15] Elshqeirat, B., Altarawneh, M., **Aloqaily, A.,** (2020), **"Enhanced Insertion Sort by threshold swapping",** *International Journal of Advanced Computer Science and Applications (IJACSA),* 11(6), pp. 471-476.

[16] **Aloqaily, A.,** Al-Nawayseh, M., Baarah, A., Salah, Z., Al-hassan, M. & Al-Ghuwairi, A. R., (2019). "**A Neural Network Analytical Model for Predicting Determinants of Mobile Learning Acceptance"**. *International Journal of Computer Applications in Technology,* 60(1), pp. 73-85.

[17] Baarah, A., **Aloqaily, A.,** Salah, Z., Zamzeer, M. & Sallam, S. (2019), **"Machine Learning Approaches for Predicting the Severity Level of Software Bug Reports in Closed Source**

Projects", *International Journal of Advanced Computer Science and Applications (IJACSA),* 10(8), 73-85.

[18] Salah, Z., Al-Ghuwairi, A. R., Baarah, A., **Aloqaily, A.**, Qadoumi, B., Alhayek, M. & Alhijawi, B. (2019). "**A Systematic Review on Opinion Mining and Sentiment Analysis in Social Media"**. *International Journal of Business Information Systems*, 31(4), pp.530-554.

[19] Salah, Z., **Aloqaily, A.,** Al-hassan, M., Al-Ghuwairi, A. R. (2018). "**A Methodology to Refine Labels in Web Search Results Clustering"**. *International Journal of Computational Intelligence Systems,* 12(1), 299-310.

[20] Al-Ghuwairi, A. R., Salah, Z., Alsarhan, A., Qudah, S. A., Qahmous, G. A., Baarah, A., & **Aloqaily, A.** (2018). "**Monitoring and modelling service level agreement of multiple virtual machines in cloud computing"**. *International Journal of Business Information Systems*, *27*(4), 538-553.

Book chapter:

[21] Kennedy, P., Simoff, S., Catchpoole, D., Skillicorn, D., Ubaudi, F., **Al-oqaily, A.,** 2009. "**Integrative visual data mining of biomedical data: Investigating cases in Chronic Fatigue Syndrome and Acute Lymphoblastic Leukaemia**". In Simeon, S. J., Boehlen, M. H. and Mazeika, A. (eds). Visual *Data Mining: Theory, Techniques and Tools for Visual Analytics, LNCS Vol. 4404, Springer Verlag, Heidelberg*, pp. 367-388.

Peer-Reviewed Conference papers:

[22] Abdallah, E.E., **Aloqaily, A.** and Fayez, H., (2023). "**Identifying Intrusion Attempts on Connected and Autonomous Vehicles: A Survey"**. Procedia Computer Science, 220, pp.307-314. The 14th International Conference on Ambient Systems, Networks and Technologies (ANT), Leuven, Belgium

[23] Baarah, A., **Aloqaily, A.,** Zyod, H., Mustafa, N., (2021). "**Sentiment-Based Neural Network Approach for Predicting the Severity of Bug Reports"**. *In 2021 Fifth International Conference On Intelligent Computing in Data Sciences, (ICDS*), pp. 1-8, IEEE.

[24] Al-Ghuwairi, A. R., Eid, H., Aloran, M., Salah, Z., Baarah, A. H., & **Aloqaily, A. A.** (2016, March). "**A mutation-based model to rank testing as a service (TaaS) Providers in cloud computing"**. In *Proceedings of the International Conference on Internet of things and Cloud Computing*, pp. 1-5.

[25] Catchpoole, D., Ho, N., Nelmes, G., Alzamora, P., **Aloqaily, A.,** Nguyen, Q., Skillicorn, D., Kennedy P., (2013), "**Constructing a 'similarity space' from complex genomics data to aid personalized treatment decisions for childhood cancer patients**.", *Ninth AACR-Japanese Cancer Association Joint Conference: Breakthroughs in Basic and Translational Cancer Research,* Maui, Hawaii, USA, February 21-25.

[26] **Aloqaily, A.,** Kennedy, P.J., Catchpoole, D., Simoff, S. 2008, "**Comparison of visualization methods of genome-wide SNP profiles in childhood acute lymphoblastic leukaemia***", Proceedings of the Seventh Australasian Data Mining Conference (AusDM 2008).*

[27] **Aloqaily, A.,** Kennedy, P., 2006, '**Using kernel-based approach to visualize integrated Chronic Fatigue Syndrome datasets**', *Proceedings of Australasian Data Mining Conference(AusDM),* Vol. 61, ACS, Sydney, Australia.

Poster Presentation:

a. Guo, D., Diaz, S., Smith, E., **Al-oqaily, A**., Kennedy, P., Simoff, S., Catchpoole, D., **"Integrative Data Mining and Visualization of Genome-wide SNP profiles: A Window into the Genetic Background of Childhood Acute Lymphoblastic Leukaemia (ALL) patients"**, *Sydney Cancer Conference, Australia Society of Medical Research (NSW), 2008*.

b. **Al-oqaily, A**., and Kennedy, P., **"Application of clustering genes using kernel methods"**. *Bioinformatics Australia, Sydney, 2006*. (poster, peer review of extended abstract).

Invited talks

c. **Al-oqaily, A.,** 2009**, "Modeling, data mining and visualization of genome-wide SNP profiles in childhood acute lymphoblastic leukemia",** *Oncology Research Unit, The Children's Hospital Westmead, Sydney, Australia.*

d. **Al-oqaily, A.,** Kennedy, P., Simoff, S., Catchpoole, D., **"Integrative data mining and visualization of genome-wide SNP profiles in childhood acute lymphoblastic leukaemia."** *Oral Presentation (**Aloqaily**), ARC/EII Workshop, the University of Sydney, 24th May, 2007*.

e. Daniel Catchpoole, Dachuan Guo, **Ahmed Aloqaily**, Paul Kennedy, Simeon Simoff. **"Biology-driven clinical management of paediatric acute lymphoblastic leukaemia through integrative data mining and visualization of genome-wide gene expression and SNP profiles."** 19th International Conference on Genome Informatics, Gold Coast, Queensland, December 2008.

f. **Aloqaily, A**. and Kennedy, P., 2006, "**Visualization and Clustering Genes: A Kernel-Based Approach**", AusBiotech 2006 conference.

g. Kennedy, P., Simoff, S., Catchpoole, D., Skillicorn, D., Ubaudi, F., **Al-oqaily, A**., Du, Y. and Yildiz, S., "**Does CFS have a biological basis? – A constructionist Approach"**, *Critical Assessment of Microarray Data Analysis Conferences,* Duke University, North Carolina, USA, 2006.

h. Kennedy, P.J., **Al-oqaily, A**., Simoff, S., Catchpoole, D., Ubaudi, F., 2006, **"A constructionist approach to data mining: Investigating cases in Chronic Fatigue Syndrome",** *Bioinformatics Australia, Sydney, 2006. (Contributed talk, peer review of extended abstract).*

GRADUATE STUDENTS SUPERVISION

Currently, I supervised and co-supervised the following M.Sc. Theses:

- Rula Al-Amrat, "*Machine and Deep Learning Approaches for Detecting Phishing Emails*", 2022
- Rhaf Al-Zyood, "*Machine learning technology to protect the privacy of electronic health records*", 2022
- Hiba AbuZaid, "*Supervised machine learning approach for detecting intrusion attacks on connected and autonomous vehicles*", 2022

I was an examination committee member for M.Sc. Theses.

AWARDS AND GRANTS

- Aloqaily, A., **"Implementing personalized medicine system using global genomic similarity",** The Hashemite University, 2016.

- **Aloqaily, A.,** Kennedy, P.J., 2008. "**Integrative data mining and visualization of genome-wide SNP profiles in childhood acute lymphoblastic leukaemia."** Australian Rotary Health Research Fund Awards (ARHRF). ARHRF/District 9680 Funding partner's scholar, $75,000.

- Part of the Ph.D. contributions was turned into a project plan for a successful grant application: "**Generating actionable knowledge from complex genomic data for personalized clinical decisions"**, Cancer Institute NSW Research Innovation Grant 2012, 10/RFG/2-23, Daniel Catchpoole, Paul Kennedy, $60,000.

PROFESSIONAL AFFILIATIONS & ACADEMIC COMMITTEES

- Board member of the Jordan Computer Society
- Member of The Australian Computer Society,
- Member of the International Arab Journal of Information Technology's review board
- Member of the Recent Advances in Computer Science and Communications review board
- Chair and member of the academic research committee - CSA department at The Hashemite University (for several years)
- Chair and member of the graduate studies committee - CSA department at The Hashemite University (for several years)
- Chair and member of the appointment and promotion committee- CSA department at The Hashemite University (for several years)
- Chair and member of the Committee of electronic education and quality assurance - CSA department at The Hashemite University (for several years)
- Chair and member of the Curriculum Planning Committee - CSA department at The Hashemite University (for several years)
- Chair and member of the Graduation Projects Committee - CSA department at The Hashemite University (for several years)
- Chair and member of the Chairman of the Training Committee - CSA department at The Hashemite University (for several years)
- Chair and member of the Students Affairs Committee - CSA department at The Hashemite University (for several years)
- The representative of the CSA department at the Faculty board (three times)
- The representative of the Faculty of Prince Al-Hussein Bin Abdallah II for Information Technology at the university board (2019-2020)

ACADEMIC ACTIVITIES

- Participated in preparing to apply for the ABET accreditation for the Computer Information Systems Department
- Supervised the preparation of the master's plan in Computer Science and applications
- Supervised the preparation of a plan for the diploma in maintenance and computer networks
- Supervised the preparation of a plan for the diploma in web and graphic design

- Participate in preparing the annual plan for the Department of Computer Science and applications
- Teaching advanced subjects for the Bachelor's and Masters' levels, supervising graduation projects, and participating in several exhibitions for graduation projects inside and outside the university.

COMMUNITY SERVICES

- Participation in a workshop related to exchanging experiences with the Erasmus+ project (International staff Mobility for Training, 2018, University of Piraeus, Greece)
- Participation in the management of a cybercrime symposium, which was held at the Faculty of Prince Al-Hussein Bin Abdallah II for Information Technology on 2/2/2017
- A seminar was held at the Faculty of Prince Al-Hussein Bin Abdallah II for Information Technology entitled Network Security and Ethical Hacker on 10/11/2015 in cooperation with the Centre for Studies, consultation and Community Service at the Hashemite University.
- Participation in the Eighth National Technology Parade and obtaining third place at the level of Jordanian universities in 2015.
- Participated in managing a seminar at the Faculty of Prince Al-Hussein Bin Abdallah II for Information Technology about Communication Skills, in cooperation with the Pioneers Centre, on 12/16/2014
- Cooperation with "Microsoft" and "Al-Rowad" Supervising the Palm Cup 2014 competition for students of the Hashemite University, Zarqa University, Al-Bayt University, and Polytechnic on 10/19/2014
- Participated in the management of the scientific day of the Faculty of Prince Al-Hussein Bin Abdallah II for Information Technology several times.
- Participation in many seminars and meetings aimed at educating students at Hashemite University.
- Attending the QS Arab Forum, as a representative of the Hashemite university, Manama, Bahrain 2023
- Attending QS summit "Cultures of Innovation: Elevating quality education for a thriving Middle East" as a representative of the Hashemite university. Ras Al Khaimah, UAE, 2024
- Participation in several initiatives inside and outside Hashemite University.

TECHNICAL EXPERIENCE

- **Certificate:** Artificial Intelligence, Huawei Technologies Company. 2020
- **Certificate:** Huawei Certified Academy Instructor, Huawei Technologies Company. 2020
- **Certificate:** Big Data, International Institute of Online Education (IIOE). 2020
- **Certificate:** Implementing an MS Win2K Prof & Server.
- **Certificate:** Microsoft Win2K Network and Operating System Essential.
- **Experience in** Visual Basic, C++, Visual Basic, Perl and PHP
- **Experience in** HTML, DHTML and JavaScript

- **Experience in** Data Base Management and SQL programming language
- **Experience in** SQL Server 2000, MySQL and MS Access 2000/2003

BACKGROUND COURSES

- Artificial Intelligent
- Data Mining
- Advanced Data Mining
- Object-Oriented Programming
- Computer networks
- Advance Programming for Data Science and AI
- Programming for Data Science and AI
- C++ programming
- Data Engineering and Analytics

LANGUAGES

- **English:** Writing, Reading and Speaking: Very good
- **Arabic:** Writing, Reading and Speaking: Excellent

REFERENCES

- **Prof. Mashhoor Al-Refai,** The Secretary General of The Higher Council for Science and Technology,
  Email: m.refai@hcst.gov.jo

- **Prof. Abdel Karim Al-Qudah**, Former President of the University of Jordan
  Tel.: +962796161414
  Email: aqudah@ju.edu.jo

- **Prof. Hani H. Al-Dmour**, President of Al al-Bayt University, Former General Secretary of The Ministry of Higher Education
  Tel.: +962795666979
  Email: dmourh@ju.edu.jo

- **Prof. Ahmad Al-Khasawneh**, President of Irbid National University, Jordan
  Tel.: +962797125217
  Email: akhasawneh@hu.edu.jo