

Curriculum Vitae

Personal Information

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Summary

Dr. Mohammad Omar Al-Wedyan is an Assistant Professor in Computer Games Design and Development at Jordan University of Science and Technology (JUST). His research focuses on Artificial Intelligence, Machine Learning, Virtual and Augmented Reality, Serious Games, Computer Vision, and Educational Technologies. He has published over 50 peer-reviewed papers in leading international journals and conferences, supervised graduate research, secured competitive research funding, and established international collaborations through Erasmus+ and European university partnerships.

Education

- **Ph.D. in Computer Science**, University of Technology Sydney (UTS), Sydney, Australia (2015 - 2020).
Thesis Title: Augmented Reality and Novel Virtual Sample Generation Algorithm Based Autism Diagnosis System.
- **M.Sc. in Computer Science**, Al al-Bayt University, Mafraq, Jordan (2005) - Grade: **84.88% (Very Good)**.

Thesis Title: constructing an Automatic Thesaurus to Enhance Arabic Information Retrieval System.

- **B.Sc. in Computer Science**, Mutah University, Karak, Jordan (2002) - Grade: **78.85% (Very Good)**

Senior Project: A virtual visit to the university, processed using ASP and Macromedia Flash.

- **General Secondary Education Certificate (Scientific Stream)**, Jubaiha Secondary School, Amman, Jordan (1998) - Grade: **88% (Very Good)**

Administrative Experience

- 18/12/2024-27/09/2025: Deputy Director of Computer and Information Center, Yarmouk University, Irbid, Jordan.
- 9/2021-10/2023: Head of Autonomous Systems Department, Faculty of Artificial Intelligence, Al-Balqa Applied University, Al Salt, Jordan.

Work Experience

- Assistant Professor in the Computer Games Design and Development Program, Faculty of Computer and Information Technology, Jordan University of Science and Technology, from 28/09/2025 – Present.
- Assistant Professor in the Department of Computer Science, Faculty of Information Technology and Computer Science, Yarmouk University, from 01/10/2023 – 27/09/2025.
- Assistant Professor in the Department of Autonomous Systems, Faculty of Artificial Intelligence, Al-Balqa Applied University, from 30/06/2020 - 30/09/2023.
- Lecturer, Al-Balqa Applied University (Sep 2015 - 2016).
- Part-time Lecturer, University of Jordan, Summer Term (2004 - 2005).
- Part-time Lecturer, Al-Balqa Applied University, Summer Term (2004 - 2005).
- Programmer, Jordanian Armed Forces (Apr 2003 - Sep 2005).
- Lecturer, Jordanian Armed Forces and external institutions (Apr 2003 - Sep 2005).

- Served as a part-time consultant for several companies, providing technical consultation, project evaluation, and specialized expertise on a project basis in Artificial Intelligence, Extended Reality, Computer Games, and Software Development.

Courses Taught

- Computer Networks (Theoretical and practical).
- Object Oriented Programming (C++, C#, and JAVA)
- Data Structure.
- Operations Research
- Web Design and Development
- Augmented Reality
- Image Processing.
- Visual Programming.
- Design and Development of Electronic Games.
- Multimedia.
- Human Computer Interaction.
- User Experience.
- Mobile Application Development.
- Introduction to Haptic Technology.
- Assembly Language.
- Network Security Protocols.
- Selected Programming Language for Information Security (Python).
- Fundamentals of Cryptography.
- Design and Analysis of Algorithms.
- Computer Graphics.
- Storyboard Creation for VR /AR.
- Internet of Things Security.
- Graduation Project (1/2).
- Extended Reality.
- Special Topics in Computer Science.

Training Courses

- C++
- ASP
- JAVA
- MATLAB
- PC Maintenance
- SQL Server Developer
- SQL Server Administrator
- Introduction to Oracle (SQL & PLSQL)
- Flash MX
- Augmented Reality (UNITY)
- Python.
- CCNA1 (Networking Basics)
- CCNA2 (Router and Routing Basics)
- CCNA3 (Switching Basics and Intermediate Routing)
- CCNA4 (WAN Technologies).

International Experience

- **Erasmus+** Staff Mobility for Teaching and Training Activities, Silesian University of Technology (Poland) & Jordan University of Science and Technology (JUST), 2026
- **Erasmus+** Staff Mobility for Teaching and Training Activities, University of Ruse, Bulgaria & Yarmouk University, 2024.
- **International Academic Collaboration between the University of Debrecen (Hungary) and Yarmouk University (Jordan):** Initiated, established, and led a strategic international academic collaboration between Yarmouk University and the University of Debrecen, served as the principal coordinator and official institutional contact for the development and implementation of the Memorandum of Understanding (MoU). Directed joint research and academic initiatives in Virtual Reality and related fields, resulting in multiple collaborative research projects, and expanded opportunities for joint publications between the two universities.

- **Erasmus+** Participated in the Staff Mobility for Training program at the University of West Attica, Greece (July 2026), enhancing international academic collaboration, professional development, and research networking through the exchange of expertise in teaching, research, and digital education.

Research Grants

Project Title: A New Augmented Reality System for Calculating Social Distancing between Children at School

Role: Co-Investigator

Funding Agency: Al-Hussein Bin Talal University.

Funding Amount: 19,500 JOD (27500 USD).

Status: Completed.

Academic Service

- Journal reviewer for Scientific Reports Journal, Discover Education Journal, Virtual Reality Journal, Cognitive Computation Journal. Mathematics Journal, Symmetry Journal, Sensors Journal, and Journal of Imaging.
- Served as an appointed committee member for the evaluation and accreditation of Computer Games and Virtual Reality programs at the Higher Education Accreditation and Quality Assurance Commission (HEAC), Jordan.
- Program Committee Member.
 - Program Committee Member, IEEE 4th International Conference on Information Technology and Data Science (CITDS 2026), Debrecen, Hungary.
 - Fourth International Conference on Innovative Computing and Cutting-edge Technologies (ICICCT 2026), Istanbul, Turkey.
 - Program Committee Member, International Conference on Intelligent Computing and Information Systems (ICICS 2026), Irbid, Jordan.
- Thesis External examiner:
 - Doctoral Thesis Examination, University of Auckland, for PhD candidate Doris Wu, Thesis title: Interactive Technologies for Supporting Autistic Children: Enhancing Engagement and Development, Supervisor name: Professor Mark Billingham, Auckland Bioengineering Institute, University of Auckland, New Zealand.
 - Master's Thesis Examiner, University of Jordan for Master's candidate Bushra Omar Al-Zaatreh, Thesis title: The Role of Artificial Intelligence in Empowering Jordanian Women Between Opportunities and Challenges, Supervisor name: Professor Amal

Salem Al-Awawdeh, University of Jordan.

Certifications

- Unity Certified Associate: Game Developer, Unity Technologies, 2026.

Graduate Student Supervision

- **Ph.D. (Ongoing)**

Fataftah Fuad Mahmoud, Investigate the Effectiveness of Immersive VR Experiences in Teaching Cybersecurity Concepts, focusing on the Impact on Student Engagement and Retention in Jordan, University of Sains Malaysia (USM), Thesis main supervisor is Dr. Siti Hazyanti Binti Mohd Hashim (USM) and Co-Supervisor is Dr. Mohammad Wedyan. [Partial supervision – VR consultant].

- **Master's (Completed)**

1. Moath Maabrah. The Role of Employing Virtual Reality Technology in Teaching Interior Design of the College of Architecture and Design: Al-Ahliyya Amman - Jordan. Master thesis. Interior Design Department. Faculty of Architecture and Design. Al-Ahliyya Amman University. 2022/2023. Thesis main supervisor is Dr. Osama Ali (Interior Design- Zarqa University) and Co-Supervisor is Dr. Mohammad Wedyan. [Partial supervision – VR consultant].

2. Alaa Alzoubi. The effect of using virtual reality in improving students' performance in science courses – Irbid - Jordan. Master thesis. Computer Science Department. Yarmouk University. 2024/2025. Thesis main supervisor is Dr. Rami Malkawi (Faculty of Information Technology), and Co-Supervisor is Dr. Mohammad Wedyan. [Partial supervision – VR consultant].

3. Muna Khalid Abudiak. Prediction of Heart Disease using Machine Learning – Irbid - Jordan. Master thesis. Computer Science Department. Yarmouk University. 2024/2025. Main supervisor is Dr. Mohammad Wedyan, and Co-Supervisor is Dr. Ameera Jaradat (Faculty of Information Technology- Yarmouk University).

- **Master's (Ongoing)**

1. Haifa Hussein Jaddu, Parental Awareness of Early Childhood Caries and The Use of Artificial Intelligence-Based Model for Its Early Detection, Irbid-Jordan.

Master thesis, Department of Preventive Dentistry, Jordan University of Science and Technology, Main supervisor is Thikrayat Bani-Hani, and Co-Supervisor: Dr. Mohammad Wedyan. [Partial supervision – AI consultant].

Publications

• Peer Reviewed Journal Articles:

1. Fataftah, F. M., Hashim, S. H. M., & **Wedyan, M.** (2026). Empowering Machine Learning for Virtual and Augmented Reality in Education: A Systematic Review of Current Trends and Techniques. *Journal of Information Systems Engineering and Business Intelligence*, 12(2), 300-319. [🔗](#)
2. Alturki, R., **Wedyan, M.**, & Nasayreh, A. (2026). AI-powered directional anomaly detection in dense hajj crowds for proactive safety management. *Journal of King Saud University Computer and Information Sciences*. [🔗](#)
3. Al-Hamad, A., **Wedyan, M.**, & Gilányi, A. (2025). Virtual reality safety training and auditing in warehouse environments: AHP and critical thinking approach. *Cognition, Technology & Work*, 1-22. [🔗](#)
4. Bani-Hani, T., **Wedyan, M.**, Al-Fodeh, R., Shuqeir, R., Al Jundi, S., & Tewari, N. (2025). Artificial intelligence model for application in dental traumatology. *European Archives of Paediatric Dentistry*, 1-8. [🔗](#)
5. **Wedyan, M.**, Alturki, R., Alhamad, A. et al. (2025). Awareness of cybersecurity vulnerabilities in virtual reality: an analytical study. *Security Journal*, 38, 27. [🔗](#)
6. Moy'awiah Al-Shannaq, Shahed N., and **Mohammad Wedyan.** (2025). Using image augmentation techniques and convolutional neural networks to identify insect infestations on tomatoes. *Heliyon*, 11(1). [🔗](#)
7. Jaradat, A. S., **Wedyan, M.**, Alomari, S., & Barhoush, M. M. (2024). Using Machine Learning to Diagnose Autism Based on Eye Tracking Technology. *Diagnostics*, 15(1), 66. [🔗](#)
8. Khalil, R., **Wedyan, M.**, Saadeh, R., & Alturki, R. (2024). A New Approach of Virtual Reality Systems Evaluation and Quality Standards. *Int. J. Advance Soft Compu. Appl*, 16(3). [🔗](#)

9. Alazab, M., Awajan, A., Alazzam, H., **Wedyan, M.**, Alshawhi, B., & Alturki, R. (2024). A Novel IDS with a Dynamic Access Control Algorithm to Detect and Defend Intrusion at IoT Nodes. *Sensors*, 24(7), 2188. [🔗](#)
10. Atwan, J., **Wedyan, M.**, Albashish, D., Aljaafrah, E., Alturki, R., & Alshawhi, B. (2024). Using Deep Learning to Recognize Fake Faces. *International Journal of Advanced Computer Science & Applications*, 15(1). [🔗](#)
11. Chebil, W., **Wedyan, M.**, Alazab, M., Alturki, R., & Elshaweesh, O. (2023). Improving Semantic Information Retrieval Using Multinomial Naive Bayes Classifier and Bayesian Networks. *Information*, 14(5), 272. [🔗](#)
12. Abu-Salih, B., Wongthongtham, P., Coutinho, K., Qaddoura, R., Alshaweesh, O. and **Wedyan, M.**, 2023. The development of a road network flood risk detection model using optimised ensemble learning. *Engineering Applications of Artificial Intelligence*, 122, p.106081. [🔗](#)
13. Alshaweesh, O., **Wedyan, M.**, Alazab, M., Abu-Salih, B. and Al-Jumaily, A., 2023. A New Augmented Reality System for Calculating Social Distancing between Children at School. *Electronics*, 12(2), p.358. [🔗](#)
14. Jan, A., Hayat, **M.**, **Wedyan, M.**, Alturki, R., Gazzawe, F., Ali, H. and Alarfaj, F.K., 2022. Target-AMP: computational prediction of antimicrobial peptides by coupling sequential information with evolutionary profile. *Computers in Biology and Medicine*, 151, p.106311. [🔗](#)
15. **Wedyan, M.**, Falah, J., Elshaweesh, O., Alfalah, S. F., & Alazab, M. (2022). Augmented Reality-Based English Language Learning: Importance and State of the Art. *Electronics*, 11(17), 2692. [🔗](#)
16. Alazab, M., Abu Khurma, R., Awajan, A., & **Wedyan, M.** Digital Forensics Classification Based on a Hybrid Neural Network and the Salp Swarm Algorithm. *Electronics*, 11(12), 1903. 2022. [🔗](#)
17. Albara Awajan. Moutaz Alazab, Ruba Abu Khurma, Reem Alsaadeh, **Mohammad Wedyan**, Ajith Abraham Fake News Detection and Prevention Using Artificial Intelligence Techniques: A Review of a Decade of Research, *International Journal of Computer Information Systems and Industrial Management Applications*, Volume 14 (2022) pp.326-337, 2022. [🔗](#)

18. Atwan, J., **Wedyan, M.**, Abbas, A., Gazzawe, F., & Alturki, R. Development Web-based Arabic Assessments for Deaf and Hard-of-Hearing Students. *International Journal of Computer Science and Network Security*, 22(5), 359-367.2022. [🔗](#)
19. **Wedyan, M.**; Al-shaweesh, O.; Alazab, M.; Awajan, Educating Children, the Preventive Measures of COVID-19 Transmission by Using Augmented Reality, *A INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND NETWORK SECURITY*; 22(5):610-616, 2022. [🔗](#)
20. **Wedyan, M.**, Alshaweesh, O., Ramadan, E., Alturki, R., Gazzawe, F., & Alghamdi, M. J. (2022). A Hybrid Material Generation Algorithm with Probabilistic Neural Networks for Solving Classification Problems. *International Journal of Advanced Computer Science and Applications*, 13 (5). [🔗](#)
21. **Wedyan, Mohammad O.**, Omar Ghaleb Elshaweesh, Enas Ramadan, and Ryan Alturki. "Vibrating Particles System Algorithm for Solving Classification Problems." *Comput. Syst. Sci. Eng.* 43, no. 3 (2022): 1189-1206. [🔗](#)
22. Elshaweesh, O., **Wedyan, M.**, Alturki, R. and Ali, H., 2021. Using the Internet of Things Mobile to Keep the User's Back Straight While Sitting. *Mobile Information Systems*, 2021. [🔗](#)
23. Atwan, J., **Wedyan, M.**, Bsoul, Q., Hammadeen, A. and Alturki, R., 2021. The Use of Stemming in the Arabic Text and Its Impact on the Accuracy of Classification. *Scientific Programming*, 2021. [🔗](#)
24. Falah, J.; **Wedyan, M.**; Alfalah, S.F.M.; Abu-Tarboush, M.; Al-Jakheem, A.; Al-Faraneh, M.; Abuhammad, A.; Charissis, V. Identifying the Characteristics of Virtual Reality Gamification for Complex Educational Topics. *Multimodal Technol. Interact.* 2021, 5, 53. <https://doi.org/10.3390/mti509005>. [🔗](#)
25. **Wedyan, M.**; Falah, J.; Alturki, R.; Giannopulu, I.; Alfalah, S.F.M.; Elshaweesh, O.; Al-Jumaily, A. Augmented Reality for Autistic Children to Enhance Their Understanding of Facial Expressions. *Multimodal Technol. Interact.* 2021, 5, 48. <https://doi.org/10.3390/mti5080048>. [🔗](#)
26. Awwad, S; Igried, B, **Wedyan, M.**; Alshira'h M, Hybrid features for object detection in RGB-D scenes. *Indonesian Journal of Electrical Engineering and Computer Science*. Vol. 23, No. 2, August 2021, pp. 1073~1083. [🔗](#)

27. Atwan, J., **Wedyan, M.**, Bsoul, Q., Hamadeen, A., Alturki, R. and Ikram, M., The Effect of using Light Stemming for Arabic Text Classification. International Journal of Advanced Computer Science and Applications. 2021. [🔗](#)
28. Sun, J., Khan, F., Li, J., Alshehri, M.D., Alturki, R. and **Wedyan, M.**, 2021. Mutual Authentication Scheme for the Device-to-Server Communication in the Internet of Medical Things. IEEE Internet of Things Journal. [🔗](#)
29. Ibrahim, M., **Wedyan, M.**, Alturki, R., Khan, M.A. and Al-Jumaily, A., 2021. Augmentation in Healthcare: Augmented Biosignal Using Deep Learning and Tensor Representation. Journal of Healthcare Engineering, 2021. [🔗](#)
30. **Wedyan, M.**, Adel, A. J., & Dorgham, O. (2020). The use of augmented reality in the diagnosis and treatment of autistic children: a review and a new system. Multimedia Tools and Applications, 1-47. [🔗](#)
31. Chebil, W., **Wedyan, M. O.**, Lu, H., & Elshaweesh, O. G. (2020). Context-Aware Personalized Web Search Using Navigation History. International Journal on Semantic Web and Information Systems (IJSWIS), 16(2), 91-107. [🔗](#)
32. **Wedyan, M.**, Crippa, A., & Al-Jumaily, A. (2019). A Novel Virtual Sample Generation Method to Overcome the Small Sample Size Problem in Computer Aided Medical Diagnosing. Algorithms, 12(8), 160. [🔗](#)
33. **Wedyan, M.**, Al-Jumaily, A. and Crippa, A., 2019. Using machine learning to perform early diagnosis of autism spectrum disorder based on simple upper limb movements. International Journal of Hybrid Intelligent Systems, 15(4), pp.195-206. [🔗](#)
34. **Wedyan, Mohammad O.**, and Aarti Singh. "On the Design and Implementation of an Efficient Information Retrieval System for Arabic." International Journal of Electronics and Electrical Engineering Vol. 1, No. 1, March 2013. [🔗](#)
35. Alkoffash, M. S., Algrainy, S., Muaidi, H., & **Wedyan, M.** A Novel Approach for Face Recognition Based on a Multiple Faces Database, Journal of Software Engineering and Applications, 2012. [🔗](#)
36. Alhadidi, B., & **Alwedyan**, Hybrid Stop-Word Removal Technique for Arabic Language, Published in the Egyptian Computer Science Journal (ECS Journal), 2008. [🔗](#)

37. **Wedyan, M.**, Alhadidi, B., & Alrabea, A. (2012). The effect of using a thesaurus in Arabic information retrieval system. *Int. J. Comput. Sci*, 9, 431-435. [🔗](#)
38. Ayyash, A. A. Q., & **Al-Wedyan, M.** (2014). ERP System for Effective Management in Middle East. *International Journal of Computer Science Issues (IJCSI)*, 11(3), 150. [🔗](#)
39. **Wedyan, M.**, Al-Zoubi, H., & Atwan, J. (2019). Error Detection and Correction Using a Genetic Algorithm. *International Journal of Computing*, 8(2), 9-16. [🔗](#)
40. Khatatneh, K., Khataleen, I., Alshwaiyat, R., & **Wedyan, M.** A Novel Student Clustering Model for the Learning Simplification in Educational Environments, *International Journal of Advanced Computer Science and Applications*, 2019. [🔗](#)
41. Atwan, Jaffar, **Mohammad Wedyan**, and Hadeel Al-Zoubi. "Arabic Text Light Stemmer." *International Journal of Computing* 8.2 (2019): 17-23. [🔗](#)
42. Khatatneh, K., **Wedyan, M.**, Alham, D. M., & Alrifai, D. B, using new data structure to implement documents vectors in vector space model in information retrieval system, *Journal of Theoretical and Applied Information Technology*, 2010. [🔗](#)

• **Peer reviewed conference articles:**

1. **Wedyan, M.**, Dwahdeh, S., Alhamad, A., & Gilányie, A. (2026, May). A Review of Emotion-Aware Adaptive Virtual Reality Games for Player Emotional Profiling and Intelligent Personalization. In *Proceedings of the 17th International Conference on Information and Communication Systems* (pp. 1-6). [🔗](#)
2. Alturki, R., **Wedyan, M.**, & Nasayreh, A. (2026, February). Early Detection of Parkinson's Disease Using SiamDNN: A Dual Deep Neural Network Approach. In *2026 International Conference on Artificial Intelligence in Information and Communication (ICAIIIC)* (pp. 965-969). IEEE. [🔗](#)
3. Khan, I., Khan, F., Ali, A., Alshaw, B., Alturki, R., & **Wedyan, M.** (2024, July). A secured and optimized clustering approach in vehicular ad-hoc network. In *2024 International Conference on Electrical, Computer and Energy Technologies (ICECET)* (pp. 1-6). IEEE. [🔗](#)

4. Riaz, S. W., Khan, F., Ullah, I., Alshawhi, B., Alturki, R., & **Wedyan, M.** (2024, July). A Secured and Optimized Broadcast Authentication Scheme for the Internet of Medical Things. In 2024 International Conference on Electrical, Computer and Energy Technologies (ICECET (pp. 1-6). IEEE. [🔗](#)
5. **M. Wedyan**, A. Al-Jumaily, and Alessandro Crippa, "Early Diagnose of Autism Spectrum Disorder Using Machine Learning Based on Simple Upper Limb Movements", 18th International Conference on Hybrid Intelligent Systems (HIS 2018), Porto, 2018, Portugal. [🔗](#)
6. Khtoom, A. A., & **Wedyan, M.** (2019, October). Feature Selection Models for Data Classification: Wrapper Model vs Filter Model. In International Conference on Information, Communication and Computing Technology (pp. 247-257). Cham: Springer International Publishing. [🔗](#)
7. **M. Wedyan**, A. Ahmed, and A. Al-Jumaily, "Design and Implementation of An Augmented Reality Game to Diagnose Autism," 2018 The Australian Biomedical Engineering Conference (ABEC), Sydney, 2018, Australia. pp. 4. [🔗](#)
8. **M. Wedyan** and A. Al-Jumaily, "An investigation of upper limb motor task based discriminate for high risk autism," 2017 12th International Conference on Intelligent Systems and Knowledge Engineering (ISKE), Nanjing, 2017, pp. 1-6. [🔗](#)
9. **M. Wedyan** and A. Al-Jumaily, Early Diagnosis Autism Based on Upper Limb Motor Coordination in High Risk Subjects for Autism, in 2016 IEEE 4th International Symposium on Robotics and Intelligent Sensors (IRIS), 2016. [🔗](#)
10. **M. Wedyan** and A. Al-Jumaily, Upper limb motor coordination based early diagnosis in high risk subjects for Autism, in 2016 IEEE Symposium Series on Computational Intelligence (SSCI), 2016, pp. 1-8. [🔗](#)
11. **Wedyan, M.**, Al-Jumaily, A., Alnajjar, F., Muhamed, P. M., & Shimoda, S. (2017, November). A wearable robotics assistive device: design, technical solutions, and implementation. In 2017 International Conference on Electrical and Computing Technologies and Applications (ICECTA), November 21-23, Ras Al Khaimah, UAE, (pp. 1-5). IEEE. [🔗](#)

12. Kanaan, G., & **Wedyan, M**, constructing an Automatic Thesaurus to Enhance Arabic Information Retrieval System. The 2nd Jordanian International Conference on Computer Science and Engineering JICCSE 2006, Salt, Jordan, PP 89-97. [!\[\]\(c4625de44d0634bcc73fe3bcd4506b40_img.jpg\)](#)