OMAR ALZOUBI

BASIC INFORMATION

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NATIONALITY

• Jordan
• Australia

BIOGRAPHY

I am an associate professor of Computer Science. I received my PhD degree in Computer Science from the University of Sydney/Australia, in 2012. I currently serve as the Dean of the College of Arts and Science and the coordinator of the Master's in Computer Science program at Applied Science University-Bahrain. I previously served as the Vice Dean of the College of Computer and Information Technology and as the head of the Department of Computer Science at Jordan University of Science and Technology. I also previously held positions at Yarmouk University/Jordan and Carnegie Mellon University/Qatar. My research interests are in AI in Education, Affective Computing, Medical Image Analysis, NLP and Sentiment Analysis, and Educational Data Mining. My research profile includes more than 50 journal and conference-refereed papers, with a total number of citations of 1000+ and an h-index of 13. I received funded grants, and I served as a member of the JUST team, taking part in the DeCAIR Erasmus+ project (curriculum Capacity Building for AI and robotics).

WORK EXPERIENCE

Dean of College of Arts and Science   9/2023 - now
Applied Science University
  - Overseeing the operation of the college with its three departments (Computer Science, Design, and General Studies).
  - Overseeing the college's operational plans to meet targets
  - Preparing the College budget and overseeing its expenditure
  - Developing new Academic programs
  - Promoting the college and its programs to the wider community through targeted events
  - Teaching Computer Science Courses (Object Oriented Programming, Data Structures, Artificial Intelligence, Algorithms Analysis and Design and Data Mining)

Associate Professor   2/2022 - 9/2023
Jordan University of Science and Technology
Job Description:
• Served as the Vice Dean of the College of Computer and Information Technology in the Academic year 22/23
• Served on various committees at the CS department such as the curriculum development committee.
• Overseeing the ABET Accreditation for the CS program.

• Doing some voluntary work such as supervising students union elections.

In my position at Jordan University of Science and Technology, I taught the following units of study:
• CS112: Introduction to Object-Oriented Design
• CS211: Data Structures.
• CS284 Algorithm Analysis and Design
• CS362 Artificial Intelligence
• CS491, CS492 project1 and project2.
• CS762 Advanced AI (Master level)
• CS789 Seminar (Master level)

Assistant Professor   2/2018 - 2/2022
Jordan University of Science and Technology
Job Description:
• Served as the Head of the Computer Science Department in the Academic year 21/22
• Served on various committees at the CS department such as the curriculum development committee.
• Overseeing the ABET Accreditation for the CS program.
• Developing the new bachelor of AI program which commenced and accepted students on the year 22/23
• Doing some voluntary work such as supervising students union elections.

In my position at Jordan University of Science and Technology, I taught the following units of study:
• CS112: Introduction to Object-Oriented Design
• CS211: Data Structures.
• CS284 Algorithm Analysis and Design
• CS362 Artificial Intelligence
• CS491, CS492 project1 and project2.
• CS762 Advanced AI (Master level)
• CS789 Seminar (Master level)

Assistant Professor   9/2016 - 2/2018
Yarmouk Univeristy/ Jordan
Job Description: I taught a variety of courses at Yarmouk University/Jordan including:
• CS210: Object Oriented programming
• CS110A: C++ programming
• CS110: Programming in selected Languages (Visual Basic)
• SCI108: Computer skills
• CS130: Fundamentals of Operating systems
• MIS 120: Information Systems Environment

Postdoctoral Research Associate   11/2012 - 11/2015
Carnegie Mellon University in Qatar
Job Description:
• Worked on a project for building a new Intelligent Tutoring System called ChiQat that teaches introductory data structures and recursion to CS students.
• Co-teaching, for 15-110 Principles of Computing course
• Assisting in various activities within the campus, such as open days, students' competitions.

EDUCATION

Ph.D. in Computer Science   08/2008 - 09/2012
The University of Sydney,Australia.
Thesis: "Automatic Affect Detection from Physiological Signals: Practical Issues"

MIT, Master of Information Technology   03/2007 - 08/2008
The University of Sydney,Australia

B.Sc. in Computer Science
Yarmouk University, Jordan

09/1993 - 09/1997

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STUDENT SUPERVISION

I supervised 10+ postgraduate Masters by thesis students for completion. The general theme of work is centered around "Affective Computing". and "Medical Image Analysis and Classification". 4 of them have already graduated.

I supervise undergraduate students in their final-year projects.

FUNDED RESEARCH GRANTS

- Omar AlZoubi, " Affect Detection form Physiological Signals during Playing a Video Game". US$ 12,000.
- Omar AlZoubi, Classification of Varicocele in Supine Position on Ultrasound Images Using Deep Neural Networks. US$ 9000.

AWARDS

• Research Conversazione 2010 ResMed prize for research project in Biomedical Engineering". At the research conversazione 2010, organized by the faculty of Engineering and Information Technologies, The University of Sydney.
• The Best Research Project for Next Generation Application (Computing)". At the 2009 research conversazione, organized by the faculty of Engineering and Information Technologies, The University of Sydney. Prize sponsored by IBM Australia Limited.
• Norman I price scholarship, The school of Electrical and Information Engineering, The University of Sydney.
• Artificial Intelligence in Education Conference (AIED 2011) travel award.

MEMBERSHIPS

• International Artificial Intelligence in Education Society IAIED.
• Australian Computer society (ACS)

OTHER ACTIVITIES

Academic Service:
Vice Dean of College of Computer and Information Technology (Sep 2022-Sep 2023)
CS department chair (Sep-2021- 9/2022)
Member and head of the CS Department curriculum and accreditation committee 2/21. Responsible for overseeing and preparing the reports for ABET accreditation. Currently, we are expected to get the ABET accreditation this August, 2022 following the visit by the ABET CAC committee last November 2021.
Member of CS Department council and Faculty of Computer and Information Technology council 20/21.
Member of the hiring and scholarship committee at CS Department 2019.
Member of the organizing committee of the conference of the Faculty of Computer and Information Technology ICICS2020.
Member of a faculty committee for preparing an AI program in the CS Department.
An observer representing the CS Department to elect the representative of the Computer Department for Student Council 2018
Member of the Evaluation Committee for the Australian Embassy's Programming Competition, which was

hosted by the College of Computer and Information Technology in 2021.
Member of a university committee for evaluating the Erasmus Plus program for academic mobility of students.Master Students Thesis Supervision:

Patents:
PCT patent application titled "A SYSTEM AND METHOD FOR DETECTING VARICOCELE USING ULTRASOUND IMAGES IN SUPINE POSITION" was duly filed on 23/5/2021, in the name of Jordan University of Science and Technology and Al Zaytoonah University of Jordan, and assigned serial number PCT/JO2021/050003.

Reviewer:
Reviewer of Computers in Biology and Medicine.
Reviewer of IEEE Transactions on Signal Processing.Reviewer of IEEE Transactions on Affective Computing. Reviewer of IEEE Transactions on Learning TechnologiesReviewer of International Journal of Distance Education Technologies.Program committee member of several conferences (Affective Computing and Intelligent Interactions ACII2011, the 24th Florida Artificial Intelligence Research Society Conference (FLAIRS-24), and the 25th Florida Artificial Intelligence Research Society Conference (FLAIRS-25), Educational Data Mining EDM 2013, ACII 2013 and, EDM 2014.

PUBLICATIONS

Journal Articles
2024
- Migdady, A., Khamayseh, Y., AlZoubi, O., & Yassein, M. B. (2024). An adaptive query approach for extracting medical images for disease detection applications. *Arabian Journal for Science and Engineering*, 1–16.
- AlZoubi, O., Abu Awad, M., Abdalla, A. M., et al. (2024). Varicocele detection in ultrasound images using deep learning. *Multimedia Tools and Applications, 83*, 63617–63634.

2023
- AlZoubi, O., AlMakhadmeh, B., Bani Yassein, M., & Mardini, W. (2023). Detecting naturalistic expression of emotions using physiological signals while playing video games. *Journal of Ambient Intelligence and Humanized Computing, 14*(2), 1133–1146.
- Alaiad, A., Migdady, A., Al-Khatib, R. M., AlZoubi, O., Zitar, R. A., & Abualigah, L. (2023). Autokeras approach: A robust automated deep learning network for diagnosis of disease cases in medical images. *Journal of Imaging, 9*(3), 64.
- Al Rub, S. A., Alaiad, A., Hmeidi, I., Quwaider, M., & AlZoubi, O. (2023). Hydrocephalus classification in brain computed tomography medical images using deep learning. *Simulation Modelling Practice and Theory, 123*, 102705.

2022
- AlZoubi, O., Tawalbeh, S. K., & Mohammad, A.-S. (2022). Affect detection from Arabic tweets using ensemble and deep learning techniques. *Journal of King Saud University - Computer and Information Sciences, 34*(6), 2529–2539.
- Abdalla, A. M., Awad, M. A., AlZoubi, O., & Al-Samrraie, L. A. (2022). Automatic segmentation and detection system for varicocele using ultrasound images. *Computers, Materials & Continua, 72*(1).

2021
- AlZoubi, O., Awad, M. A., & Abdalla, A. M. (2021). Automatic segmentation and detection system for varicocele in supine position. *IEEE Access, 9*, 125393–125402.

2020
- Shatnawi, M. et al. (2020). An improvement of neural network algorithm for anomaly intrusion detection system. *International Journal on Communications Antenna and Propagation (IRECAP), 10*(2).

2015
- AlZoubi, O., Fossati, D., D'Mello, S., & Calvo, R. A. (2015). Affect detection from non-stationary physiological data using ensemble classifiers. *Evolving Systems, 6*(2), 79–92.

2012
- AlZoubi, O., D'Mello, S. K., & Calvo, R. A. (2012). Detecting naturalistic expressions of nonbasic affect using physiological signals. *IEEE Transactions on Affective Computing, 3*(3), 298–310.

Conference Papers

2008

- Aghaei Pour, P., Gulrez, T., AlZoubi, O., Gargiulo, G., & Calvo, R. A. (2008). Brain-computer interface: Next generation thought-controlled distributed video game development platform. In *2008 IEEE Symposium on Computational Intelligence and Games* (pp. 251–257).
- AlZoubi, O., Koprinska, I., & Calvo, R. A. (2008). Classification of brain-computer interface data. In *Proceedings of the 7th Australasian Data Mining Conference* (pp. 123–131).

2009

- AlZoubi, O., Calvo, R. A., & Stevens, R. H. (2009). Classification of EEG for affect recognition: An adaptive approach. In *AI 2009: Advances in Artificial Intelligence: 22nd Australasian Joint Conference* (pp. 52–61). Melbourne, Australia.

2010

- Aghaei Pour, P., Hussain, M. S., AlZoubi, O., D'Mello, S., & Calvo, R. A. (2010). The impact of system feedback on learners' affective and physiological states. In *Intelligent Tutoring Systems: 10th International Conference, ITS 2010* (pp. 264–273). Pittsburgh, PA, USA.

2011

- Hussain, M. S., AlZoubi, O., Calvo, R. A., & D'Mello, S. K. (2011). Affect detection from multichannel physiology during learning sessions with AutoTutor. In *Artificial Intelligence in Education: 15th International Conference, AIED 2011* (pp. 131–138). Auckland, New Zealand.
- AlZoubi, O., Hussain, M. S., D'Mello, S., & Calvo, R. A. (2011). Affective modeling from multichannel physiology: Analysis of day differences. In *Affective Computing and Intelligent Interaction: 4th International Conference, ACII 2011* (pp. 4–13). Memphis, TN, USA.
- Calvo, R. A., Hussain, M. S., Aghaei Pour, P., & AlZoubi, O. (2011). Siento: An experimental platform for behavior and psychophysiology in HCI. In *Affective Computing and Intelligent Interaction: Fourth International Conference, ACII 2011* (pp. 307–308). Memphis, TN, USA.

2013

- Di Eugenio, B., Chen, L., Green, N., Fossati, D., & AlZoubi, O. (2013). Worked out examples in computer science tutoring. In *Artificial Intelligence in Education: 16th International Conference, AIED 2013* (pp. 852–855). Memphis, TN, USA.
- AlZoubi, O., Fossati, D., D'Mello, S., & Calvo, R. A. (2013). Affect detection and classification from the non-stationary physiological data. In *2013 12th International Conference on Machine Learning and Applications* (pp. 240–245).
- AlZoubi, O., Fossati, D., Di Eugenio, B., & Green, N. (2013). Predicting students' performance and problem-solving behavior from iList log data. In *Proceedings of the 21st International Conference on Computers in Education (ICCE 2013)* (pp. 1–6). Indonesia. Asia-Pacific Society for Computers in Education.

2014

- AlZoubi, O., Fossati, D., Di Eugenio, B., & Green, N. (2014). ChiQat-Tutor: An integrated environment for learning recursion. In *Proceedings of the 16th Annual Conference on Information Technology Education* (pp. 65–70).

2015

- Di Eugenio, B., Green, N., AlZoubi, O., Alizadeh, M., Harsley, R., & Fossati, D. (2015). Worked-out examples in a computer science intelligent tutoring system. In *Proceedings of the 16th Annual Conference on Information Technology Education* (pp. 121–121).
- Green, N., Di Eugenio, B., Harsley, R., Fossati, D., AlZoubi, O., & Alizadeh, M. (2015). A scalable intelligent tutoring system framework for computer science education. In *International Conference on Computer Supported Education* (pp. 372–379).
- AlZoubi, O., Di Eugenio, B., Fossati, D., Green, N., & Alizadeh, M. (2015). Learning recursion: Insights from the ChiQat intelligent tutoring system. In *CSEDU (2)* (pp. 336–343).

2016

- Harsley, R. et al. (2016). Incorporating analogies and worked-out examples as pedagogical strategies in a computer science tutoring system. In *Proceedings of the 47th ACM Technical Symposium on Computing Science Education* (pp. 675–680).
- Green, N., AlZoubi, O., Alizadeh, M., Di Eugenio, B., Fossati, D., & Harsley, R. (2016). Behavior and learning of students using worked-out examples in a tutoring system. In *Intelligent Tutoring Systems: 13th*

International Conference, ITS 2016 (pp. 389–395). Zagreb, Croatia.

- Shatnawi, R., Green, N., Di Eugenio, B., Aditya, S., Fossati, D., & AlZoubi, O. (2016). Collab-ChiQat: A collaborative remaking of a computer science intelligent tutoring system. In *Proceedings of the 19th ACM Conference on Computer Supported Cooperative Work and Social Computing Companion* (pp. 281–284).

2019

- Tawalbehe, S., AlZoubi, O., & Al-Smadi, M. (2019). Recent advances of affect detection from Arabic text. In *10th International Conference on Information and Communication Systems (ICICS 2019)* (pp. 128–133).
- Melhem, A., AlZoubi, O., Mardini, W., & Yassein, M. B. (2019). Applications of blockchain in smart cities. In *Proceedings of the Second International Conference on Data Science, E-Learning and Information Systems* (pp. 1–7).
- Yassein, M. B., AlZoubi, O., Shatnawi, M., & Rawashdeh, A. A. (2019). Performance analysis of RPL objective functions. In *Proceedings of the Second International Conference on Data Science, E-Learning and Information Systems* (pp. 1–6).

2020

- Yassein, M. B. et al. (2020). Challenges and techniques of Constrained Application Protocol (CoAP) for efficient energy consumption. In *2020 11th International Conference on Information and Communication Systems (ICICS)* (pp. 373–377).
- AlZoubi, O., Almakhadmeh, B., Tawalbeh, S. K., Yassein, M. B., & Hmeidi, I. (2020). A deep learning approach for classifying emotions from physiological data. In *2020 11th International Conference on Information and Communication Systems (ICICS)* (pp. 214–219).

2022

- Awad, M. A., Samrraie, L., Abdalla, A. M., AlZoubi, O., Migdady, A., & Yassein, M. B. (2022). Blockchain technology in cloud computing: Challenges and open issues. In *Digital Transformation Technology: Proceedings of ITAF 2020* (pp. 81–98).
- AlZoubi, O., Shatnawi, F., Rawashdeh, S., Yassein, M. B., & Hmeidi, I. (2022). Detecting COVID-19 implication on education and economy in Arab World using sentiment analysis techniques of Twitter data. In *2022 13th International Conference on Information and Communication Systems (ICICS)* (pp. 352–357).
- Ennab, N. S. A., Yassein, M. B., & AlZoubi, O. (2022). Performance analysis of RPL objective functions in a medium spars network. In *2022 13th International Conference on Information and Communication Systems (ICICS)* (pp. 100–103).
- Alissa, K., & Alzoubi, O. (2022). Financial sentiment analysis based on transformers and majority voting. In *2022 IEEE/ACS 19th International Conference on Computer Systems and Applications (AICCSA)* (pp. 1–4).

2023

- Awad, M. A., Samrraie, L., Abdalla, A. M., AlZoubi, O., Migdady, A., & Yassein, M. B. (2023). A deep learning approach for varicocele detection from ultrasound images. In *2023 14th International Conference on Information and Communication Systems (ICICS)* (pp. 1–6).
- Hamouri, S. K., Shatnawi, R. A., AlZoubi, O., Migdady, A., & Yassein, M. B. (2023). Predicting bug severity using machine learning and ensemble learning techniques. In *2023 14th International Conference on Information and Communication Systems (ICICS)* (pp. 1–6).
- Awad, M. A., Samrraie, L., Abdalla, A. M., AlZoubi, O., Migdady, A., & Yassein, M. B. (2023). Ovarian cancer detection in CT scan images using transfer learning. In *2023 14th International Conference on Information and Communication Systems (ICICS)* (pp. 1–6).

2024

- Migdady, A., AlZoubi, O., El Kadhi, N., & Shorman, S. M. (2024). DRDM: Deep learning model for diabetic retinopathy detection. In *2024 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETSIS)* (pp. 78–82).
- Shatnawi, R., Jalamneh, A., AlZoubi, O., & others. (2024). Predicting software reusability using classification techniques. In *2024 15th International Conference on Information and Communication Systems (ICICS)* (pp. 1–5).

Book Chapters
2021

- AlZoubi, O., & Brown, C. (2021). ChiQat-Tutor and its architecture. In B. O'Neil & A. Gillespie (Eds.), *Intelligent*

Support for Computer Science Education (pp. 85–108). CRC Press.

- Alizadeh, M., & AlZoubi, O. (2021). Beyond linked lists: Binary search trees and recursion. In B. O'Neil & A. Gillespie (Eds.), *Intelligent Support for Computer Science Education* (pp. 143–162). CRC Press.

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