CV

DR MOHAMMAD HASHEM RYALAT

PERSONAL

- Name: Mohammad Hashem Ryalat
- Place of birth: Jordan
- Nationality: Jordanian
- Social status: Married
- Mobile No.: 00962 795015379

TEACHING EXPERIENCE

- Assistant professor, Al-Balqa Applied University /Jordan (2017 – now)
- Teaching assistant at University of East Anglia/ United Kingdom (2014 - 2016).
- Lecturer at Al-Balqa Applied University /Jordan (2013)
- Lecturer at king Abdul-Aziz University/ Saudi Arabia (2011 - 2012).
- Lecturer at Al-Balqa Applied University /Jordan (2005 – 2011)
- Supervision of more than 50 final-year graduation projects.
- Module organizer for numerous academic courses.
- Authorship of academic materials for teaching purposes.

HONORS & AWARDS

- The top-ranked student (1st rank) of the 2003-batch second-semester graduates.
- The top-ranked student (1st rank) of the 2005-batch MSc graduates / the faculty of higher studies.
- MSc scholarship: I won a scholarship to pursue MSc in Computer Science at Al-Balqa Applied University (funded by BAU).
- PhD scholarship: I won a British Council competition to pursue PhD in “Artificial Intelligence in Bio-Medical Engineering”. (Studentship funded by British Council and BAU).

EDUCATION & QUALIFICATIONS

- (2014–2017) Ph.D. in Computer Science from Computing Science School, University of East Anglia/ United Kingdom (Top of 150 universities worldwide, Times Higher Education Ranking).
- (2003–2005) M.Sc. in Computer Science, Al-Balqa Applied University, GPA (Grade): 4.0 out of 4.0 (Excellent), the top-ranked student (1st rank) of the 2005-batch MSc graduates.
- (1999–2003) B.Sc. in Computer Information Technology, Al-Balqa Applied University, Grade: (Excellent), The top-ranked student (1st rank) of the 2003-batch -2nd semester graduates.

CERTIFICATES

- Certified in web-based applications using Microsoft Dot-Net-framework and SQL server (2007).
- Certified in Dot-Net Windows applications (2007).
- Quality management system and internal audit according to ISO standard 9001:2008 (APRIL 2012).
- Arduino microcontroller (2013).
- Introduction to good clinical practice E-Learning (secondary care) from the national institute for health research / United Kingdom (2016).
- 21st BMVA Computer Vision Summer School attendance certificate (4 - 8 July 2016)
- Blended Learning TOT as a certified trainer from CNAM.

ON-LINE CERTIFICATES

Technical & Entrepreneur

- "Innovation in the government work" certificate from Mohammed Bin Rashid Centre for government innovation (October 2016).
- "Artificial Intelligence" certificate from Edraak platform (March 2020).
- "Machine Learning and Data Science" certificate from Developer Circles (August 2019).
- "Programming with Python" certificate from Princess Sumaya University for Technology (October 2016).
- "Motion Infographics" certificate from Edraak (November 2021).
- "Online Freelance Work" certificate from Hsoub (October 2021).

Elsevier Publishing Campus Package:

- "How to promote your article for maximum impact" (April 2016).
- "How to identify the right journal to publish in" (April 2016).
- "Why you can't afford to ignore research and publication ethics" (April 2016).
- "Getting your paper noticed" (May 2016).
- "The Impact Factor and other bibliometric indicators" (June 2016).
- "Creating a good research data management plan" (June 2016).
- "Beginners guide to writing a manuscript in LaTeX" (June 2016).
- "Recognizing Peer Reviewers:" (September 2016).
- "Data Citation: How can you as a researcher benefit from citing data" (December 2016).

ADMINISTRATIVE WORK

- Head of Computer Information Systems Department at Al-Balqa Applied University (2018 - 2020).
- General Secretary of computer science department at Al-Balqa Applied University (2008 - 2011).
- Representative of Prince Abdullah Bin Ghazi Faculty in the University council (2007 - 2008).
- Head and member in different committees at Al-Balqa Applied University.
- Member of assessment and quality office team at University of East Anglia/ United Kingdom (Part time).
- Supervision & assistance in the conducting of the objective Structured Clinical examination (OSCE) at Bob Champion Medical Research Centre/United Kingdom (2016).
- Liaison Officer of "The Crown Prince Award for Best Government Service Application" aimed at university students in the Hashemite Kingdom of Jordan. (2020-2021).
- Member of the "Comprehensive Exam Committee for Master's Program Students" - Artificial Intelligence Exam.
- Member in the Prince Abdullah bin Ghazi of ICT Faculty Council. (2018-2020).
- Liaison officer with the Deanship of Scientific Research and Innovation to follow up on everything related to electronic systems, including submitting applications for participation in scientific conferences,

submitting applications for sabbatical leave, the system for entering research into the database, research projects funding, the plagiarism detecting system, and any other systems launched by the Deanship of Scientific Research and Innovation. (2018-2020)

- Follow-up and coordination with the committees formed to prepare study plans and syllabuses for the Faculty of Artificial Intelligence for the specialization of "data science" and the specialization of "artificial intelligence and robotics", and to develop a plan to equip interactive classrooms and advanced laboratories in the field of simulation, robots and programming, and all that is necessary for the new disciplines in the Faculty of Artificial Intelligence.

PROGRAMMING COMPETITIONS AND CONTESTS

- Organizer of ACM international programming contest at King Abdul-Aziz University/ Rabigh, Saudi Arabia (2012).
- Certified Coach of BAU teams at (Africa and Arab Collegiate Programming Championship ACPC-2019) held in Princess Sumaya University for Technology. (September 2019).
- Certified Coach of BAU teams at (Africa and Arab Collegiate Programming Championship ACPC-2019) held in Applied Science Private University. (November 2019)
- Certified Coach of BAU teams at (Africa and Arab Collegiate Programming Championship ACPC-2019) held in Applied Science Private University. (October 2018)

VOLUNTEERING

- Volunteer at King Abdullah II office for development and Employment (100 hours).
- Volunteer at prince Abdullah bin Ghazi faculty of ICT as an instructor (300 hours of specialized and advanced programming courses to qualify final-year students for IT market and industrial sector).

CONFERENCES

- The 19th International Conference on Systems Science ICSS2016 (September 7-9, 2016, Wrocław, Poland).

- IEEE EMBS International Conference on Biomedical & Health Informatics (BHI), Florida, USA. 2017.
- International Conference on Bioinformatics and Biomedical Engineering, Granada, Spain, 2017.
- International Arab Conference on Information Technology (ACIT), Werdanye, Lebanon. 2018.
- International Conference on Information Technology (ICIT), Amman, Jordan. 2021.

OTHER ACTIVITIES

- A Panelist in the session entitled "Making the Most of the Student Support Service", Thomas Paine Foyer/United Kingdom (30/9/2016).
- I was one of nine students who were selected to attend the breakfast event with Vice-Chancellor Prof David Richardson on 16/11/2016.
- Securing a number of students in Al-Balqa Applied University with job and training opportunities in Jordanian companies like the one that I made with the STME (one smart solution) to save 10 positions each year.
- "Educational Material Design" workshop held by the Jordanian Ministry of Higher Education in cooperation with Learning and Education Technology Center/ BAU (April 2020)

TEACHING COURSES (BACHELOR'S AND MASTER'S DEGREE)

Master Courses:

- Advanced Artificial Intelligence and Expert Systems (2018-2021).
- Information Systems for Human Resources Students (2018).

Bachelor Courses:

- Intelligent Systems
- Expert Systems
- Artificial Intelligence
- Advanced Artificial Intelligence and Machine Learning
- Artificial Intelligence and its Applications
- Programming in Java
- Object Oriented Programming
- E-Commerce
- Digital Logic Design
- Publishing on the Internet
- Microprocessor Systems
- Pattern Classification and Clustering
- Web Computing

- Web Database
- Design of Graphical User Interface
- Operating Systems
- Introduction to programming
- Programming in C++
- Special Topics in Software Engineering
- Data Structures
- Web Engineering and Design
- Computer Architecture
- Database Systems Laboratory

MASTER THESIS (SUPERVISION and VIVA)

Supervision

- "A Deep Learning Framework for Detection of Skin Lesion and Melanoma". (Defense date: August 2022)
- "Deep Learning Framework for Images Classification using pretrained networks". (Defense date: January 2021)
- "A Deep Learning Framework for Detection of Diabetic Retinopathy Disease". (Defense date: January 2021)
- "Machine Learning Approach for Counting Germ Layers Cells Differentiated from Induced Pluripotent Stem Cells". (Defense date: August, 2021)

Viva

- "Accelerated Digitally Reconstructed Radiograph (DRR) Using Automatic Body Segmentation". (2018)
- "Training the Probabilistic Neural Network Using African Buffalo Algorithm to Solve Classification Problems". (2019)
- "An efficient virtual machine scheduling approach in Cloud Computing". (2019)
- "Securer Internet of Things Framework". (2020)
- "Squirrel Search Algorithm for Feature Selection Problems". (2020)
- "Feature Selection problems Using Marine Predator optimization algorithm". (2021)
- "A Swarm based Model for Solving Intrusion Detection Problem". (2022)

PUBLICATIONS

- Dorgham, O., Naser, M.A., Ryalat, M.H., Hyari, A., Al-Najdawi, N. and Mirjalili, S., 2022. U-NetCTS: U-Net deep neural network for fully automatic segmentation of 3D CT DICOM volume. Smart Health, p.100304.
- Braik, M., Al-Zoubi, H., Ryalat, M., Sheta, A. and Alzubi, O., 2022. Memory based hybrid crow search algorithm for solving numerical and constrained global optimization problems. Artificial Intelligence Review, pp.1-73.
- Braik, M., Ryalat, M.H. and Al-Zoubi, H., 2021. A novel meta-heuristic algorithm for solving numerical optimization problems: Ali Baba and the forty thieves. Neural Computing and Applications, pp.1-47.
- Dorgham, O.M., Alweshah, M., Ryalat, M.H., Alshaer, J., Khader, M. and Alkhalaileh, S., 2021. Monarch butterfly optimization algorithm for computed tomography image segmentation. Multimedia Tools and Applications, pp.1-34.
- Albashish, D., Al-Sayyed, R., Abdullah, A., Ryalat, M.H. and Almansour, N.A., 2021, July. Deep CNN model based on VGG16 for breast cancer classification. In 2021 International Conference on Information Technology (ICIT) (pp. 805-810). IEEE.
- Alweshah, M., Ramadan, E., Ryalat, M.H., Almi'ani, M. and Hammouri, A.I., 2020. Water Evaporation Algorithm with Probabilistic Neural Network for Solving Classification Problems. Jordanian Journal of Computers and Information Technology (JJCIT), 6(01).
- Dorgham, O and Ryalat, MH and Naser, M Abu, 2020. Automatic body segmentation for accelerated rendering of digitally reconstructed radiograph images. Informatics in Medicine Unlocked (Elsevier).
- Zanoon, N., Alkharabsheh, K. and Ryalat, M.H., 2020. Optimizing MapReduce Model for Big Data Analytics Using Subtractive Clustering Algorithm. International Journal of Advanced Science and Technology, 29(4), pp.4106-4119.
- Alweshah, Mohammed and Rababa, Lobna and Ryalat, Mohammed Hashem and Al Momani, Ammar and Ababneh, Mohamed F, 2020. African Buffalo Algorithm: Training the Probabilistic Neural Network to Solve Classification Problems. Journal of King Saud University-Computer and Information Sciences (Elsevier).
- Aldabbas, H., Asad, M., Ryalat, M.H., Malik, K.R. and Qureshi, M.Z.A., Data Augmentation to Stabilize Image Caption Generation Models in Deep Learning.
- Dorgham, O., Nasser, M.A., Ryalat, M.H. and Almomani, A., 2018, November. Proposed Method for Automatic Segmentation of Medical Images. In 2018 International Arab Conference on Information Technology (ACIT) (pp. 1-5). IEEE.
- Ryalat, M.H., Laycock, S. and Fisher, M., 2017, April. Automatic Removal of Mechanical Fixations from CT Imagery with Particle Swarm Optimisation. In International Conference on Bioinformatics and Biomedical Engineering (pp. 419-431). Springer, Cham.
- Ryalat, M.H., Laycock, S. and Fisher, M., 2017, February. A fast and automatic approach for removing artefacts due to immobilisation masks in X-ray CT. In 2017 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI) (pp. 33-36). IEEE.
- Ryalat, M.H., Emmens, D., Hulse, M., Bell, D., Al-Rahamneh, Z., Laycock, S. and Fisher, M., 2016, September. Evaluation of particle swarm optimisation for medical image segmentation. In International Conference on Systems Science (pp. 61-72). Springer, Cham.

- Fisher, M., Applegate, C., Ryalat, M., Laycock, S., Hulse, M., Emmens, D. and Bell, D., 2014. Evaluation of 3-D printed immobilisation shells for head and neck IMRT. Open Journal of Radiology, 4(4), pp.322-328.
- ALRahamneh, Z., Reyalat, M., Sheta, A.F., Bani-Ahmad, S. and Al-Oqeili, S., 2011. A new software reliability growth model: Genetic-programming-based approach. Journal of Software Engineering and Applications, 4(08), p.476.
- Al-Hiary, H., Bani-Ahmad, S., Reyalat, M., Braik, M. and Alrahamneh, Z., 2011. Fast and accurate detection and classification of plant diseases. International Journal of Computer Applications, 17(1), pp.31-38.
- Rahamneh, Z., Reyalat, M., Sheta, A. and Aljahdali, S., 2010, May. Forecasting stock exchange using soft computing techniques. In ACS/IEEE International Conference on Computer Systems and Applications-AICCSA 2010 (pp. 1-5). IEEE.