Dr. Mohammed Azmi Al-Betar

Professor of Science/Computer Science/AI

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Brief Biography

Dr. Mohammed Azmi Al-Betar commitment to academic excellence is undeniable. He is a dedicated full-time faculty member and the driving force behind the Master of Science in Artificial Intelligence (MSc-AI) program at Ajman University since 2020. His intellectual prowess is showcased through an impressive portfolio of over 230 scientific publications in esteemed journals and conferences. In a testament to his exceptional contributions, he achieved a distinguished rank in Stanford University's study, placing him among the top 2% of scientists worldwide in 2020/2021/2022. Dr.Al-Betar's is an academic powerhouse in the field of Artificial Intelligence, earning his Ph.D. from Universiti Sains Malaysia in 2010 (QS ranking=137). An exceptional trajectory marks his career; he served as a postdoctoral research fellow at the same university for three illustrious years and was twice invited as a visiting researcher. Presently, he stands as the head of the Artificial Intelligence Research Center (AIRC) and Evolutionary Computation Research Group (ECRG) at Ajman University. Beyond his prolific research endeavors, Dr. Al-Betar boasts a wealth of teaching experience, spanning more than 17 years across various higher education institutions. He has imparted knowledge in Computer Science and Artificial Intelligence, leaving an indelible mark on countless students. Prior to joining Ajman University, he held pivotal roles as the Deputy Dean of Academic Affairs in al huson university college (one MSc Program, 14 BSc programs, and 33 diploma programs, 8000 students, 176 Faculty members, and 122 administrative staff), Deputy Dean of Scientific Research for Quality Assurance and Development, and the Head of the Information Technology Department at Al-Balqa Applied University, Jordan. Dr. Mohammed Azmi Al-Betar's formidable expertise extends to the realm of accreditation and re-accreditation of the MSc-AI program, where he stands as a formidable leader. His meticulous attention to quality assurance and program development has been instrumental in not only establishing but also maintaining the program's high standards. In this capacity, Dr. Al-Betar's remarkable skill in navigating the intricate world of accreditation and re-accreditation is a testament to his unwavering dedication to fostering educational excellence and ensuring that the MSc-AI program remains at the forefront of innovation and relevance. His multifaceted expertise shines as a beacon of excellence in the realm of academia and technology.

Education Background

Ph.D — Jun. 2007 - Oct. 2010

School of Computer Sciences, Universiti Sains Malaysia — **Penang, Malaysia**

- Thesis Topic: Adapting and Hybridising Harmony Search with Metaheuristic Components for University Course Timetabling.
- Adviser: Prof. Ahmad Tajudin Khader.

– Area of Study: Optimization, Timetabling, Artificial Intelligence.

M.Sc **Nov. 2001 - Sept. 2003**
Computer Science Department,Yarmouk University **Irbid, Jordan**

– Thesis Topic: A Genetic-base Algorithm for solving the University Course timetabling.

– Adviser: Associate Professor Dr. Mohammad Hamdan.

– Area of Study: Timetabling, Artificial Intelligence.

B.Sc **Nov. 1997 - Sept. 2001**
Computer Science Department,Yarmouk University **Irbid, Jordan**

Teaching & Academic Experience (17 years)

Professor **Aug. 2020 - Present**
Ajman University **Ajman, UAE**
Teaching several postgraduate courses:

– Artificial Intelligence
– Data Mining
– Evolutionary Computing

Teaching several undergraduate courses:

– Web System
– Web Technology
– Information Technology in Business
– Information Systems Project
– Information Technology Project

Associate Professor **Sep. 2017 - Aug. 2020**
Al-Huson University College, Al-Balqa Applied University **Irbid, Jordan**
Teaching several undergraduate courses:

– Artificial Intelligence
– Expert Systems
– Neural Network and Genetic Algorithms
– Discrete Mathematics
– Operation Research
– Web Application

Assistance Professor **Sep. 2013 - Sep. 2017**
Al-Huson University College, Al-Balqa Applied University **Irbid, Jordan**
Teaching several undergraduate courses:

– Database System
– System Analysis and Design
– Software Engineering
– Object Oriented Programming

- Java Programming Language
- Special Topic
- Computer Skills (C++)

Assistance Professor — Sep. 2012 - Sep. 2013

Jadara University — **Irbid, Jordan**

Teaching several undergraduate courses:

- Operating system
- Programming Languages(C++)
- System Analysis and Design
- Final Year Project
- Computer Skills

Assistant Professor — Nov. 2010 - Sep. 2012

Al-Zytoonah University Of Jordan — **Amman, Jordan**

Teaching several undergraduate courses:

- Data Analysis and Design
- Discrete Mathematics
- Object Oriented Analysis and Design
- Artificial Intelligence
- System Programming
- Operation Research
- Computer Skills

Visiting Researcher — Jun. 2012 - Sep. 2012

Universiti Sains Malaysia — **Penang, Malaysia**

- Conduced a research titled “Enhancing Hajj Performance: Novel Crowd management system and Reduction of Related Health Problem” with a project subtitle “Enhancing modeling of Pilgrims during Hajj”.
- Presented a workshop about Optimization research the first one titled “**A Modern Optimization Method: Harmony Search**”, 9-August-2012. 10:00 am—12:00 am.
- Attend a workshop titled “INVITATION TO STRATEGIC MAPPING WORKSHOP OF HAJJ LRGS RESEARCH”, Date: August 4, 2012 (Saturday), Time: 9.30 am - 8.00 pm, Venue: The Hydro Hotel, Penang. I am a Co-Researcher in this research grant.
- Attend the computer science postgraduate colloquium 2012 titled “Smart Research”, Date: July 16-17, 2012 , Venue: DK A, DK B, DK C. I did some evaluation for some posters.

Post-Doctoral Fellow (Partially Adjunct) — Jun. 2011 - Jun. 2012

Universiti Sains Malaysia — **Penang, Malaysia**

During the postdoctoral appointments, the following activates have been accomplished:

- Conducted and Published a number of high impact factored journals, international conferences, and book chapters in a well-reputed publishers like IEEE, Elsevier, Springer, Taylor & Francis, Inderscience, IGI Global, and ACM (as shown in publication section)
- Official Co-supervised Ph.D and master students.

Lecturer — Oct. 2003 - Oct. 2007
Jerash Private University — **Jerash, Jordan**

Teaching several undergraduate courses:

- Introduction to Computer Skills
- Introduction to Compiler Construction
- Computer Architecture
- Visual Basic Programming
- Data Communication and Computer Network
- C++ programming (initial and advanced level)
- Software Engineering
- System Software: an introduction to system programming
- Introduction to Internet
- Data structure
- Computer Algorithm

Teacher — 2002 - 2003
United Nations Relief And Works Agency(UNRWA) — **Jordan**

Teacher — 2001 - 2002
Ministry Of Education — **Jordan**

Leadership & Services Background

Head of Artificial intelligence Research Center (AIRC) — Feb. 2021 - Present
Ajman University — **Ajman, UAE**

Achievements: The AIRC was well-established with very significant achievements. The main achievements include:

- 370 Scopus publications.
- 3450 Scopus Citations
- >450 collaborations with local and international universities.
- 220 SCOPUS-indexed collaborations with co-authors from the top 200 QS universities.
- Hold two inbound faculty members.

Coordinator, Master of Science in Artificial Intelligence (MSc-AI) — Feb. 2021 - Present
Ajman University — **Ajman, UAE**

Interim Dean of Al-Hoson University College — Oct. 27, 2021 - Oct. 31, 2021
Al-Hoson University College, Al-Balqa' Applied University — **Irbid, Jordan**

Deputy Dean of Academic Affair — Sep. 2019 - Aug. 2020
Al-Hoson University College, Al-Balqa' Applied University — **Irbid, Jordan**

Assistant Dean of Scientific Research for Quality Assurance — Sep. 2018 - Sep. 2019
Deanship of Scientific Research (DSR), Al-Balqa' Applied University — **Al-Salt, Jordan**

Advisor of Master of Science in Artificial Intelligence (MSc-AI) Program. **Feb. 01, 2021**

Ajman University **Ajman, UAE**

Achievements: I have contacted the MSc-AI students to ensure their smoothness in registering for the AI courses. My main focus was on the new students, where I have called them in person to ensure all AU requirements are achieved.

Professional Activities

Chair for initial accreditation for the BSc-AIML Program. **2023**

Ajman University **Ajman, UAE**

Achievements: Conducting Survey, bench-marking, SSR, and all related documents.

Chair for re-accreditation for the Master of Since in Artificial Intelligence. **2023**

Ajman University **Ajman, UAE**

Achievements: prepare and send the SSR and all related documents to the CAA for re-accreditation.

Member for activating MOU with Statistics Center committee. **Nov. 30, 2020**

Ajman University **Ajman, UAE**

Achievements: The AIRC members have collaborated with the Ajman Statistics and Competitiveness Center (ASCC). Several meetings with ASCC are conducted. The data from ASCC are taken for analysis purposes. The works are still in progress to build an AI descriptive and predictive model to improve the presence of ASCC and to make use of the collected data.

Organization Chair of Arab Conference of Information Technology (ACIT 2023). **2023**

Ajman University **Ajman, UAE**

Achievements: organize the ACIT23 conference logistically and the SZH layout.

Chair of the Hiring Committee for the FTRA position in AIRC. **Feb. 24, 2021**

Ajman University **Ajman, UAE**

Achievements: The Committee is established by the Dean of CEIT to hire the Full-Time Research Associate (FTRA) for AIRC. Several formal meetings with six candidates are conducted. The FTRA has been selected based on the formal evaluation criteria of Ajman University (AU). Now the FTRA (Dr. Sharif Makhadmeh) is already hired, and he is working with AIRC at AU.

Chair of the Executive Committee of AIRC. **Oct. 20, 2021**

Ajman University **Ajman, UAE**

Achievements: The main feedback given by VCAA and the dean of Graduate Studies & Research is establishing an executive committee for AIRC chaired by the Head of the research centre. The main target of this Committee is to manage all activities of AIRC such as research projects, research groups, research collaborations, internal and external grants, conference and journal sponsorships, AIRC annual budget, etc.

Chair of the Research Reward Committee. **2023**

Ajman University **Ajman, UAE**

Achievements: A summary of the main points discussed is as follows:

1. How to improve the reward system.
2. How to handle the Faculty member queries about their paper eligibility for reward.

Chair of Hiring Committee for MSc-AI Faculty member. **Jun. 01, 2021**

Ajman University **Ajman, UAE**

Achievements: The Committee is established by the Dean of CEIT to hire a full professor to work as a full-time faculty member at MSc-AI program. Several formal meetings with 6 candidates are conducted. The Full professor has been selected based on the formal evaluation criteria of Ajman University (AU). Currently, Prof. Dr. Mohamed Deriche is already joining our MSc-AI program where it is assigned with the Master course related to his specialist.

Chair of ad hoc Committee for selecting SGRA in MSc-AI. **Aug. 29, 2021**
Ajman University **Ajman, UAE**
Achievements: The Committee is established by the Dean of Graduate Studies & Research to select an SGRA of MSc-AI program. Several formal meetings with 4 potential candidates are conducted. The SGRA has been selected based on the formal evaluation criteria of Ajman University (AU). Now Shaimaa Mahmood Mounir Kouka is already joining our MSc-AI program, where it is assigned as SGRA.

Chair of Committee for activating MOU with Ajman Free Zone (AFZ). **Jun. 22, 2021**
Ajman University **Ajman, UAE**
Achievements: The Committee is established by the VCAA to establish MOU between Ajman University and AFZ. A visit to AFZ has been conducted where the AIRC members discussed the possible collaborations in terms of research, teaching, resources, funds, etc. We still working to achieve the target from this MOU.

Member of the Planning and Budgeting Committee (PBC). **Jan. 6, 2022**
Ajman University **Ajman, UAE**
Achievements: The Committee reviews all annual operating business plans and budget proposals received from colleges and offices and holds meetings with all deans, directors and managers to ensure that the planned objectives, initiatives and activities are aligned with the institutional strategic plan.

Member of the ad hoc committee for Microsoft - Research Pillar. **Mar. 03, 2021**
Ajman University **Ajman, UAE**
Achievements: A summary of the main points discussed is as follows:

1. Support for Microsoft Azure.
2. Sponsorship for AIRC.
3. Graduate Program (MSAI) Support.
4. Joint Supervision of Thesis with Microsoft.

Member of in the Council of Graduate Studies Committee. **Jun. 07, 2021**
Ajman University **Ajman, UAE**
Achievements: The Council of Graduate Studies Committee (CGSC) is responsible for postgraduate programs at Ajman University. Several meetings are conducted to discuss all postgraduate issues. The policies of postgraduate programs are also constructed from scratch by this Committee. I have engaged with an ad hoc committee related to CGSC to construct the policies for the external examination of the Master and PhD thesis as well as the workload policies of the master/PhD thesis. The work with this Committee is still in progress.

Member of Grievance Committee for research grant proposals. **Sep. 29, 2021**
Ajman University **Ajman, UAE**
Achievements: The Dean of Graduate Studies & Research has established this Committee, inviting me as an independent expert committee to review proposals, external confidential reviewer reports and comments from the PI on how they address reviewers' comments. We have reviewed all the material, discussed it together in the Committee, agreed and shared our recommendations.

Member of Faculty Promotion Committee (FPC). **May. 09, 2021**
Ajman University **Ajman, UAE**
Achievements: The Dean of Graduate Studies & Research has invited me to serve as a committee member of FPC (2021). I have studied all promotion applications applied from all faculties of Ajman University. Proper recommendations are given in accordance with the promotion policies of AU. The final report of recommendation had been prepared after several FPC meetings, which was finalized by the Dean of Graduate Studies & Research and submitted for VCAA for final decision.

Member of the ad hoc Research Committee to evaluate staff conferences. **Nov. 15, 2021**
Ajman University **Ajman, UAE**
Achievements: I have served as an ad hoc Research Committee established by the HOD of IT department to evaluate a conference given by Faculty members to be supported by Ajman University, where a proper recommendation was made.

Member of Assessment and Continues Improvement Committee (ACIC). **Sep. 09, 2021**
Ajman University **Ajman, UAE**
Achievements: I have invited the HOD of IT department as a Committee member in Assessment and Continues Improvement Committee (ACIC) to review all ICARs established for IT departments and provide recommendations for each of them for continued developments. The ICARs are finalized and submitted to HOD by the chair.

Member in CAA Accreditation Committee. **Oct. 05, 2021**
Ajman University **Ajman, UAE**
Achievements: I am serving as a committee member established by the HOD of IT to serve as CAA Accreditation Committee. Some meetings are conducted to manage all the documents related to MSc-AI program.

Member of the Community Engagement Committee. **Oct. 05, 2021**
Ajman University **Ajman, UAE**
Achievements: I am serving as a committee member established by the HOD of IT to serve as the Community Engagement Committee.

Member of online teaching committee **Mar. 15, 2019**
Al-Balqa' Applied University **Irbid, Jordan**

Developer of scientific research and postgraduate studies systems **2018 - 2020**
Al-Balqa' Applied University **Irbid, Jordan**

Member of postgraduate studies committee **2018/2019 - 2019/2020**
Al-Hoson University College, Al-Balqa' Applied University **Irbid, Jordan**

Chair of scientific research committee **2019/2020**
Al-Hoson University College, Al-Balqa' Applied University **Irbid, Jordan**

Chair of promotion committee **2018/2019**
Al-Hoson University College, Al-Balqa' Applied University **Irbid, Jordan**

Chair of course timetabling committee **2018/2019**
Al-Hoson University College, Al-Balqa' Applied University **Irbid, Jordan**

Coach of international collegiate programming contest **Apr. 28, 2018**
Jordan University of Sciences and Technology **Irbid, Jordan**

Member of Technical Program Committee in IJCCI **Apr. 28, 2018**
Spain
Conference Name: 13th International Joint Conference on Computational Intelligence

Member of Technical Program Committee in ACES **Apr. 28, 2018**
Malaysia
Conference Name: 3rd International Conference On Advances In Cyber Security

Member of Technical Program Committee in PICICT **Apr. 28, 2018**
Palestine

Conference Name: 3Third Palestinian International Conference on Information and Communication Technology (PICICT 2021)

Chair member of in DDSW 2020 **Apr. 28, 2018**
Portugal

Conference Name: The 3rd International Workshop on Data-Driven Security (DDSW 2022)

Member of Executive Eommittee in EAMMIS 2022 **Apr. 28, 2018**
Bahrain

Conference Name: European, Asian, Middle Eastern, North African Conference on Management and Information Systems (EAMMIS)

Member of Technical Program Committee in IEEE SSD 2022 **Apr. 28, 2018**
Algeria

Conference Name: 19th IEEE International Multi-Conference on Systems, Signals & Devices 2022

Invited Keynote Speeches, Lectures and Seminars

– Keynote Speaker, The International Computer Sciences and Informatics Conference (ICSIC 2022), Jordan, 28-30 June 2022.

– Keynote Speaker, 2nd International Conference on Artificial Intelligence Science and Applications in Industry and Society (CAISAIS 2023), Galala - Egypt, 03-06 Sep 2023.

– Keynote Speaker, 23rd International Conference on Digital Futures and Transformative Technologies (ICoDT2), NUST - Pakistan, 03-04 October 2023.

– Workshop, "How to write & publish paper in high impact factor journals", kyline University College, UAE, On 10-jan-2022 at 1-2.30pm

– Workshop, "How to publish paper in high Quality papers", kyline University College, UAE, On Monday 7-Mar 2022 from 2:00 - 3:00pm, American University of Kuwait, Kuwait

– Workshop, "How to write & publish a paper in high impact factor journals", Malyisan Association group, Jordan, 2022

Supervision of PHD Students

No.	Name	Nationality	Univ	Grad. year	email
1.	Bolaji Asaju La'aro	Nigerian	USM	2013	lbasaju@fuwukari.edu.ng
Thesis Title: Artificial Bee Colony Techniques For University Timetabling Problems					
2.	Mohammed A. Awadallah	Palestinian	USM	2014	ma.awadallah@alaqsa.edu.ps
Thesis title: Enhanced Harmony Search Algorithm for Nurse Rostering Problem					
3.	Ting Yee Lim	Chinese	USM	2015	tylim1@wou.edu.my
Thesis title: Pair Bonds In Genetic Algorithm					
4.	Bisan Alsalibi	Palestinian	USM	2016	besansalipi@gmail.com
Thesis title: Membrane-Inspired Bat Algorithm For Feature Selection To Recognize Faces In Unconstrained Scenarios					
5.	Khairul Bin Anwar	Malaysian	USM	2017	khair274@sabah.uitm.edu.my

Thesis Title: Harmony Search-Based Hyper-Heuristic For Scheduling Problems					
6.	Osama Ahmad Alomari	Turkish	USM	2018	oalomari@sharjah.ac.ae
Thesis Title: Filter-Wrapper Methods For Gene Selection And Cancer Classification					
7.	Laith Mohammad Abualigah	Jordanian	USM	2018	lahdyabat@aau.edu.jo
Thesis title: Feature selection and enhanced krill herd algorithm for text document clustering					
8.	Bashar Al-deeb	Jordanian	USIM	2019	baaldeeb@iau.edu.sa
Thesis title: Hybrid Intelligent Water Drops Algorithm For University Examination Timetabling Problem With Improved Convergence Behavior					
9.	Zaid Abdi Alkareem Alyasseri	Iraqi	USM	2020	zaid.alyasseri@uokufa.edu.iq
Thesis Title: Biometric User Authentication System Based On Electroencephalogram Signals					
10.	Sharif Naser Makhadmeh	Jordanian	USM	2020	m_shareef_cs@yahoo.com
Thesis title: Smart Home Battery for Multi-objective Power Scheduling Problem in a Smart Home Using Grey Wolf Optimizer					
11.	Ammar Abasi	Jordanian	USM	2020	ammar_abasi@student.usm.my
Thesis Title: Text Document Clustering Using Multi-Verse Optimizer Algorithm For Enhanced Unsupervised Scientific Publications Topic Extraction					
12.	Sofian Kassaymeh	Jordanian	UKM	2021	samsaak@gmail.com
Thesis title: Salp Swarm Optimizer for Modeling Software Reliability Using Various Testing and Efforts Prediction					
13.	Adewole Kayode Sakariyah	Nigerian	USM	Still	
Thesis title: Development and Evaluation of multi agent based intelligent Fround and information leakage detection system in online social network					
14.	Zahraa Adnan Abdal-Kareem	Iraqi	UTP	Still	zahraa2010@yahoo.com
Thesis title: Flower Pollination Algorithm For solving Patient Admission Scheduling problem					
15.	Tamara Amjad Alqablan	Jordanian	USM	Still	tqablan@student.usm.my
Thesis title: A study of sentiment analysis using swarm intelligence algorithm					
16.	Ashraf Sulaiman Mashaleh	Jordanian	USM	Still	mashaleh@bau.edu.jo
Thesis title: Detecting email spam using a metaheuristic algorithm					

Supervision of Master Students

- **Lamees Mohammad Wajeh Dalbah**:The Internet of Vehicles Network Routing Based on Different Optimization Algorithms, MSc-AI program, Ajman University, Thesis Track, Graduated–2022.
- **Sharaz Ali Hafiz Mohammad Ramzan Zaidi**:Solving Unit Commitment Problem using Swarm Intelligence Algorithms, MSc-AI program, Ajman University, Thesis Track, Graduated–2022.
- **Anas Mohammad Saeed Idlibi**:The development of deep learning based techniques for early detection of cancer from mammographic images, MSc-AI program, Ajman University, Thesis Track, Graduated–2022.
- **Mohamed Saif AlQaydi**:Blind Image Quality Assessment and Ranking Using Deep Networks, MSc-AI program, Ajman University, Thesis Track,Graduated–2022.
- **Hend Alshamsi**: Detecting occupancy of Smart Parking in Smart City by Using Evolutionary Algorithms, MSc-AI program, Ajman University, Thesis Track, Graduated–2022.
- **Khaled Mahfouz**: Mitigating the Task Scheduling Paradigm in Fog Computing Environments, MSc-AI program, Ajman University, Thesis Track,Graduated–2022.
- **Nabia Khalid Mahmoud**: A Deep Learning Based Approach for Detecting Diabetic Retinopathy From Fundus Images, MSc-AI program, Ajman University, Thesis Track, Graduated–2022.
- **Shaimaa Kouka**: Intrusion detection of Internet of Things Systems using Evolutionary Deep learning, MSc-AI program, Ajman University, Thesis Track, In Progress.

- **Naima Hussein**: Positive Sentiment Analysis on Covid-19 Tweets about E-learning, E-commerce, and Family relationships, MSc-AI program, Ajman University, Thesis Track, In Progress.
- **Shaikha AlDewish Al Ali**: Identification of Wanted People Using Face Recognition Technology, MSc-AI program, Ajman University, Project Track, Graduated–2022.
- **Munira Abdallah**: Business Intelligence solution for Pharmacy Drugs Sales, MSc-AI program, Ajman University, Project Track, Graduated–2022.
- **Ahmed Alsharawi**: Solving Vehicle Routing Problem Using Metaheuristic Optimization Algorithms, MSc-AI program, Ajman University, Project Track, Graduated–2022.
- **Omar Basheer**: A MULTI-OBJECTIVE ENERGY SCHEDULING PROBLEM USING METAHEURISTIC APPROACH, MSc-AI program, Ajman University, Project Track, Graduated–2022.
- **Mozah Aldhanhani**: BUSINESS INTELLIGENCE SOLUTION FOR COVID-19 PANDEMIC, MSc-AI program, Ajman University, Project Track, Graduated–2022.
- **Fatima Alajmani**: Fake News Detection using Grey Wolf Optimizer, MSc-AI program, Ajman University, Project Track, Graduated–2023.

Editorship and Refereeing Activities

- A Guest Editor for **Sustainability Journal**, Special Issue "Industry Development Based on Deep Learning Models and AI 2.0", MDPI Publisher
- A Associate Editor for **Journal of Soft Computing Exploration (JOSCEX)**
- A Associate Editor for **Iraqi Journal for Computers and Informatics**
- A reviewer for **Expert Systems with Applications** under Elsevier Publisher.
- A reviewer for **Information Science Journal** under Elsevier Publisher.
- A reviewer for **Europe Journal of Operation Research Journal** under Elsevier Publisher.
- A reviewer for **Applied Soft Computing Journal** under Elsevier Publisher.
- A reviewer for **Applied Mathematics and Computation Journal** under Elsevier Publisher.
- A reviewer for **Advances in Engineering Software Journal** under Elsevier Publisher.
- A reviewer for **Neural Computing and Applications** under Springer Publisher.
- A reviewer for **Indian Journal of Science and Technology Journal**.
- A reviewer for **International Journal of Digital Content Technology and its Applications (JDCTA)** published by **AICIT** (Advanced Institute of Convergence Information Technology).

National and International Projects

- Principal Investigator of project title "Improve the Performance of Federated Learning using metaheuristic algorithms", Funded by Ajman University (2023), 19800 AED.
- Principal Investigator of project title "Attrition Rate Prediction in Higher Education Institutions: Ajman University Case Study", Funded by Ajman University (2023), 19800 AED.
- Principal Investigator of project title "Brain-Computer Interface based EEG Feature Selection Technique: A New Approach for Stroke Patients Rehabilitation in United Arab Emirates", Funded by Ajman University (2022), 19800 AED.

- Principal Investigator of project title “Machine Learning Methods with Metaheuristic Swarm Intelligence Algorithms to tackle Soft ware Engineering Prediction Problems”, Funded by Ajman University (2022), 19800 AED.
- Principal Investigator of project title “Extract Scientific Topics from Publications based on Machine Learning Methods in Top QS Ranking of United Arab Emirates Universities”, Funded by Ajman University (2021), 19500 AED.
- Principal Investigator of project title “The Effect of Smart grids and Smart Homes on the Power Grid in UAE Using Artificial Intelligence Technique”, Funded by Ajman University (2021), 29200 AED.
- Co-Investigator Investigator of project title “Students Enrollment Prediction Using Machine Learning Methods: Ajman University case study”, Funded by Ajman University (2023), 19800 AED.
- Co-Investigator Investigator of project title “An enhanced Binary Meta-heuristic algorithms for feature selection problems in Medical Diagnosis domain”, Funded by Ajman University (2023), 19500 AED.
- Co-Investigator Investigator of project title “Variational Autoencoder Deep Learning Based Algorithm for Multi-Criteria Recommender Systems”, Funded by Ajman University (2023), 19500 AED.
- Co-Investigator Investigator of project title “An optimal gene selection for microarray cancer classification using the artificial intelligence optimization method”, Funded by Ajman University (2022), 19500 AED.
- Co-Investigator Investigator of project title “An optimal gene selection for microarray cancer classification using the artificial intelligence optimization method”, Funded by Ajman University (2022), 19500 AED.
- Co-Investigator Investigator of project title “Multi -Model Stacked Auto Encoder based deep learning for Lossy Image Compression”, Funded by Ajman University (2022), 19800 AED.
- Co-Investigator Investigator of project title “A Workflow for the Detection of Diabetic Retinopathy from Images using Ensemble Learning Combining Handcrafted and Deep Features”, Funded by Ajman University (2022), 50000 AED.
- Co-Investigator Investigator of project title “MR-VDENCLUE: Varying Density Clustering using MapReduce”, Funded by Ajman University (2021), 19500 AED.
- Principal Investigator of project title “A TRIZ-Inspired Bat Algorithm for Gene Selection in Cancer Classification”, Funded by Deanship of scientific research (DSR) at Al-Balqa Applied University (2018), 5000 JOD.
- Co-Investigator of project title “Fast Flux botnet catcher Approach (FFBCA)”,Funded by Deanship of scientific research (DSR) at Al-Balqa Applied University (2018), 5000 JOD.
- Co-Investigator in “Enhancing Hajj Performance: Novel Crowd Management System and Reduction of Related Health Problem” with a project subtitle “Enhancing modeling of Pilgrims during Hajj”, Funded by Malaysian Ministry of Higher Education (2012), 9000,000 Ringgit.

Awards and Honors

- Top 2% scholar in the world according to Stanford University, USA, 2020, 2021, and 2022.
- Top Computer Science Scientists in the United Arab Emirates (Ranking #17) according to research.com, 2022
- Al-Balqa Applied University, Highly cited researcher, 2018.

- Universiti Sains Malaysia, High Impact Publications Award in 2014, 2013, 2012, 2011, 2010.
- Full PhD Fellowship for 3 years, Malaysia.
- Universiti Sains Malaysia, Best Thesis award, 2010.

Research Interests

Artificial Intelligence, Machine learning, Data Science, Data Mining, Big Data, Smart City, Deep Learning, Robotics, Crowed Simulation, Operation Research Problems, Scheduling and Timetabling, Optimization Algorithms, Combinatorial Problems , Game theory, Discrete mathematics, Modeling and design, Web Accessibility.

Academic links

Measures	# Pub.	# Citations	h-index	link
Scopus	272	8475	49	Profile link
Google Scholar	333	11717	56	Profile link
Publons	203	5078	41	Profile link
Research gate	337	10,466	53	Profile link
ORICID	Profile link			
LinkedIn	Profile link			
DBLP	Profile link			
Ajman University	Faculty Profile			
AIRC	Center website			

Patents

Title: "A system for finding and optimizing a schedule for the operating hours of smart devices"
Authors: Sharif Naser Makhadmeh, **Mohammed Azmi Al-Betar**, and Almomani Ammar Ali Deeb
Link: Country: Germany

Publications

Journal Articles

[1] M. Abd Elaziz, A. Dahou, **M. Al-Betar**, S. El-Sappagh, D. Oliva, and A. Aseeri. "Quantum Artificial Hummingbird Algorithm for Feature Selection of Social IoT". In: *IEEE Access* 11 (2023), pp. 66257–66278.

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Technical Skills

Latex using Overleaf, MATLAB, Python, Open Office, Java, C#, linux (Red hat) and windows Operating System, Visual Basic 6 and .Net, Visual C++, Micromedia Flash 5, All third Generation languages Like Basic, Pascal, Fortaran,C++, Prolog, Oracle 8i, HTML,php,sql, css, jquery, IBM SPSS (16,17,18), GSview 4.4.

Languages

- **Arabic** : Native proficiency
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