



MUSTAFA MOHAMMED Z. YOULDASH

Assistant Professor (Computer Engineering)

Personal Data

Nationality | Saudi

Department | Computer Engineering

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Language Proficiency

Language	Read	Write	Speak
Arabic	Fluent	Fluent	Fluent
English	Fluent	Fluent	Fluent
Turkish	Learner	Learner	Learner
Uzbek	Learner	Learner	Learner

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
12/10/2016	Ph.D. (Computer Science)	Australia	Melbourne, Victoria
24/04/2009	Master of Computer Science	Australia	Melbourne, Victoria
13/08/2003	BSc. (Computer Science)	Kingdom of Saudi Arabia	Jeddah, Makkah

PhD, Master, or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	A Projection-based Framework for Visualizing High-dimensional Data
Master	Triangle Projection and its Use in Information Visualization
Fellowship	N/A

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work			Date
Assistant Professor	Department of Computer Science (Now, Engineering)	College of Computer Science and Information Technology	Imam Abdulrahman Bin Faisal University, Dammam, Kingdom of Saudi Arabia	2018 till present
Assistant Professor	Department of Computer Science	College of Computer and Information Systems	Umm Al-Qura University, Mecca,	2016 till early 2018



			Kingdom of Saudi Arabia	
Teaching Assistant	Department of Computer Science	College of Computer and Information Systems	Umm Al-Qura University, Mecca, Kingdom of Saudi Arabia	2004 till early 2016

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Department Chairperson	Computer Engineering Department	August 18 th , 2020, till early 2021
Member, Professional Examinations Initiative (PEI)	Vice-president's Office (VPO) of Academic Affairs, Imam Abdulrahman Bin Faisal University, Dammam, Kingdom of Saudi Arabia	2019 till present
Vice-dean of Training	Deanship of Academic Development and Quality Assurance, Umm Al-Qura University, Mecca, Kingdom of Saudi Arabia	2017 till early 2018

Scientific Achievements

Published Refereed Scientific Research

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
	N/A		

Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
	N/A			

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1	Youldash, M. and Rankin, J.	Evaluation of a Geometric Approach to the Coordinatization of Measured Spaces	Proc. 8 th International Conference on Information Technology and Applications (ICITA), Sydney, Australia (2013)
2	Youldash, M. and Rankin, J.	Skinning Analysis of a Mapping Algorithm in Higher Dimensions	Proc. 2 nd IEEE International Conference on Artificial Intelligence, Modelling and Simulation (AIMS), Madrid, Spain (2014)
3	Mona Alotaibi, Maha Alotaibi, Leena Alamri, Danah Alkadi, Samar Alsahali, Sumayh Aljameel, Mustafa Youldash	CAPEs Advisory: A Conversational Agent based on NLP Techniques for Professional Examinations Advisory	Alotaibi M. et al. (2021) CAPEs Advisory: A Conversational Agent Based on NLP Techniques for Professional Examinations Advisory. In: Arai K., Kapoor S., Bhatia R. (eds) Proceedings of the Future Technologies Conference (FTC) 2020, Volume 1. FTC 2020. Advances in Intelligent Systems and Computing, vol



			1288. Springer, Cham. https://doi.org/10.1007/978-3-030-63128-4_56
4	Youldash, M., Al-Dossary, S., AlDaej, L., AlOtaibi, F., AlDubaikil, A. et al.	<i>Applying Non-Local Means Filter on Seismic Exploration</i> . Computer Systems Science and Engineering	Computer Systems Science and Engineering, 40(2), 619–628. DOI:10.32604/csse.2022.017733

Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
1	Youldash, M. (Sponsored by Umm Al-Qura University)	ProjectionKit: A Data Projection and Visualization Toolkit. [Online]. Available: https://github.com/youldash/ProjectionKit	2014

Current Research

#	Research Title	Name of Investigator(s)
	N/A	

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	King Khalid University Xers	Abha, Kingdom of Saudi Arabia (February 2019)	Presented a Scientific Talk titled “Entrepreneurship Opportunities in the Mobile Application Development Domain.”
2	Techniya Talks, http://techniya.com	Jeddah, Kingdom of Saudi Arabia (June 2016)	Presented a Scientific Workshop titled “Developing Data Visualization Apps.” [Online]. Available: https://youtu.be/KZAzEoP12kE
3	Proc. 2 nd IEEE International Conference on Artificial Intelligence, Modelling and Simulation	Madrid, Spain (2014).	Program Committee (Chairman)
4	Apple University Consortium’s DevWorld Conference	Melbourne, Australia (September 2013)	Presented a Scientific Talk titled “OpenGL ES and GLKit: Valuable Assets for Hardware-Accelerated Visuals.” [Online]. Available: http://bit.ly/15nBGxe
5	Apple University Consortium’s DevWorld Conference	Melbourne, Australia (September 2012)	Presented a Scientific Talk titled “Oculus: A ‘Handy’ Little App for Visualizing and Exploring Graphs.” [Online]. Available: http://bit.ly/2eFCmaw
6	1 st Saudi Scientific Associations Conference	Melbourne, Australia (June 2010)	Delivered a keynote about the various techniques for data projection and information visualization research. Session concluded by presenting a live demo of a developed software package.



Membership of Scientific and Professional Societies and Organizations

- Golden Key – Recognized by the International Honor Society based on academic excellence. Certification issued and granted by La Trobe University on March 14, 2014 – Melbourne, Australia. Membership ID: 11812937.
- Member of the Institute of Electrical and Electronics Engineers, Inc. (IEEE).
- Member of the Apple University Consortium (AUC).
- Appointment as Program Committee (International) Editorial Board member for Research Hub. See <http://researchhub.uitm.edu.my/index.php/editorial-board>

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Introduction to Computer Science	1401101 and 405123 (Umm Al-Qura University)	Responsible of all lectures for two complete semesters. 405123 denotes the old course code and 1401101 represents the new code.
2	Human Computer Interaction	1401333 (Umm Al-Qura University)	Responsible of all lectures for one complete semester.
3	Capstone Project (<i>i.e.</i> , both Research, and Graduation Project components, in order)	1401419 and 1401439 (Umm Al-Qura University)	Capstone Project supervision of multiple groups.
4	Data Structures and Algorithms	1401218 (Umm Al-Qura University)	Responsible of all lectures for two complete semesters, and one as a summer course.
5	Computer Programming Skills	48021503 (Umm Al-Qura University)	Responsible of all lectures for one complete semester.
6	Programming Languages	1401231 (Umm Al-Qura University)	Responsible of all lectures for two complete semesters.
7	Introduction to Programming	405121 (Umm Al-Qura University)	Responsible of all lectures for one complete semester.
8	Introduction to Artificial Intelligence	1401332 (Umm Al-Qura University)	Responsible of all lectures for one complete semester.
9	Computer Networks	1401417 (Umm Al-Qura University)	Responsible of all lectures for one complete semester.
10	Discrete Mathematics	MATH 301	Responsible of all lectures for one complete semester.
11	Selected Topics in Information Systems (IS)	CIS 522	Responsible of all lectures for one complete semester.
12	Database Concepts and Design	CIS 321	Responsible of all lectures for one complete semester.
13	Project Proposal	CS/CIS/ARTI 511	Supervision of graduation projects.
14	Project Implementation	CS/CIS/ARTI 521	Supervision of graduation projects.
15	Software Quality Assurance	CIS 512	Responsible of all lectures for one complete semester.



16	Deep Learning	ARTI 502	Responsible of all lectures for one complete semester.
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Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

<p>Introduction to Computer Science (1401101) – Upon completing this course, the student will have learned, through appropriate classroom and laboratory experiences, the basics of computers, networking, and software. Moreover, he should explain how computers store and manipulate information and understand what an operating system does and give some examples of operating systems. Finally, he should also design simple algorithms and write their computer programs.</p>
<p>Human Computer Interaction (1401333) – Students will gain an understanding of user interface design, and alternatives to traditional "keyboard and mouse" computing, including virtual reality, and ubiquitous computing. Students will become familiar with sensory and cognitive systems and be able to apply models from cognitive psychology to predicting user performance in various human-computer interaction tasks and recognize the limits of human performance as they apply to computer operation. Students will appreciate the importance of a design and evaluation methodology that begins with and maintains a focus on the user, the social implications of technology and ethical responsibilities in the design of technological systems.</p>
<p>Research Project (1401419) – This course is the first semester of the required major design experience. In a two semester-long project, student teams will propose, design, produce and evaluate a software and/or hardware system. The project will culminate in the delivery of a working system, a formal public presentation, and written documentation. Oral and written progress reports are required.</p>
<p>Graduation Project (1401439) – This course is the second semester of the required major design experience. In a two semester-long project, student teams will propose, design, produce and evaluate a software and/or hardware system. The project will culminate in the delivery of a working system, a formal public presentation, and written documentation. Oral and written progress reports are required.</p>
<p>Data Structures and Algorithms (1401218) – The objective of this course is to provide the fundamentals of data structures and algorithm design needed in the remainder of the curriculum, introduce algorithm analysis, and develop students' problem solving and computer programming skills. Emphasis on linked lists, stacks, queues, trees, priority queues, heaps and graphs, and abstract data types. Also includes object-oriented concepts.</p>
<p>Computer Programming Skills (48021503) – The objective of this course is to introduce the students to the basics of writing software programs including variables, types, arrays, procedures, control structures, input/output, and general rules for writing good code. The language of choice is ANSI C. Mathematical foundations, and basic flowchart structures for problem solving, is also covered.</p>
<p>Programming Languages (1401231) – An introduction to programming language, specification, and analysis. Additional topics include control structures, data types and structures, runtime, environments, binding strategies, compilers, and interpreters.</p>
<p>Introduction to Programming (405121) – This course introduces computer programming and problem solving in a structured program logic environment using the C and C++ languages. Emphasis is placed upon development of correct, efficient programs that are easy to maintain. Topics include language syntax, data types, problem analysis, program design, debugging, code comments, problem-solving methods, and logic control structures. Basic features of the C and C++ programming language such as data types, control structures, input/output statements, functions, and arrays are covered.</p>
<p>Introduction to Artificial Intelligence (1401332) – This course introduces basics of Artificial Intelligence, concept of Intelligent agents and various types of agents. It includes various search techniques, Propositional logic and First order logic. It further introduces the concept of knowledge engineering and inference systems.</p>
<p>Computer Networks (1401417) – The course covers principles of computer networking with the focus on the Internet. The structure, practices, protocols, and components of computer networks involved in supporting the Internet, are studied in detail. Important concepts discussed in the course are related to packet switching, layered architecture, TCP/IP protocol suite, window flow control and local area networks. Simulations are used for visualization of network related concepts.</p>
<p>Discrete Mathematics (MATH 301) – The purpose of this course is to introduce the essential mathematical concepts and</p>



ideas in discrete mathematics, which are required for rigorous studies in most areas of computer science including Logic and Proof Techniques, Analysis of Algorithm, Digital Circuit, Network, Software Engineering, and Artificial Intelligence. Topics include: Propositional logic, logical equivalence, Quantifiers; Set theory, Mathematical induction; vector and matrices; Relations, Equivalence Relations, Partial Ordering Relations; Functions, Sequences, Indexed Classes of Sets, Recurrence Relations, Recursively defined functions, algorithms and complexity of algorithm; Properties of integers; Basic counting techniques, Binomial coefficients and Pascal triangle, Pigeonhole Principle; Graph theory, Tree graphs, Directed graphs; Boolean Algebra. Emphasis will be placed on providing a context for the application of discrete mathematics within computer science.

Selected Topics in IS (CIS 522) – This instructor lead course is especially designed to familiarize students with diverse information system environments and highlight implications for information system design. The course contents will be based on different research papers and students are expected to read scientific papers, write a scientific report, and deliver an oral presentation. The topics includes but not limited to Open Government, Citizen Centric E-Government, E-Democracy and On-line Activism, E-Government beyond Electronics, Mobile and Social Media, Technology Management for Non-profits, Smart Cities, Applications for Health Care Information Systems, E-Health, Health Information System Lifecycle, Electronic Patient Record Management, Aging and Technology.

Database Concepts and Design (CIS 321) – This course introduces students to basic database concepts. The course teaches students relational database terminology, as well as data modeling concepts, building Entity Relationship Diagrams (ERDs), and mapping ERDs. It introduces relational languages, and The Structured Query Language (SQL) is used to interact with a relational database and manipulate data within the database. Relational database systems are the focus, but other types, including object-oriented databases, are studied. This course will also cover topics such as file organization, indexes, transactions and transaction management, concurrency control, and database recovery. Leveraging project-based learning techniques, students will create and work with projects which challenge them to design, implement, and demonstrate a database solution for a business or organization using modern software tools.

Project Proposal (CS/CIS/ARTI 511) – In this course, students choose a project subject and define the objectives of the project under the supervision of a faculty member and prepare the project proposal.

Project Implementation (CS/CIS/ARTI 521) – Project implementation course offers students an opportunity to assemble their knowledge acquired throughout their BS curriculum to realize a final project. This would require them to gather information about the proposed subject and realize a final report as well as to develop a system practically.

Software Quality Assurance (CIS 512) – This course aims to introduce students to various factors and techniques for measuring and improving the quality of software. The course will focus on a business context and cover the testing of business requirements and role of management in fostering quality culture in a business enterprise. Software quality metrics/standards for quality assurance, management of business software and testing and designing of several testing artifacts will be the part of the course. Additionally, course will focus on the impact caused by software failure on individuals and business organizations as well as the need and impact of business process assurance. Business continuity solutions in the presence of software failures are discussed. In addition, students will be trained on related techniques and software tools in the lab.

Deep Learning (ARTI 502) – This course centers on learning the basic theory of deep learning and how to apply it to various applications. It aims to present the mathematical, statistical, and computational challenges of building stable representations for high-dimensional data, such as images, text, and data. It will delve into selected topics of Deep Learning, discussing recent models from both supervised and unsupervised learning. Special emphasis will be on convolutional architectures, invariance learning, unsupervised learning, and non-convex optimization.

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Operating Systems	1400501 (Umm Al-Qura University)	Responsible of all lectures for one complete semester.



Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

Operating Systems (1400501) – This course, at a postgraduate level, introduces the theory and practice behind modern computer operating systems. The teaching approach covers both a theoretical perspective; the abstractions and algorithms, as well as a practical one; the mechanisms and how they are built.

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	To
	N/A						

Guest/Invited Lectures for Undergraduate Students

#	Activity/Course Title and Code	Subject	College and University or Program	Date
	N/A			

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
	N/A			

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
	N/A			

Ongoing Research Supervision

#	Degree Type	Title	Institution	Date
	N/A			

Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)

Administrative Responsibilities

#	From	To	Position	Organization
1	August 18 th , 2020	January, 2021	Department Chairperson	Department of Computer Engineering, College of Computer Science & Information Technology (CCSIT)
2	Feb. 2019	Present	Professional Examinations Initiative (PEI) Board Member	Vice-president's Office (VPO) of Academic Affairs

Committee Memberships



#	From	To	Position	Organization
1	Sep. 2018	Early 2020	Professional Certifications Alignment (PCA) Chairman	College of Computer Science and Information Technology (CCSIT)
2	Sep. 2018	Early 2020	Programming Competitions Sub-Unit Member	College of Computer Science and Information Technology (CCSIT)
3	Sep. 2018	Early 2020	Alumni and Career Planning Unit Member	College of Computer Science and Information Technology (CCSIT)

Scientific Consultations

#	From	To	Institute	Full-time or Part-time
	N/A			

Volunteer Work

#	From	To	Type of Volunteer	Organization
1	2009	2010	Recognized for my services to the Saudi Student Association of Melbourne. Two certificates of appreciation have been granted by the Royal Embassy of Saudi Arabia, Canberra, in 2009 and 2010 respectfully. Also recognized by the Cultural Mission for editing and translating a video montage, which was originally made by the Minister of Higher Education, Saudi Arabia; a video that is about the King Abdullah Scholarship Program. Letter of appreciation received February 20, 2010.	Saudi Arabian Cultural Mission, Australia
2	2009	2014	Delivered several LaTeX (introductory-level) crash-courses on typesetting for the students in Melbourne, Australia.	Saudi Student Association of Melbourne
3	October 13 th , 2020 (One day event)		Delivered a public talk for prospective and current AI students titled "صوتك مسموع" or "Your Voice is Heard."	CCSIT
4	February 11 th , 2020 (One day event)		Delivered a public talk about the "LaTeX Typesetting Essentials" given to CCSIT faculty and students.	CCSIT
5	July 16 th , 2020 (One day event)		Delivered a public workshop about the "مدخل الى الذكاء الاصطناعي" or "Introduction to Artificial Intelligence" given to the public.	IAU

Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

1	Experienced with Assembly, .NET languages (C#, J#, Visual Basic and ASP), C and C++, POSIX Threads, Objective-C, Swift, Python, OpenGL and OpenGL ES, OpenGL Shading Language (GLSL), HTML and XHTML, CSS, Java (both SE and EE), JSP and Java Servlets, JavaScript, VBScript, AppleScript, SQL, and SQL Stored Procedures. XML and JSON, Typesetting with LaTeX. Can become proficient in other languages.
2	Familiar with Oracle, MySQL, Microsoft's SQL Server, and Access database systems. Experienced in Web Service deployment using Java and .NET. Capable of managing macOS Servers. Teaching skills (by profession). Capable of working under various UNIX distributions such as Linux, macOS, and Windows. Comfortable with UNIX shell scripting. Familiar with video/podcast production systems like Apple's iMovie, and Final Cut applications.



Last Update

2022-08-07