

PROMOTION RECOMMENDATION  
The University of Michigan-Flint  
College of Arts and Sciences  
Department of Computer Science, Engineering, and Physics

Amal Alhosban, assistant professor of computer science, Department of Computer Science, Engineering, and Physics, College of Arts and Sciences, is recommended for promotion to associate professor of computer science, with tenure, Department of Computer Science, Engineering, and Physics, College of Arts and Sciences.

Academic Degrees:

Ph.D.	2013	Wayne State University, Computer Science, Detroit, Michigan
M.S.	2008	Al-al Bayt University, Computer Science, Jordan
B.S.	1998	Yarmouk University, Computer Science, Jordan

Professional Record:

2014-Present	Assistant Professor of Computer Science, University of Michigan-Flint, Michigan
2013-2014	Assistant Professor of Computer Science, New Mexico Highland University, New Mexico
2009-2013	Research Assistant and Faculty, Wayne State University, Michigan

Summary of Evaluation:

Teaching: Since her arrival in the fall of 2014, Professor Alhosban has taught thirteen difference classes – seven at the undergraduate level ranging from introductory programming courses to upper division courses, and six graduate courses including courses in data mining, enterprise computing, and the semantic web. Given the rapidly changing terrain of the internet and social media, as well as the field of computer science, Professor Alhosban views her role as a leader, guiding her students in the right direction. She operationalizes this philosophy of teaching with the use of real-life case studies and problems. In addition, Professor Alhosban is committed to continually improve her teaching effectiveness as demonstrated by her participation in numerous pedagogical workshops and her being recognized as the 2019 recipient of the Provost Teaching Innovation Award (face-to-face category). Professor Alhosban’s student teaching evaluations reflect the high quality of her teaching with average scores of 4.39, 4.40 and 4.28 for the questions, “Overall, this was an excellent course,” “I learned a great deal in this course,” and “Overall, the instructor was an excellent teacher,” respectively. Professor Alhosban’s peer evaluations of her teaching note her excellent command over the material, the classes being well structured, and the quality interactions with her students. In addition to her work advising both undergraduate and graduate students, Professor Alhosban has directed ten undergraduate independent study projects and supervised four Graduate Research Assistants during their projects.

Research: Professor Alhosban is a computer scientist specializing in the broad area of semantic web and fault management. More specifically, Professor Alhosban’s scholarly activity revolves around four specific areas. The first involves data mining and big data in that her work increases the efficiency of the computer algorithm and testing its effectiveness through experimental designs. In this domain, Professor Alhosban has also identified patterns of cyber-attacks through phishing emails. Professor Alhosban’s second area of research utilizes a case study approach to further understand customer awareness of e-commerce in Jordan. Enterprise Resource Planning (ERP) and cloud computing is the third area in which Professor Alhosban applies her expertise. In this arena, her scholarship has identified the challenges faced by ERP and has leveraged cloud computing to reduce the costs associated with adopting this technology. Professor Alhosban has conducted research that predicts student performance using a dataset of ten thousand students across two hundred and fifty higher education institutions. The results of her scholarly activity since her arrival at the University of Michigan-Flint have been published in six peer reviewed journal articles (two

of which she is the first author), ten peer reviewed conference papers (five of which are co-authored with graduate students) and two book chapters. Given her area of expertise in data mining, Professor Alhosban has initiated research in the areas of detecting Autism Spectrum Disorder, and further investigations in the area of k-man Clustering Algorithms.

Recent and Significant Scholarly Activity:

- A. Alhosban, Kashmi, Z. Malik, and B. Medjahed. "A Sustainable Self-healing Framework for Big Data in Service-oriented Systems." *Transaction on the Web*, Submitted April 2019.
- H. Yaseen, M. Alhusban, A. Alhosban and K. Dingley. "Making Sense of E-Commerce Customers Awareness in a Developing Country Context: A Framework for Evaluation." *E-Journal of IS Evaluation (EJISE)*. Volume 20, Issue 2, November 2017.
- H. Yaseen, M. Alhusban, A. Alhosban and K. Dingley. "E-Commerce Adoption Model for Traditional Retailers in Developing Countries." *International Journal of Infonomics (IJI)*. Volume 10, Issue 2, June 2017.

Service: Professor Alhosban has provided a wide array of service to her program through her profession. For her program, Professor Alhosban has served as a peer evaluator for numerous colleagues to document their effectiveness in teaching. She has been a member of the program's ad hoc brochure committee, and she has reviewed the AP examination in Computer Science. For the department, Professor Alhosban has served on numerous CSEP committees including the Women and Minorities in Computer Science, the Data Science, the International Support, and the Professional Development committees. For her college, Professor Alhosban has been a founding member of the Marketing and Communication Strategic Planning Implementation committee and has served on the classroom design committee for the Murchie Science Building Expansion project. Professor Alhosban has served on the Organization Committee for the GEMS summer camp. At the university level, Professor Alhosban initiated the Women in Computer club and has contributed her time and effort in recruitment by serving as an international ambassador for a Global Vision for Academic Services event in Jordan during the Spring of 2017. She has also produced a recruitment video for the MS in computer science program. For her profession, Professor Alhosban has served as a sponsor and assisted in organizing the 2017 and 2019 Michigan Celebration of Women in Computing conference. She has served as a judge for the annual poster competition at the 2019 Michigan Institute for Data Science annual symposium, as well as sharing her expertise as a peer reviewer for nine journals and numerous conferences. Professor Alhosban is an active member of her local community by serving on Factory Two's Flint Smart City Initiative, coordinating internship opportunities for computer science students at Hurley Medical Center, and has worked with Durant-Tuuri-Mott School to implement mobile applications for students with disabilities. Her work here includes closed captioning, scheduling, and an analysis of places meeting wheelchair accessibility standards.

External Reviewers:

Reviewer (A): "She has published numerous national and international articles, presented papers and lectured in a wide range of areas. It is seen that the works of the candidate have scientific originality and contribute to the field."

Reviewer (B): "The two best published articles of the candidate seem to be 'A Web Service Negotiation Management and QoS Dependency Modeling Framework' (2016, published in ACM Transactions on Management Information Systems) and 'Bottom-up Fault Management in Service-based Systems' (2015, published in ACM Transactions on Internet Technology)."

Reviewer (C): "Since he joined University of Michigan-Flint in 2014, Dr. Alhosban has published 5 journals and 10 conference papers. There are some interesting conferences included in his publications."

Reviewer (D): "The candidate has a fair involvement in the community as a reviewer for both top notch journals and academic conferences in her research field."

Reviewer (E): "Overall, I found that her work shows an interest in and ability to apply her technological knowledge to interesting problems in a number of different domains.... In addition, the number of publications that she has produced is quite impressive..."

Reviewer (F): "I am most impressed with articles published in the ACM TMIS and TOIT [Association for Computing Machinery, Transactions on Management Information Systems and Transactions on Internet Technology].... The framework developed by the authors automates the service negotiation process without involving humans, which is a critical contribution in regards to the advancement of service composition applications."

Summary of Recommendation:

Given the rapidly changing terrain of the internet and social media, as well as the field of computer science, Professor Alhosban's pedagogy focuses on guiding her students in the right direction as she challenges them with real-life case studies and problems. She has been able to implement this strategy to enhance student learning to lower division, upper division, and graduate courses. Professor Alhosban's scholarly activity revolves around four specific areas: increasing the efficiency of the computer algorithms, understanding customer awareness of e-commerce in Jordan, identifying ways cloud computing can reduce the costs of Enterprise Resource Planning, and finally, the prediction of student performance. With regard to her service record, Professor Alhosban has applied her expertise to serve her students, department, college and local and professional communities. I recommend Amal Alhosban for promotion to associate professor of computer science, with tenure, Department of Computer Science, Engineering, and Physics, College of Arts and Sciences.

Recommended by:



Susan Gano-Phillips, Dean  
College of Arts and Sciences

Recommendation endorsed by:



Keith Moreland, Interim Provost and  
Vice Chancellor for Academic Affairs



Debasish Dutta, Chancellor  
University of Michigan-Flint

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