

Hebah AbdulAziz ElGibreen

SUMMARY

A detail-oriented assistant professor and research affiliate with strong computing and analytical skills. Actively researching and developing new approaches in collaborative robotics to improve the efficiency of human and robot interactions in a shared environment. Has practical experience with different hardware and software platforms, and can create and implement skills development programs and foster partnerships with vocational training entities due to her diverse administration journey.

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PROFESSIONAL EXPERIENCE

Director <i>AI Center of Advance Studies, KSU, Riyadh, Saudi Arabia</i>	2021–Present
Deputy Director <i>Alumni Center, KSU, Riyadh, Saudi Arabia</i>	2019–2021
Affiliated Researcher <i>Mechanical Engineering Department, Massachusetts Institute of Technology (MIT), Cambridge, USA</i>	2018–2021
Delegated Vice Dean and Consultant for Deanship of E-Transactions and Communication <i>KSU, Riyadh, Saudi Arabia</i>	2019
Assistant Professor <i>College of Computer and Information Sciences, IT Department, King Saud University (KSU), Riyadh, Saudi Arabia</i>	2015–Present
Lecturer <i>Information Technology Department, College of Computer and Information Sciences, KSU, Riyadh, Saudi Arabia</i>	2010–2015
Teacher Assistant <i>Information Technology Department, College of Computer and Information Sciences, KSU, Riyadh, Saudi Arabia</i>	2007–2009
Volunteer Teacher Assistant <i>NXT LEGO Robot Program for Gifted Girls, Riyadh, Saudi Arabia</i>	2007

EDUCATION

Postdoctoral Fellow <i>MIT, MRL Lab, Mechanical Engineering Department, Cambridge, USA</i>	2017
Doctor of Philosophy in Computer and Information Sciences <i>Information Systems Track (Machine Learning), College of Computer and Information Sciences, KSU, Riyadh, Saudi Arabia</i>	2015
Master of Information Systems <i>College of Computer and Information Sciences, KSU, Riyadh, Saudi Arabia</i>	2009
Bachelor of Computer and Information Sciences <i>College of Computer and Information Sciences, KSU, Riyadh, Saudi Arabia</i>	2006

INSTITUTIONAL SERVICES

Career Development Program <i>Project Executive Director, KSU, Riyadh, Saudi Arabia</i>	2020
Career Week <i>Vice Executive Director, KSU, Riyadh, Saudi Arabia</i>	2019
Towards a Conscious Graduate Initiative <i>Project Executive Director, KSU, Riyadh, Saudi Arabia</i>	2019
IT Project Examination Committee <i>Chair, KSU, Riyadh, Saudi Arabia</i>	2020
Disciplinary Committee for Female Students <i>Member, KSU, Riyadh, Saudi Arabia</i>	2019–Present
Studying Training Opportunities for Labor Market Committee <i>Member, KSU, Riyadh, Saudi Arabia</i>	2018–2019
Partnerships Activation Committee <i>Chair, KSU, Riyadh, Saudi Arabia</i>	2015–2016
Academic Advising Committee <i>Chair, KSU, Riyadh, Saudi Arabia</i>	2015–2018
Upgrading Oracle Server and Labs of IT Department <i>Team leader, KSU, Riyadh, Saudi Arabia</i>	2015
Additional Services at KSU	
▪ Projects Advisory Committee	2019–Present
▪ External Activity Committee	2018
▪ CCIS Collage Advising Council	2015–2016
▪ Students Rights Committee	2015–2016
▪ Academic Accreditation Committee	2010
▪ National Assistance Center in Higher Education	2008

MEMBERSHIPS

Member <i>Robotics and Application of Smart Computing Techniques Research Group KSU, Riyadh, Saudi Arabia</i>	2020–Present
Member <i>Center of Smart Robotics Research, KSU, Riyadh, Saudi Arabia</i>	2018–Present
Member <i>MIT—Ibn Khaldun Alumni Society for Saudi Women in STEM</i>	2018–Present
Sustaining Member <i>National Postdoctoral Association (NPA), USA</i>	2017–Present

GRANTS & AWARDS

Best Presenter Award MIT, Cambridge, USA Given by the Boston Postdoctoral Association at the Careers and Collaboration in Science Symposium	2017
Best Instructor Award in IT Department College of Computer and Information Science, Riyadh, Saudi Arabia	2016
Best Academic Advisor of the Year Information Technology Department, Riyadh, Saudi Arabia Based on student votes	2016
Excellence in Research Activity Contest College of Computer and Information Science, Riyadh, Saudi Arabia Won third place in 'Best PhD Thesis' track	2016
Grant to fund project number "أ - ط - 35 - 153" King Abdulaziz City for Science & Technology (KACST), Riyadh, Saudi Arabia	2014
National Competition in Computer Skills College of Telecom and Information, Riyadh, Saudi Arabia Won second place in 'Educating by Computers' track	2007

PUBLICATIONS

- H. Elgibreen, M. Faisal, M. Al Sulaiman, S. Abdou, Y. Alohal, W. Abdul, G. Muhammad, M. Bencherrif, M. Algabri, M. Rashwan, "An Incremental Approach to Corpus Design and Construction: Application to a Large Contemporary Saudi Corpus", in *IEEE Access*, vol. 9, pp. 88405-88428, 2021, doi: 10.1109/ACCESS.2021.3089924.
- H. ElGibreen, "An Adaptive Epidemiology-Based Approach to Swarm Foraging with Dynamic Deadlines," *Applied Sciences*, vol. 11, no. 10, p. 4627, May 2021; doi:10.3390/app11104627.
- M. Faisal, F. Albogamy, H. Elgibreen, S. A. M. Alvi, M. Algabri, and M. Alsulaiman, "COVID-19 Diagnosis System Using Deep Learning Techniques," in *Intelligent Automation and Soft Computing*, vol.29, no.3, pp.649-667, 2021; doi:10.32604/iasc.2021.017898.
- M. Faisal, H. Elgibreen, "Adaptive Self-Localization System for Low-cost Autonomous Robots", 7th International Conference on Control, Automation and Robotics, virtual, April, 2021.
- مورغان كيغلي؛ براين جيركي؛ ويليام سمارت. " برمجة الروبوتات باستخدام نظام روز: مقدمة عملية لنظام تشغيل الروبوت". ترجمة محمد فيصل عبدالقادر؛ هبة بنت عبدالعزيز الجبرين. الرياض؛ دار جامعة الملك سعود للنشر؛ ١٤٤٢ هـ
- M. Faisal, F. Albogamy, H. Elgibreen, M. Algabri, and F. Alqershi, "Deep Learning and Computer Vision for Estimating Date Fruits Type, Maturity Level, and Weight," in *IEEE Access*, vol. 8, pp. 206770-206782, 2020, doi: 10.1109/ACCESS.2020.3037948.
- Hebah ElGibreen, Sumayah Almazyad, Shahad Bin Suhail, Miad Al Qahtani, and Latifah Alhwiseen, "Robot Framework for Anti-Bullying in Saudi Schools," *The Fourth IEEE International Conference on Robotic Computing*, Taichung, Nov 9, 2020.
- H. ElGibreen "Chapter 5: Health Transformation in Saudi Arabia via Connected Health Technologies." in P. Murthy and A. Ansehl (eds), *Technology and Global Public Health*. Springer, Cham, 2020. https://doi.org/10.1007/978-3-030-46355-7_10
- H. ElGibreen and K. Youcef-Toumi, "Dynamic Task Allocation in an Uncertain Environment with Heterogeneous Multi-Agents," *Autonomous Robots Journal (ISI)*, 2019, <https://doi.org/10.1007/s10514-018-09820-5>.
- H. ElGibreen and M. Aksoy, "Relational Reinforcement Rule Induction and the Effect of Pruning," *The 18th International Conference on Artificial Intelligence*, USA, LA, 2016.

- H. ElGibreen and M. Aksoy, "Adopting Relational Reinforcement Learning in Covering Algorithms for Numeric and Noisy Environments," *International Journal of Computational Intelligence Systems* 9(3), 572–594, 2016. (ISI)
- H. ElGibreen and M. S. Aksoy, "Classifying Continuous Classes with Reinforcement Learning RULES," in N. T. Nguyen et al. (eds.), *Intelligent Information and Database Systems* vol. 9012, pp. 116–127. Springer International Publishing, 2015.
- H. ElGibreen and M. S. Aksoy, "Incremental Transfer RULES with Incomplete Data," in *The 5th IEEE Symposium on Computational Intelligence and Data Mining (CIDM 2014)*, Orlando, Florida, U.S.A., 2014 (ISI).
- H. ElGibreen and M. S. Aksoy, "Inductive Learning for Continuous Classes and the Effect of RULES Family," *International Journal of Information and Education Technology* 5, 564–570, 2014.
- H. ElGibreen and M. S. Aksoy, "Continuous Features in Inductive Learning and the Effect of RULES Family," *International Journal of Computers* 8, 66–75, 2014.
- H. ElGibreen and M. S. Aksoy, "RULES-IT: Incremental Transfer Learning with RULES Family," *Frontiers of Computer Science* 8, pp. 537-562, 2014. (ISI)
- H. ElGibreen and M. Aksoy, "RULES Family: Where does it stand in Inductive Learning?" *8th International Conference on Computer Engineering and Application (CEA '14)*, Tenerife, Spain, 2014.
- H. ElGibreen and M. Aksoy, "Multi Model Transfer Learning with RULES Family," in P. Perner (ed.), *Machine Learning and Data Mining in Pattern Recognition* vol. 7988, pp. 42–56. Springer Berlin Heidelberg, 2013.
- H. ElGibreen and M. S. Aksoy, "RULES – TL: A simple and Improved RULES Algorithm for Incomplete and Large Data," *Journal of Theoretical and Applied Information Technology* 47, 2013.
- H. ElGibreen and S. El-Masri, *Improving Web Content Management System: Template Personalization Approach*, *Journal of Engineering and Technology Research (JETR)* 4(7), 149–163, 2012.
- H. ElGibreen and A. Mirza, *Provider Recommendation in E-Service Portals using Group Profiling*, *Journal of Theoretical and Applied Information Technology* 42(1), 100–112, 2012.
- H. ElGibreen and S. El-Masri, "Template Personalization and Evolutionary Algorithms," *GEM'12 - 9th International Conference on Genetic and Evolutionary Methods*, USA, 2012.
- H. ElGibreen and A. Mirza, "Group Profiling in E-Service Portals," *EEE'11 - 10th Int'l Conference on e-Learning, e-Business, Enterprise Information Systems, and e-Government*, USA, 2011.
- M. Ykhlef and H. ElGibreen, "Mining Pharmacy Database Using Evolutionary Genetic Algorithm," *International Journal of Electronics and Telecommunications* 56(4), 427–432, 2010.
- Areej Al-Wabil, Hebah ElGibreen, Amal AlSuwaidan, and Reem Al-Salloom, "Heuristics for the Creation of Educational & Game Software for Children with Dyslexia," *Presentation in the 2010 International Conference on Information and Multimedia Technology ICIMT in Hong Kong*, Dec 28–30, 2010; published by IEEE.
- Al-Wabil, H. ElGibreen, R. George, and B. AlDosary, "Exploring the Validity of Learning Styles as Personalization Parameters in eLearning Environments: An Eyetracking Study," *International Conference on Computer Technology and Development ICCTD 2010*, Cairo, Egypt, 2010.
- M. Ykhlef and H. ElGibreen, "Mining Sequential Patterns Using Hybrid Evolutionary Algorithm," *World Academy of Science, Engineering and Technology* 60, 863–863, 2009.
- M. Ykhlef and H. ElGibreen, "Mining Sequential Patterns in Pharmacy Database Using Genetic Algorithm," *Proceedings of 4th International Conference on Broadband Communication, Information Technology & Biomedical Applications BroadBandCom '09*, Wroclaw, Poland, 2009.