Faculty C.V.

1. **Name:** Khalid Sultan

2. **Academic Rank:** Full time assistant professor.

3. **Degrees:**

    • Ph. D. in Electrical and Computer Engineering, Concordia University, Montreal, Canada, (2015)
    • M.Sc. in Electrical and Computer Engineering, Concordia University, Montreal, Canada, (2007)

4. **Service at this Institution:** affiliated with AUK since 19 August 2019.

5. **Professional Experience**:

    • Assistant Professor at the College of Computer Science and Engineering, University of Hail (UoH), Hail, KSA (09/2016 to 08/2019)
    • Postdoctoral Research Fellow, Concordia Institute for Information Systems Engineering (CIISE), Concordia University, Montreal, Canada (09/2014 to 08/2016)

6. **Consulting Experience:**

    • Role: Consultant. Organization: Institute of Consulting Research and Studies, Umm Al-Qura University, Makkah, KSA. Project: Initiative of the Centre of Software Development and Electronic Applications. (01/01/2018 to 31/08/2018)
    • Role: Consultant. Organization: Institute of Consulting Research and Studies, Umm Al-Qura University, Makkah, KSA. Project: Initiative of the Centre of Software Development and Electronic Applications. (06/08/2017 to 05/12/2017)

7. **Professional Registration**: N/A

8. **Publications:**

    a. Refereed Journals:

    - Abu Doush, I., **Sultan, K**., Alsaber, A., Alkandari, D., Abdullah, A. (2024) *Enhanced Jaya Optimization for Improving Multi-Layer Perceptron Neural Network in Urban Air Quality Prediction.* Journal of Intelligent Systems. In press.
    - Abu Doush, I., **Sultan, K**., Al-Betar, M. A., Almeraj, Z., Alyasseri, Z. A. A., & Awadallah, M. A. (2023). *Web accessibility automatic evaluation tools: to what extent can they be automated?.* CCF Transactions on Pervasive Computing and Interaction, 1-33. https://doi.org/10.1007/s42486-023-00127-8

- Alsaber, A., Alsahli R., Al-Sultan A. T., Abu Doush, I., **Sultan, K**., Alkandari, D. Coffie D., Setiya P. (2023) *Evaluation of Various Machine Learning Prediction Methods for Particulate Matter (PM10) in Kuwait*, International Journal of Information Technology. 15, 4505–4519. https://doi.org/10.1007/s41870-023-01521-2
- Mansouri, N., **Sultan, K.**, Ahmad, A., Alseadoon, I., & Alkhalil, A. (2022). *A Deep Learning Framework for COVID-19 Diagnosis from Computed Tomography*. Intelligent Automation & Soft Computing, 34(2). https://doi.org/10.32604/iasc.2022.025046
- **Sultan K.**, Bentahar J., Yahyaoui H., & Mizouni R., (2021) *Model checking agent-based communities against uncertain group commitments and knowledge*. Expert Systems with Applications. 177, 114792. https://doi.org/10.1016/j.eswa.2021.114792
- Ahmad A., Alkhalil A., Altamimi A. B., **Sultan K**., & Khan W., (2021), *Modernising Legacy Software as Context-sensitive and Portable Mobile-enabled Application*. IT Professional., *IEEE*, 25(1), 42-50. https://doi.org/10.1109/MITP.2020.2975997
- Alseadoon, I., Ahmad, A., Alkalel, A., **Sultan, K.** (2021). *Migration of Existing Software Systems to Mobile Computing Platforms: A Systematic Mapping Study*. Frontiers of Computer Science, 15, 152204. https://doi.org/10.1007/s11704-019-8166-5
- Alreshidi A., Ahmad A., Altamimi A. B., **Sultan K**., & Mehmood R. (2019). *Software Architecture for Mobile Cloud Computing Systems*. Future Internet, 11(11), 238. https://doi.org/10.3390/fi11110238

b. Conferences:

- Abu Doush, I., **Sultan, K**., Alsaber, A., Abdullah, A., Alkandari, D. (2023). *Improving Neural Network using Jaya Algorithm with Opposite Learning for Air Quality Prediction*. Intelligent Systems Conference 2023 (IntelliSys 2023), Amsterdam, Netherlands (September 7-8, 2023). pp. 1-11.
- Gharaibeh, B., Al-Tarawneh, H. M., **Sultan, K**., Odeh, N., Salaimeh, A. A. (2023). A*n AHP-based Decision-Making Model Evaluating the Use of Augmented Reality for Building Maintenance Systems*. The 50th International Conference on Computers and Industrial Engineering (CIE50), Sharjah-Dubai, United Arab Emirates (October 30–November 2, 2023.) pp. 1-10.
- Abu Doush, I., **Sultan, K.** (2022). *Can I Learn During COVID-19: Web Accessibility of Children Learning Resources*?. Computer Applications & Technological Solutions (CATS 2022). Kuwait (March 13-14, 2022), pp 1-5.
- Ahmad, A., Alseadoon, I., Alkalel, A. & **Sultan, K.** (2019). *A Framework for the Evolution of Legacy Software Towards Context-aware and Portable Mobile Computing Applications*. In the Proc. of SERP'19 Conference of Software Engineering Research and Practice, (pp 3-9). Retrieved from https://csce.ucmss.com/cr/books/2019/LFS/CSREA2019/SER2550.pdf

b. Book Chapters:

- **Sultan, K**., Alsarraf A., Alsarraf A., Alfeeli A., and Alghanemi A. (2024) *DriveHarmony: An AI-based Safety Assistant Driving System*. Advances in Machine Learning for Real World Applications by Springer. https://link.springer.com/book/9789819718993

9. <u>**Membership in Professional Societies:**</u> N/A

10. **Patents, Honors and awards:**

- Reviewer Recognition, Expert Systems with Applications, Elsevier, July 2020.
- Excellence Award for maintaining the best course portfolio (Fall 2016-2017) awarded by the Dean of College of Computer Science and Engineering / University of Hail. 2017
- Nominated for the CAGS/UMI Distinguished Dissertation Award, Canada, 2016. (Federal Level)
- Nominated for the Prix d'excellence de l'Association des doyens des études supérieures au Québec (ADESAQ) "Award of Excellence from the Association of Deans of Graduate Studies in Quebec", Canada, 2016. (Provincial Level)
- Nominated for the Concordia University Doctoral Dissertation, Canada, 2016. (University Level)
- Graduate Student Support Program (GSSP), Faculty of Engineering and Computer Science, Concordia University, Canada, 2005,2006, 2011,2012, 2013.
- PhD Scholarship, Ministry of Higher Education, Libya, 2011-2014.
- Master Scholarship, Ministry of Higher Education, Libya, 2005-2007.
- Dean's Honors List, Faculty of Engineering, Al-Mergib University, Libya, 1998.

11. **Courses taught at AUK:**

- **Spring 2024**

  CPEG 210: Digital Logic Design (03 Hrs/week), CPEG 350: Data and Computer Communications (03 Hrs/week, 2 sections), CPEG 450: Network Security (03 Hrs/week).

- **Fall 2023**
  CPEG 210: Digital Logic Design (03 Hrs/week, 2 sections), CPEG 350: Data and Computer Communications (03 Hrs/week), CPEG 455: Wireless Networks and Mobile Systems (03 Hrs/week).

- **Summer 2023**
  CPEG 220: Computer Organization and Architecture (03 Hrs/week), CPEG 450: Network Security (03 Hrs/week).

- **Spring 2023**
  CPEG 350: Data and Computer Communications (03 Hrs/week, 2 sections), CPEG 450: Network Security (03 Hrs/week), ENGR300: Engineering Ethics (03 Hrs/week).

- **Fall 2022**
  CPEG 350: Data and Computer Communications (03 Hrs/week, 2 sections), CPEG 389: Intelligent Agents (03 Hrs/week), CPEG 455: Wireless Networks and Mobile Systems (03 Hrs/week).

- **Summer 2022**
  CPEG 220: Computer Organization and Architecture (03 Hrs/week), CPEG 450: Network Security (03 Hrs/week).

- **Spring 2022**
  CPEG 210: Digital Logic Design (03 Hrs/week, 2 sections), CPEG 350: Data and Computer Communications (03 Hrs/week, 2 sections), CPEG 450: Network Security (03 Hrs/week).

- **Fall 2021**
  CPEG 210: Digital Logic Design (03 Hrs/week), CPEG 350: Data and Computer Communications (03 Hrs/week), CPEG 455: Wireless Networks and Mobile Systems (03 Hrs/week).

- **Summer 2021**
  CPEG 220: Computer Organization and Architecture (03 Hrs/week), CPEG 450: Network Security (03 Hrs/week), CPEG201L: MATLAB Programming Laboratory (01 Hr/week).

- **Spring 2021**
  CPEG 210: Digital Logic Design (03 Hrs/week), CPEG 350: Data and Computer Communications (03 Hrs/week, 2 sections), CPEG 455: Wireless Networks and Mobile Systems (03 Hrs/week).

- **Fall 2020**
  CPEG 220: Computer Organization and Architecture (03 Hrs/week), CPEG 350: Data and Computer Communications (03 Hrs/week), CPEG 455: Wireless Networks and Mobile Systems (03 Hrs/week).

- **Spring 2020**
  CPEG 220: Computer Organization and Architecture (03 Hrs/week, 2 sections), CPEG 350: Data and Computer Communications (03 Hrs/week, 2 sections), CPEG 455: Wireless Networks and Mobile Systems (03 Hrs/week).

- **Fall 2019**
  CPEG 210: Digital Logic Design (03 Hrs/week), CPEG 220: Computer Organization and Architecture (03 Hrs/week), CPEG 350: Data and Computer Communications (03 Hrs/week).

12. <u>Other Duties:</u>

a) College level

- Member of the Capstone Exhibition 2024 committee: 01/2024 to 05/2024.
- Member of the Effectiveness of Teaching/Leaning Committee: 10/2024 to present.
- Member of the Resource Management and Planning Committee: 09/2020 to 10/2023.
- Member of the Research Forum Committee: 09/2020 to 10/2023.
- Member of the Academic Honesty Ad Hoc Committee, 11/2022.
- Member of the Research Committee: 09/2019 to 2020.
- Member of the Curriculum Guide Committee: 09/2019 to 2020.

b) Institution level

- Member of the Committee on Research and Grants: 10/2023 to present.
- Member of the Grade Appeal Committee: 08/2022 to present.
- Member of the Professional Development Committee: 09/2020 to 10/2022.
- Member of the Library Committee (University Level): 09/2019 to 08/2020.

c) Outside the institution:

▪ Journals:
- Reviewer: Health and Technology (HEAL), 2024
- Reviewer: Expert Systems with Applications (ESWA), 2014, 2015, 2020, 2021, 2024.
- Reviewer: Computers and Electrical Engineering, 2021, 2024.
- Reviewer: Engineering, Technology & Applied Science Research (ETASR), 2023
- Reviewer: Frontiers of Artificial Intelligence, 2023
- Reviewer: PLOS ONE, 2023
- Reviewer, International Journal of Advanced and Applied Sciences (IJAAS), 2020.
- Reviewer: IEEE Access, 2019, 2020.
- Reviewer: SCIENCE CHINA Information Sciences, Springer, 2016.

▪ Conferences:
- Program Committee Member (PCM): The 22nd International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2024), IPN, Cancun, Mexico, September 24-26, 2024.
- Reviewer: the 3rd IEEE International Conference on Computing and Machine Intelligence (ICMI-2024), 13-14 April 2024, Michigan, USA.
- Program Committee Member (PCM): The 22nd International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2023), September 20-22, 2023, Naples, Italy.
- Member of the Award Committee, the IEEE EDUCON3023, May 1 - May 4, 2023, Salmiya, Kuwait
- Program Committee Member (PCM): a special session entitled "Learning Mobile Applications: Experiences and Challenges" at the International Conference on Interactive Mobile Communication, Technologies and Learning (IMCL2023), 9–10 November 2023, Porto Palace Hotel, Thessaloniki, Greece.
- Program Committee Member (PCM) and reviewer: The 21st International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2022). September 20-22, 2021, KitaKyushu-JAPAN.
- Program Committee Member (PCM): The 20th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2021), to be held between 21-23 September 2021. Mexico.
- Program Committee Member (PCM): The 19th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET 2020), September 22-24, 2020, Kitakyushu, Japan.

- Member of the International Advisory Board, The International Conference on New Computer Science and Engineering Trends (NCSET2020), July 1-2, 2020, Istanbul, Turkey.
- Program Committee Member (PCM): The 18th International Conference on Intelligent Software Methodologies, Tools, and Techniques (SOMET_19), September 23- 25, 2019 / Sarawak, Malaysia.

13. **Research:**
- Initiation Grant: "Air Quality Prediction using Neural Networks enhanced with Gray Wolf Optimizer During COVI-19". AUK, 2022. CO-I.
- Research grant: "A Framework and Tool Support for Automated Modernization of Legacy Enterprise Software as Context-Sensitive Mobile Computing Application". Deanship of Research, University of Hail (KSA), 01/09/2020-31/08/2021, CO-I.

14. **Participation in Specific Programs**: N/A