Faculty C.V.

1. **Name and date of birth:**

   Mounib Khanafer, January 24, 1979

2. **Academic Rank:**

   Full-Time Associate Professor

3. **Degrees**

   - *Ph.D. in Electrical and Computer Engineering, University of Ottawa, 2012*

   - *M.A.Sc., in Electrical Engineering, University of Ottawa, 2007*

   - *B.Sc., in Electrical Engineering, Kuwait University, 2002*

4. **Service at this Institution**

   9 years and 2 months

   2013 – 2019 Assistant Professor of Electrical and Computer Engineering

   2019 – Present Associate Professor of Electrical and Computer Engineering

5. **Professional Experience**

   - *2019 – Present, Associate Professor in Elect. & Comp. Eng., American U. of Kuwait, Kuwait*

   - *Summer 2022, Visiting Professor, Dartmouth College, NH, USA*

   - *2013 – 2019, Assistant Professor in Elect. & Comp. Eng., American U. of Kuwait, Kuwait*

   - *Summer 2014, Visiting Professor, University of Ottawa, Ottawa, Canada*

   - *2012 – 2013, Postdoctoral Fellow, University of Ottawa, Ottawa, Canada*

   - *2008 – 2012, Teaching & Research Assistant, University of Ottawa, Ottawa, Canada*

   - *2005 – 2008, Software Designer, Nortel Networks, Ottawa, Canada*

   - *2004 – 2006, Intern, Communications Research Centre, Ottawa, Canada*

   - *2003 – 2005, Teaching & Research Assistant, University of Ottawa, Ottawa, Canada*

   - *Summer 2001, Visiting Scholar, Interuniversity Microelectronics Centre, Leuven, Belgium*

6. **Publications**

   a) Refereed Journals:

      1. Hamid Hajaje, **Mounib Khanafer**, Zine El Abidine Guennoun, Junaid Israr, and Mouhcine Guennoun, "A Collision-aware MAC Protocol for Efficient Performance in Wireless Sensor Networks," International Journal of Advanced Computer Science and Applications (IJACSA), vol. 12, no. 3, March 2021.

2. **Mounib Khanafer** and Shervin Shirmohammadi, "Applied AI in instrumentation and measurement: The deep learning revolution," <u>IEEE Instrumentation and Measurement Magazine</u>, vol. 23, no. 6, pp. 10 – 17, September 2020.

3. Palwasha W. Shaikh, Mohammed El-Abd, **Mounib Khanafer**, and Kaizhou Gao, "A Review on Swarm Intelligence and Evolutionary Algorithms for Solving the Traffic Signal Control Problem," <u>IEEE Transactions on Intelligent Transportation Systems</u>, pp. 1 – 16, August 2020.

4. **Mounib Khanafer**, Irfan Al-Anbagi, and Hussein T. Mouftah, "An Optimized WSN Design for Latency-Critical Smart Grid Applications," <u>Journal of Sensors</u>, vol. 2017, vol. 2017, Article ID 5274715, July 2017.

b) Conferences

1. **Mounib Khanafer** and Mohammed El Abd, "Stimulating Research Projects Through Teaching a Course on the Internet of Things," Proceedings of the IEEE Global Engineering Education Conference (EDUCON 2020), Porto, Portugal, April 2020.

2. **Mounib Khanafer**, Marwa Kandil, Reem Al-Baghdadi, Amani Al-Ajmi, and Hussein T. Mouftah, "Enhancements to IEEE 802.15.4 MAC Protocol to Support Vehicle-to-Roadside Communications in VANETs," Proceedings of the IEEE International Conference on Communications (ICC 2019), Shanghai, China, May 2019.

3. **Mounib Khanafer** and Mohammed El Abd, "Guideline for Teaching an Introductory Course on the Internet of Things," Proceedings of the IEEE Global Engineering Education Conference (EDUCON 2019), Dubai, UAE, April 2019.

4. **Mounib Khanafer**, Irfan Al-Anbagi, and Hussein T. Mouftah, "An Optimized Cluster-Based WSN Design for Latency-Critical Applications," Proceedings of the 13th International Wireless Communications and Mobile Computing Conference (IWCMC 2017), pp. 969 – 973, Valencia, Spain, June 2017.

5. Mahmoud Imdoukh, Yasser Khalil, Ali Rady, and **Mounib Khanafer** "Zealth: ZigBee-Based WBAN System for e-Health Monitoring," Proceedings of the 9th IEEE-GCC Conference and Exhibition, Manama, Bahrain, May 2017.

9. **<u>Membership in Professional Societies</u>**

1. Senior IEEE member. (Jun. 2016 – Present)

2. Member of the IEEE Communications Society (ComSoc). (Feb. 2018 – Present)

10. **Patents, Honors and Awards**

1. Joint recipient of the "Second Best Poster Award", presented at the 4th Annual WiSense Workshop, University of Ottawa, Canada, September 2012.

3. Recipient of the University of Ottawa Dean's Scholarship for completing the Ph.D. program in a timely fashion, July 2012.

4. Recipient of the "First Best Poster Award", presented at the 3rd Annual WiSense Workshop, University of Ottawa, Canada, September 2011.

5. Recipient of the University of Ottawa Admission Scholarship for the Ph.D. program, January 2008.

6. Recipient of the University of Ottawa Admission Scholarship for the Master's program, January 2003.

7. Ranked 2nd in 1997 Electrical Engineering Class at Kuwait University

8. Dean's Honour List, Kuwait University (1997-2002)

9. Distinction's List, Kuwait University (1997-2002)

11. **Courses taught**

a) Academic Courses

Course Titles	Semesters	Hours/Week	Number of Sections	Course Level
Computer Networks	Fall 2021	3	1	4th Year
	Spring 2022	3	1	
	Fall 2022	3	1	
Wireless Networking & Mobile Systems	Spring 2017	3	1	4th Year
Data & Computer Communications	Fall 2022	3	1	3rd Year
	Spring 2022	3	1	
	Fall 2021	3	1	
	Spring 2021	3	1	
	Fall 2020	6	2	

Course	Term	Col3	Col4	Year
	Spring 2020	6	2	
	Fall 2019	6	2	
	Spring 2019	9	3	
	Fall 2018	9	3	
	Spring 2018	9	3	
	Fall 2017	9	3	
	Spring 2017	6	2	
Introduction to the Internet of Things	Fall 2020	3	1	3rd Year
	Summer 2020	6.25	1	
	Fall 2019	6	2	
	Spring 2019	6	2	
	Fall 2018	3	1	
	Fall 2017	3	1	
Digital Logic Design	Fall 2020	3	1	2nd Year
	Spring 2020	6	2	
	Fall 2019	3	1	
	Spring 2019	3	1	
	Fall 2018	3	1	
	Spring 2018	3	1	
	Fall 2017	6	2	
	Spring 2017	3	1	
Computer Organization & Architecture	Fall 2022	3	1	2nd Year
	Spring 2022	3	1	
	Fall 2021	3	1	

	Spring 2021	3	1	
	Summer 2019	20	2	
	Summer 2018	20	2	
	Spring 2016	6	2	
	Spring 2015	9	3	
MATLAB Programming	Spring 2017	3	1	2nd Year

12. **Other Duties**

a) Department-Level

  i.   Assessment and Curriculum Committee, Member, Fall 2019 – Spring 2020

     1. Lead program and curricular reviews at the departmental level.

     2. Execute the tasks required by internal assessments and external professional and institutional accreditations.

     3. Spearhead other departmental standing committees.

  ii.   ECE ABET Accreditation Steering Committee, Member, Fall 2019 – Spring 2020

     1. Support the department effort to prepare for ABET accreditation.

     2. Facilitate the communication between the department and the main servicing departments and units.

  iii. ABET Accreditation Executive Committee, Member, Fall 2019 – Spring 2020

     1. Mediate between the Steering Committee and the Assessment and Curriculum Committee.

     2. Review ABET accreditation-related requirements from the main servicing units and departments within AUK.

  iv. IEEE Student Branch, Counselor, Spring 2019 – Summer 2020

     1. Ensure that information from IEEE Headquarters is transmitted to the student Officers.

     2. Attend Executive Committee meetings and assist the committees.

     3. Participate in Regional Activities Committee meetings.

4. Suggest and promote technical activities or events to be organized by students or faculty members.

5. Supervise all activities held by the IEEE Student Branch and make sure they are aligned with the objectives of IEEE.

6. Promote IEEE Student Membership and all awards, contests, and benefits associated with it.

7. Establish industrial contacts for programs and activities.

v. Student Advisory Board, Chair, Fall 2013 – Fall 2019

1. Organize open sessions with students to collect recommendations and concerns.

2. Filter and prioritize students' recommendations and concerns.

3. Report and Follow up with the executive committee on the implementation of recommendations.

4. Notify students about new changes that resulted from their recommendations.

5. Meetings are at the call of the chair, at least twice per academic semester.

vi. Student Liaison Committee, Chair, Fall 2013 – Present

1. Act as a liaison among the Student Advisory Board, alumni, and the Assessment and Curriculum Committee.

2. Initiate, form, and supervise the Student Advisory Board.

3. Design, administer, and analyze alumni satisfaction surveys.

vii. Course Assessment Committee, Member, Fall 2013 – Spring 2020

1. Conduct annual reviews to course assessments and forms

2. Support queries according to the results from the departmental assessment cycles and the recommendations of the assessment and curriculum committee.

viii. ECE Exhibition Organizing Committee, Chair, Fall 2016 and Fall 2017

1. Look over all activities pertaining to the organization of the ECE Exhibition; the annual event that showcases the capstone projects of senior students.

ix. Ad Hoc Committee, Chair, Fall 2015 and Fall 2016

1. Design a course on engineering ethics to be included in the curriculum of the systems engineering program.

x. Ad Hoc Committee ("Engineering Ethics" course), Chair, Fall 2015 – Fall 2016

1. Prepare a design for a new course on Engineering Ethics for both CPEG and ELEG students.

a) College level

    i. Dean's Council, Member, Fall 2020 – Present

        1. Enhance collaboration across the disciplines

        2. Optimize course planning

        3. Augment faculty governance through college wide committees

    ii. ABET Accreditation Steering Committee, Chair, Spring 2021 – Fall 2021

        1. Provide support to CEAS to prepare for ABET accreditation.

        2. Facilitate the communication between CEAS and the main servicing departments and units.

    iii. Accreditation Committee, Chair, Fall 2020 – Present

        1. Plan and prepare for accreditations for existing or new programs, e.g PUC, ABET etc.

        2. Collecting data at the beginning of subsequent semester (course portfolio, samples, CAFs, etc.)

        3. Develop ABET Self-study reports

        4. Investigate requirements for NECHE (New England Commission of Higher Education - NECHE)

b) Institution level

    i. Academic Policies and Procedures Committee, Member, Fall 2020-Fall 2021

        1. Review, and recommend changes to, academic policies.

        2. Develop the Faculty Handbook to replace the Faculty Manual

    ii. Academic Policies and Procedures Committee, Chair, Fall 2019-Spring 2020

        1. Review, and recommend changes to, academic policies.

        2. Develop the Faculty Handbook to replace the Faculty Manual

    iii. Academic Policies and Procedures Committee, Member, Fall 2018-Spring 2019

        1. Develop procedures for the implementation of academic policies throughout the University.

2. Review, and recommend changes to, academic policies.

3. Coordinate the implementation of procedures throughout the University.

4. Communicate academic policies and procedures across university units.

iv. Academic Computing and Technology Committee, Member, Fall 2015 – Fall 2016

1. Collect and recommend IT requirements of different academic divisions.

2. Promote the unification of courseware software at AUK.

3. Raise awareness about AUK portal and videoconferencing facilities.

4. Share creative technology solutions in teaching among different academic divisions

v. Professional Development Committee, Chair, Fall 2014 – Fall 2016

1. Develop and review professional development policy in support of faculty research and creative activity.

2. Review and evaluate faculty applications for funding and develop recommendations to be forwarded to the appropriate Dean and the Vice President for Academic Affairs (VPAA).

3. Facilitate communication and guidance to faculty in applying for support and using the funds.

4. Two-hour meetings are at the call of the chair once per month.

13. **Research Grants**

Grant	Funding Agency	Project Title	Amount	Year(s)
AUK-Dartmouth Fellowship	AUK	Security and Privacy in IoT-based Smart Homes	**2250 KWD**	2022
AUK Research Grant	AUK	PLIERS: IoT-based Inspection System for Pipes	**1406 KWD**	2022
AUK Research Grant	AUK	Medium Access Control (MAC) Protocols for Wireless Body Area Networks (WBANs)	**1000 KWD**	2019
PD Award	AUK	Enhancements to IEEE 802.15.4 MAC Protocol to Support Vehicle-to-	**909 KWD**	2019

		Roadside Communications in VANETs		
IoT Lab Equipment	AUK	IoT Technologies	**1705 KWD**	2018
PD Award	AUK	A framework for the design of cost-effective wireless body area networks with efficient data collection	**454 KWD**	2018
PD Award	AUK	An Optimized Cluster-Based WSN Design for Latency-Critical Applications	**800 KWD**	2017
Research Initiation Grant	AUK	Investigating the Performance of Wireless Sensor Networks in the Context of the Smart Grid	**500 KWD**	2016
PD Award	AUK	A Review of Intrusion Detection in 802.15.4-based Wireless Sensor Networks	**291 KWD**	2016
Total			**9315 KWD**	

13. Participation in Specific Programs

Workshop Title	Date	Organizing Agency and Location
Post Graduate Program in Artificial Intelligence and Machine Learning: Business Applications	Sept. 2021 – May 2022	University of Texas at Austin (Online)
Self-Study Report Development Workshop	Spring 2021	ABET (Online)
ABET IDEAL Workshop	Summer 2019	ABET (ABET Headquarters, Baltimore, MD, USA)
Internet of Things (IoT) and	February 2018	IEEE Communications Society (Online)

Machine-to-Machine (M2M)		