

Muhammad Asif Khan

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Education

- Dec 2019 **Ph.D. in Electrical Engineering**
Qatar University, Doha, Qatar.
Thesis Title: "Framework for Content Distribution over Wireless LANs"
- Mar 2013 **M.Sc. in Telecommunication Engineering**
University of Engineering and Technology Taxila, Pakistan.
Thesis Title: "MAC-Aware Dynamic Source Routing Protocol"
- Sep 2009 **B.Sc. in Telecommunication Engineering**
University of Engineering and Technology Peshawar, Pakistan.
Project: "Delay Analysis of Mobile IP Protocol in Multimedia Applications " (*Best FYP Award*)

Research Interests

- ☑ *Designing cognitive networks using data-driven techniques leverage machine learning (ML) and optimization (i.e. mixed integer programming (MIP) and convex optimization.*
- ☑ *Designing lightweight distributed learning algorithms for low computational power devices in the Internet of Things (IoT)*

Work Experience

- Jul 2019-
Present QD For Operation and Maintenance (QD O&M), Doha, Qatar.
Senior Business Development Engineer
- Jan 2016-
Jul 2019 QD For Operation and Maintenance (QD O&M), Doha, Qatar
Lead Planning Engineer
- Mar 2013-
Jan 2016 QD For Operation and Maintenance (QD O&M), Doha, Qatar
Facilities Engineer
- Jan 2016-
Dec 2017 Qatar Mobility Innovation Center (QMIC), Qatar Science & Technology Park, Qatar
Research Assistant
- Aug 2014-
Jul 2015 Qatar Transportation and Traffic Safety Center (QTTSC), Qatar University, Qatar.
Research Assistant

Technical Review Committee

Journals:

I am volunteering as reviewer in the following journals.

- ☐ IEEE Communications Surveys and Tutorials
- ☐ IEEE Access
- ☐ Wireless Personal Communication, Springer
- ☐ Journal of Computational Design and Engineering, Oxford University Press

Conferences:

I have served as TPC member/reviewer in the following conferences.

- ☐ IEEE World Forum on Internet of Things (WF-IoT 2018)
- ☐ IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020
- ☐ IEEE 7th IEEE Conference on Technologies for Sustainability, SusTech 2020
- ☐ 2nd International Conference on Machine Learning and Intelligent Systems (MLIS2020)
- ☐ 2nd International Workshop on Signal Processing and Machine Learning, 2020 (WSPML2020), Kuala Lumpur, Malaysia
- ☐ International Conference on Computing Science, Communication and Security (COMS2)
- ☐ 4th International Conference on Information and Communication Technology for Intelligent Systems (ICTIS2020), Ahmedabad India

I'm on Publons: <https://publons.com/researcher/1611182/>

Publications

Journal Papers

- ☒ M. A. Khan and R. Hamila, "Handover Prediction and Access Point Prediction using Machine Learning ", submitted to Journal of Network and Computer Application
- ☒ M. A. Khan, R. Hamila, N. A. Al-Emadi, M. S. Kiranyaz and M. Gabbouj, " Real-time Throughput Prediction for Cognitive Wi-Fi Networks ", J. Netw. Comput. Appl., vol. 150, pp. 245-258, Sep. 2020.
- ☒ M. A. Khan, R. Hamila and M. O. Hasna, "Optimal Group Formation in Dense Wi-Fi Direct Networks for Content Distribution," in IEEE Access, vol. 7, pp. 161231-161245, 2019.
- ☒ M. A. Khan, R. Hamila, M. S. Kiranyaz and M. Gabbouj, "A Novel UAV-Aided Network Architecture Using Wi-Fi Direct," in IEEE Access, vol. 7, pp. 67305-67318, 2019.
- ☒ M. A. Khan, W. Cherif, F. Filali and R. Hamila, "Wi-Fi direct research—Current status and future perspectives", J. Netw. Comput. Appl., vol. 93, pp. 245-258, Sep. 2017.
- ☒ K. Shaaban, M. A. Khan, R. Hamila and M. Ghanim, "A Strategy for Emergency Vehicle Preemption and Route Selection", Arabian Journal for Science and Engineering 83 (2019): 1-9.

Conference Papers

- ☒ W. Cherif, M. A. Khan, F. Filali, S. Sharafeddine, Z. Dawy, "P2P group formation enhancement for opportunistic networks with Wi-Fi direct", Proc. IEEE Wireless Commun. Netw. Conf. (WCNC), pp. 1-6, Mar. 2017.

- ☑ M. A. Khan, W. Cherif, F. Filali, "Group owner election in Wi-Fi direct", Proc. IEEE Annu. Ubiquitous Comput. Electron. Mobile Commun. Conf. (UEMCON), pp. 1-9, Oct. 2016.
- ☑ M. A. Khan, W. Cherif, F. Filali and R. Hamila, "Realization of Dual-Hop Networks in Wi-Fi Direct and Performance Evaluation" 2017 IEEE International Conference on Internet of Things (iThings) and IEEE Green Computing and Communications (GreenCom) and IEEE Cyber, Physical and Social Computing (CPSCom) and IEEE Smart Data (SmartData), Exeter, 2017, pp. 552-559.
- ☑ K. Shaaban, M. A. Khan and R. Hamila, "Literature Review of Advancements in Adaptive Ramp Metering", Procedia Computer Science 83 (2016): 203-211.
- ☑ M. Shah, M. A. Khan, T. Mahmood, K. Islam and J. Akbar, "Generation of orthogonally polarized chaotic waveforms for secure optical communication," 2013 IEEE 9th International Conference on Emerging Technologies (ICET), Islamabad, 2013, pp. 1-5.
- ☑ M. A. Khan, S. Zakiuddin and J. Ahmad, "Cross layer optimization of dynamic source routing protocol using IEEE 802.11e based medium awareness," 2013 3rd IEEE International Conference on Computer, Control and Communication (IC4), Karachi, 2013, pp. 1-6.
- ☑ M. S. Khan, S. Bashir, K. M. A. Khan, and K. Asaf, "Design and integration of dual band textile antenna with high impedance surface," 2013 IEEE 9th International Conference on Emerging Technologies (ICET), Islamabad, 2013, pp. 1-6.

Posters

- ☑ M. A. Khan and R. Hamila, "Human Activity Recognition using Wi-Fi CSI", Annual Research Forum 2018, Qatar University, Doha, Qatar.
- ☑ M. A. Khan, R. Hamila and K. Shaaban, "Congestion Mitigation on Doha Expressway using Ramp Metering", Annual Research Conference 2015, Qatar National Convention Center, Doha, Qatar.

Google Scholar Profile: <https://scholar.google.com/citations?user=BgUrPm8AAAAJ&hl=en>

Teaching and Mentoring

- Community Mentor in "Deep Learning Specialization" course at Coursera

Skills:

- Programming in C/C++, Python, Perl, Julia, Matlab, Latex
- ML Frameworks including Scikit-learn, Tensorflow, Keras, {NLTK, Beautiful Soup} (basic)
- Optimization tools i.e. CVXPY, JuMP
- Visualization using Matplotlib, Seaborn, ggplot, plotly

Honors/Awards

- 2010 "IPv6 Forum Certified Network Engineer" awarded by IPv6 Forum
- 2009 "Best Debator Award at University of Engineering and Technology Peshawar"

Trainings, Courses and Certifications:

Machine Learning and AI

- TensorFlow Specialization at Coursera
- Deep Learning Specialization at Coursera
- Machine Learning from Stanford University at Coursera
- Machine Learning School 2019 organized by BigML and QCRI, Doha, Qatar

Research Methods and Education

- Supervising Doctoral Studies, Epigeum, Oxford University Press.
- Certified Peer Reviewer, Elsevier
- Peer Review Course, Publons
- Mentor Community and Training, Coursera

Other Technical Courses

- IBM Maximo Training for Asset Management, Inventory Management, Work Order Management
- Energy Efficiency and Building Automation Systems, Schneider Electric
- Juniper Networks Certified Internet Associate - JNCIA
- IPv6 Forum Certified Network Engineer, IPv6 Forum
- 4G Mobile and Future Internet, ITU Academy
- Mobile Broadband: LTE/LTE-Advanced, WiMAX and WLAN, ITU Academy
- Future Internet, ITU Academy
- Digital Terrestrial Television Broadcasting, ITU Academy
- Migration to IPv6, ITU Academy

References

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| <ul style="list-style-type: none"> ○ Dr. Ridha Hamila
Professor
Electrical Engineering Department, College of Engineering, Qatar University (Qatar)
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Associate Professor
Civil Engineering Department, College of Engineering, Qatar University (Qatar)
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| <ul style="list-style-type: none"> ○ Dr. Fethi Filali
Head of Technology Development & Applied Research
Qatar Mobility Innovation Center, QSTP (Qatar)
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