

# Muhammad Asif Khan

Research Scientist at Qatar Mobility Innovations Center, Qatar.

Associate Editor of IEEE (TNNLS, TCE, TTS, SPL)

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## CONTACT DETAILS

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## IMMIGRATION STATUS

E1 Visa (Green Card) processing in progress. Sponsorship is not required.

## RESEARCH INTERESTS

LLMs, Tiny ML, edge-AI, neuromorphic computing, IoT, autonomous vehicles, mobile computing.

## EDUCATION

**Ph.D.** in Electrical Engineering 2014 - 2019

Qatar University, Doha, Qatar

Dissertation Title: "Framework for Content Distribution over Wireless LANs"

Advisor: Prof. Ridha Hamila

**M.Sc.** Telecommunication Engineering 2010 - 2013

University of Engineering and Technology Taxila, Pakistan.

Thesis Title: "MAC-Aware Dynamic Source Routing Protocol"

Advisor: Prof. Adeel Akram

**B.Sc.** Telecommunication Engineering 2005 - 2009

University of Engineering and Technology Peshawar, Pakistan

## EXPERIENCE

**Research Scientist** Mar 2024 – Present

Qatar Mobility Innovations Center, Doha, Qatar.

**Postdoctoral Research Fellow** Jun 2020 – Feb 2024

Qatar Mobility Innovations Center, Qatar University, Doha, Qatar.

**Graduate Researcher** Jan 2016 – Dec 2016

Qatar Mobility Innovations Center, Qatar.

**Graduate Research Assistant** Aug 2014 – May 2015

Qatar University, Doha, Qatar.

## PROJECTS

- Smart, Connected, and Autonomous Vehicle and Energy systems for efficient, safe, secure, and sustainable transportation in metropolitan cities.  
My Role [Research Scientist]: Modelling network and sensor attacks and developing intrusion detection systems for connected and autonomous vehicles (CAVs).
- Intelligent construction safety violation system (iVDS).  
My Role [Research Mentor]: Supervise interns to design an AI-based system to automatically detect safety violations (e.g., not wearing PPEs) in construction sites in Qatar.
- Prohibited item detection using baggage x-ray scanning.  
My Role [Research Mentor]: Train/finetune DL models to detect prohibited items in baggage using x-ray scans.
- Acoustic detection and localization of noisy vehicles  
My Role [Research Mentor]: Supervise interns to design an AI-based system to detect and localize noisy cars and motorbikes on roads.
- Crowd counting and density estimation for metro stations

My Role [Research Scientist]: Develop crowd counting and density estimation models and deployment over NVIDIA edge devices for real-time crowd statistics.

6. Smart customer analytics for retail.  
My Role [Research Scientist]: Developing, training, and validating AI models for customer analytics.
7. Context recognition in crowd monitoring using crowdsourced data.  
My Role [Postdoc Fellow]: Research and development of deep learning systems and models for visual crowd analysis over resource-limited drones.
8. DroneCMS: Flying Infrastructure for Intelligent Crowd Management and Security for Mega-Events.  
My Role [Postdoc Fellow]: Unauthorized drone detection, identification, and tracking using sensor fusion and attribute-based encryption.
9. Predictive QoE-Aware and ML for Secure Live Streaming Over the Edge.  
My Role [Postdoc Fellow]: Distributed data processing and training & inference of AI models in edge computing and IoT systems.
10. D-COCODI: Scalable Multimedia Multicasting Mobile Solutions for Smartphone Users in Dense Environments.  
My Role [Graduate Researcher]: Develop new algorithms and model dense Wi-Fi Direct network systems for multimedia content distribution.
11. Traffic congestion mitigation on Doha Expressway using ramp metering.  
My Role [Graduate Researcher]: Develop algorithms for isolated and coordinated ramp metering, and upstream traffic signal control strategy to mitigate congestion and reduce travel time.
12. Doha city traffic analysis and simulation modeling in PTV VISSIM.  
My Role [Graduate Researcher]: Modelling of traffic microsimulation in PTC VISSIM with real-world data collected from Doha city.

## GRANTS AND AWARDS

- o **Best Presenter**, at IEEE **ICFTSS**, Kuala Lumpur, Malaysia, Aug 2024
- o **Post Doctoral Research Award (PDRA)**, Qatar National Research Fund, USD. 200,000 (Mar 2022 - Feb 2024)
- o **Graduate Assistant scholarship**, Qatar University, USD. 40,000 (Aug 2014 - May 2015)

## COURSES TAUGHT

- o STAT-819 Advanced Machine Learning (Spring-2024)
- o STAT-836 Advanced Techniques and Logical Reasoning (Fall-2023)

## SUPERVISION AND MENTORSHIP

- o Mentor, GAIN Mentorship Program for the 2024/2025, Germany.
- o Thesis Co-advisor, Abdul Wali Khan University, Mardan, Pakistan. (2023-24)
- o Research Mentor, Qatar University Young Scientists Center (QUYSC), Qatar (2023-24).
- o Research Mentor Qatar Mobility Innovations Center, Qatar. (2022-24)

## TALKS

- o **[Invited Talk]** Intelligent Edge for 6G and Massive IoT Systems, in IEEE **MCSoc**, Singapore, December 15-18, 2025.
- o **[Keynote]** Real-time Crowd Counting at the Edge, in **ICVPRD**, Chongqing (China), October 25-26, 2025.
- o **[Keynote]** Revisiting Visual Crowd Counting, in **ASGI**, Changsha (China), 23-25, 2025.
- o **[Invited Talk]** Real-time Crowd Counting at the Edge, in **IPMV**, Hong Kong, January 10-12, 2025.
- o **[Invited Talk]** Intelligent Edge for 6G and Massive IoT Systems, in the IEEE **ICNGN**, Bangkok, Thailand.
- o **[Invited Talk]** Machine Learning in Mobile Edge Computing - Recent Trends, Opportunities, and Challenges, in **MLIS**, October 25-28, 2020, UK
- o **[Tutorial]** Mobile Edge Computing for Massive IoT (MIoT) Systems, in 10th IEEE International Symposium on Networks, Computers, and Communications (IEEE **ISNCC**), Qatar. October

23-26, 2023.

- o [Guest Lecture] Network Slicing in 5G, at College of Engineering, Qatar University, Doha, Qatar, April 11, 2023.
- o [Media] Generative AI in FM Procurement, interview published in Facilitate - the official magazine of IWFM UK).
- o [Media] ABC of AI, in Facilitate - the official IWFM magazine, Mar 2021 Issue

## PUBLICATIONS

### UNDER REVIEW

- [J1] **M. A. Khan**, H. Menouar and M. Abdallah, Adaptive Resource Allocation in V2X Network Slice, *IEEE Transactions on Vehicular Technology*, 2025 [Submitted].
- [J2] **M. A. Khan** and H. Menouar, Trust and Privacy in Route Planning for Amateur and Commercial Drones, *IEEE Transactions on Technology and Society*, 2025 [Submitted].
- [J3] **M. A. Khan**, H. Menouar and M. Abdallah, Revisiting the Intrusion Detection in In-Vehicle Networks, *IEEE Transactions on Intelligent Transportation Systems*, 2024 [Submitted].
- [J4] **M. A. Khan** and L. Hamad, On the Capability of LLMs in Combinatorial Optimization, *Annals of Mathematics and Artificial Intelligence*, 2025 [Submitted].

### JOURNAL ARTICLES

- [J1] **M. A. Khan**, H. Menouar and R. Hamila, Crowd Counting at the Edge using Weighted Knowledge Distillation, in *Nature Scientific Reports*, Feb 2025.
- [J2] **M. A. Khan**, H. Menouar and R. Hamila, Accelerating Learning with Fixed Time Budget, *Neural Computing and Applications*, 37, 4869–4879 (2025).
- [J3] **M. A. Khan**, H. Menouar and M. Abdallah, LiDAR in Connected and Autonomous Vehicles - Perception, Threat Model, and Defense, *IEEE Transactions on Intelligent Vehicles*, 2024
- [J4] M. Almehdhar, A. Albaseer, **M. A. Khan**, M. Abdallah, H. Menouar, S. Al-Kuwari, and A. Al-Fuqaha, Deep Learning in the Fast Lane: A Survey on Advanced Intrusion Detection Systems for Intelligent Vehicle Networks, in *IEEE Open Journal of Vehicular Technology*, vol. 5, pp. 869-906, 2024.
- [J5] M. Ishtiaq, N. Saeed and **M. A. Khan**, Edge Computing in IoT: A 6G Perspective, *IEEE IT Professional*, 2024.
- [J6] L. Hamad, **M. A. Khan** and A. Mohamed, Object Depth and Size Estimation using Stereo-vision and Integration with SLAM, *IEEE Sensors Letters*, vol. 8, no. 4, pp. 1-4, April 2024.
- [J7] N. Faiz, A. K. Gardiwal, **M. A. Khan**, and S. Iftikhar, "Dynamic prediction of survival via Landmark method using the asthma prevention trial in young children" 2023 Nov 30;18(11).
- [J8] **M. A. Khan**, H. Menouar, and R. Hamila, Visual Crowd Analysis - Open Research Problems," in *AI Magazine (AAAI)*, vol. 44, no. 3, pp. 296–311, Fall 2023.
- [J9] **M. A. Khan**, H. Menouar, and R. Hamila, "LCDnet: A Lightweight Crowd Density Estimation Model for Real-time Video Surveillance," in *Journal of Real-Time Image Processing.*, 20, 29, 2023.
- [J10] **M. A. Khan**, H. Menouar, and R. Hamila, Revisiting Crowd Counting: State-of-the-art, Trends, and Future Perspectives. in *Image and Vision Computing.*, 129, 104597, 2022.
- [J11] **M. A. Khan**, H. Menouar, A. Eldeeb, A. Abu-Dayya, and F. D. Salim, "On the Detection of Unauthorized Drones—Techniques and Future Perspectives: A Review," in *IEEE Sensors Journal*, vol. 22, no. 12, pp. 11439-11455, 15 June 15, 2022.
- [J12] **M. A. Khan**, R. Hamila, A. Erbad, and M. Gabbouj, "Distributed Inference in Resource-Constrained IoT for Real-Time Video Surveillance," in *IEEE Systems Journal*, 2022
- [J13] **M. A. Khan**, A. Erbad, R. Hamila and E. Baccour, "CODE: Computation Offloading in D2D-Edge System for Video Streaming" in *IEEE Systems journal*.
- [J14] **M. A. Khan**, E. Baccour, Z. Chkirbene, A. Erbad, R. Hamila, H. Hamdi, and M. Gabbouj, "A Survey on Mobile Edge Computing for Video Streaming: Opportunities and Challenges," in *IEEE Access*, vol. 10, pp. 120514-120550, 2022.
- [J15] **M. A. Khan**, R. Hamila, A. Gastli, S. Kiranyaz, and N. A. Al-Emadi, "ML-based Handover Prediction and AP Selection in Cognitive Wi-Fi Networks", *Journal of Network and Systems*

- [J16] D. Unal, M. Hammoudeh, **M. A. Khan**, A. Abuarqoub, G. Epiphaniou, R. Hamila, "Integration of Federated Machine Learning and Blockchain for the Provision of Secure Big Data Analytics for Internet of Things", *Computers and Security*, Jul. 2021
- [J17] **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.
- [J18] **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.
- [J19] K. Shaaban, **M. A. Khan**, and R. Hamila, Effect of Distance between Ramp and Upstream Signal on Ramp Meter Operation", *Journal of Traffic and Transportation Management*, vol. 1, no. 2, pp. 43–49, 2020.
- [J20] **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.
- [J21] 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.
- [J22] **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.

CONFERENCE PAPERS

- [C1] **M. A. Khan**, N. Neji, H. Tabia, and H. Menouar, "Next-Generation Disaster Management using Drones, AI, and Generative Models," International Conference on Drones and Unmanned Systems (DAUS' 2025), 9-21 February 2025, Granada, Spain [Accepted]
- [C2] **M. A. Khan**, H. Menouar, A. Nassar and M. Abdallah, "Visual Deception: Demonstrating Spoofing Attacks on Autonomous Vehicle Cameras," 2024 International Conference on Future Technologies for Smart Society (ICFTSS), Kuala Lumpur, Malaysia, 2024, pp. 165-168
- [C3] Z. Ahmad, S. A. Al-Maadeed and **M. A. Khan**, "Enhanced Diagnostic of Pulmonary Embolism Detection using DenseNet and XGBoost," 2024 International Conference on Future Technologies for Smart Society (ICFTSS), Kuala Lumpur, Malaysia, 2024, pp. 106-111
- [C4] K. Shaaban, **M. A. Khan**, H. Menouar, and R. Hamila, Advanced Mobility: Integrating Visible Light Communication and Sensing Technologies, in Intermountain Engineering, Technology, and Computing Conference (i-ETC), Utah, USA, 2024.
- [C5] **M. A. Khan**, H. Menouar, and R. Hamila, Crowd Counting in Harsh Weather using Image Denoising with Pix2Pix GANs, in Thirty-Eighth International Conference on Image and Vision Computing, 2024.
- [C6] **M. A. Khan**, H. Menouar, and R. Hamila, Multimodal Crowd Counting with Pix2Pix GANs, in 19th International Conference on Computer Vision Theory and Applications (VISAPP 2024), Rome, Italy, 2024.
- [C7] L. Hamad, **M. A. Khan**, H. Menouar, F. Filali, and A. Mohamed, Haris: an advanced autonomous mobile robot for smart parking assistance, in 2024 IEEE International Conference on Consumer Electronics (ICCE), Las Vegas, NV, USA, 2024, pp. 1-6.
- [C8] **M. A. Khan**, H. Menouar, and R. Hamila, Curriculum for Crowd Counting - Is it Worthy?, " in 19th International Conference on Computer Vision Theory and Applications (VISAPP 2024), Rome, Italy, 2024.
- [C9] I. Mrad, E. Baccour, R. Hamila, **M. A. Khan**, A. Erbad, M. Hamdi, "RL-CEALS: Reinforcement Learning for Collaborative Edge Assisted Live Streaming", in 28th IEEE Symposium Computers and Communications (ISCC) 9 -12 July, Tunis Tunisia.
- [C10] **M. A. Khan**, R. Hamila, and H. Menouar, "CLIP: Train Faster with Less Data" , in 2023 IEEE International Conference on Big Data and Smart Computing (BigComp), Jeju, Korea, Republic of, 2023, pp. 34-39.
- [C11] **M. A. Khan**, H. Menouar, and R. Hamila, "Crowd Density Estimation Using Imperfect Labels" , 2023 IEEE International Conference on Consumer Electronics (ICCE), Las Vegas, NV, USA, 2023, pp. 1-6.

- [C12] **M. A. Khan**, H. Menouar, and R. Hamila, "DroneNet: Crowd Density Estimation using Self-ONNs for Drones" , 2023 IEEE 20th Consumer Communications and Networking Conference (CCNC), Las Vegas, NV, USA, 2023, pp. 455-460.
- [C13] **M. A. Khan**, H. Menouar, O. M. Khalid and A. Abu-Dayya, "Unauthorized Drone Detection: Experiments and Prototypes," 2022 IEEE International Conference on Industrial Technology (ICIT), Shanghai, China, 2022, pp. 1-6.
- [C14] **M. A. Khan**, H. Menouar, and R. Hamila, "Drones-aided Asset Maintenance in Hospitals, in 2nd International Conference on Computers and Automation (CompAuto 2022), August 18-22, 2022, Paris, France
- [C15] K. Shaaban, **M. A. Khan**, I. Kim and R. Hamila, "Queue Discharge at Freeway On-Ramps Using Coordinated Operation of a Ramp Meter and an Upstream Traffic Signal", *Procedia Computer Science*, Volume 170, 2020, Pages 347-353, ISSN 1877-0509
- [C16] K. Rahman, S. Mallick, **M. A. Khan**, "Travel Time Estimation using Multivariate Regression Model", In *Qatar Foundation Annual Research Conference Proceedings Volume 2018 Issue 1* 2018 Mar 21, Vol. 2016, No. 1, p. EEPD1051.
- [C17] 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.
- [C18] **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.
- [C19] **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.
- [C20] **M. A. Khan**, R. Hamila and K. Shaaban., "Mitigation of Traffic Congestion Using Ramp Metering on Doha Expressway", In *Qatar Foundation Annual Research Conference Proceedings Volume 2016 Issue 1* 2016 Mar 21, Vol. 2016, No. 1, p. ICTSP2224.
- [C21] K. Shaaban, **M. A. Khan**, and R. Hamila, "Literature Review of Advancements in Adaptive Ramp Metering", *Procedia Computer Science* 83 (2016): 203-211.
- [C22] 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.
- [C23] **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.
- [C24] M. S. Khan, S. Bashir, **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.
- [C25] **M. A. Khan** and S. Zakiuddin, "Research review of the development of novel routing algorithms for mobile Ad-hoc networks", *Eighth International Conference on Digital Information Management (ICDIM 2013)*, 2013, pp. 61-66

#### BOOKS

- [B1] Nasir Saeed and **M. A. Khan**, "Localization in Wireless Networks, Technologies, and Applications", Wiley-IEEE Press, 2024 [In preparation]

#### BOOK CHAPTERS

- [B1] **M. A. Khan**, and M. A. Ahmadon, "Mobile Edge Computing for the Next Generation Massive Internet of Things" in *Evolution of Information, Communication and Computing System*, 2023
- [B2] **M. A. Khan**, M. A. Ahmadon, N. A. A. Rauf, A. M. Zaid, A. K. Mahamad, S. Saon, N. S. A. M. Taujuddin, and A. Jamil, "Implementation and Simulation of UDP Client Server Environment using Contiki Cooja Simulator." 2023.

## SERVICES

### JOURNAL EDITORIAL BOARDS

- o **Associate Editor**, IEEE Transactions on Neural Network and Learning Systems ([TNNLS](#)) **Jan 2025 - Present**
- o **Associate Editor**, IEEE Transactions on Consumer Electronics ([TCE](#)) **July 2024 - June 2026**
- o **Associate Editor**, IEEE Transactions on Technology and Society ([TTS](#)) **May 2024 - May 2026**
- o **Associate Editor**, IEEE Signal Processing Letters ([SPL](#)) **June 2025 - Present**
- o **Associate Editor**, IEEE Future Directions Technology Policy and Ethics **Apr 2021 - Present**
- o **Editorial Board Member**, Computer Systems Science and Engineering ([CSSE](#)) **Feb 2024 - Feb 2026**
- o **Editorial Board Member**, Frontiers in Communications and Networks **Feb 2021 - Present**
- o **Guest Editor**, Frontiers in Communications and Networks **2020**

### GRANT REVIEWER

- o **Expert reviewer** at European Science Foundation ([ESF](#))

### JOURNAL REVIEWER

- o IEEE Transactions on Artificial Intelligence ([TAI](#))
- o IEEE Transactions on Neural Networks and Learning Systems ([TNNLS](#))
- o IEEE Transactions on Machine Learning in Communications and Networking ([TMLCN](#))
- o IEEE Transactions on Mobile Computing ([TMC](#))
- o IEEE Transactions on Vehicular Technology ([TVT](#))
- o IEEE Transactions on Emerging Topics in Computing ([TETC](#))
- o IEEE Transactions on Systems, Man, and Cybernetics ([SMC](#))
- o IEEE Transactions on Consumer Electronics ([TCE](#))
- o IEEE Transactions on Circuits and Systems for Video Technology ([TCSVT](#))
- o IEEE Transactions on Microwave Theory and Techniques ([TMTT](#))
- o IEEE Transactions on Dependable and Secure Computing ([TDSC](#))
- o IEEE Communications Surveys and Tutorials ([COMST](#))
- o IEEE Communications Magazine ([COMMAG](#))
- o IEEE Wireless Communication Magazine ([WCM](#))
- o IEEE Wireless Communications Letters ([WCL](#))
- o IEEE Communication Standards Magazine ([COMSTD](#))
- o IEEE Internet of Things Journal ([IOT](#))
- o IEEE Internet of Things Magazine ([IOTMAG](#))
- o IEEE Networking Letters ([NL](#))
- o IEEE Systems Journal ([ISJ](#))
- o IEEE Sensors Journal (Sens. J.)
- o IEEE Sensors Letters ([SENSL](#))
- o IEEE Transactions on Aerospace and Electronic Systems ([TAES](#))
- o IEEE Access
- o IEEE Open Journal of the Communication Society ([OJCOMS](#))
- o IEEE Open Journal of Vehicular Technology ([OJVT](#))
- o Nature Scientific Reports
- o IET Communications
- o IET Intelligent Transportation System
- o Elsevier Future Generation Computer Systems ([FGCC](#))

### CONFERENCE PC CHAIR

- o **Workshop Chair** of Workshop on Intelligent Offloading, Resource Optimization, and Localization in Pervasive Computing Environments ([IOROL](#)), 2025
- o **Area Chair** of International Joint Conference on Neural Networks ([IJCNN](#)), 2025
- o **Technical Committee Co-Chair** at IEEE International Conference on Future Technologies for Smart Society ([ICFTSS](#)), 2024
- o **Program Co-Chair** at International Conference on Computers and Automation 2023-2024.
- o **Program Co-Chair** at International Conference on Control, Robotics Engineering Technology 2024.
- o **Tutorial Chair** at IEEE Gaming, Entertainment, and Media Conference ([GEM](#)), 2023
- o **Session Chair** at Innovation and Technological Advances for Sustainable Development 2023.
- o **Session Chair** at "IEEE 41st International Conference on Consumer Electronics ([ICCE](#)), 2023
- o **Session Chair** at International Conference on Computers and Automation (CompAuto 2022).
- o **Workshop Co-Chair** at Sensing, Communication, and Localization in 6G (6GloTT 2022).

### CONFERENCE PC MEMBER

- o IEEE/CVF Winter Conference on Applications of Computer Vision ([WACV](#)), 2025
- o Conference on Neural Information Processing Systems ([NeurIPS](#)), 2024
- o International Joint Conference on Neural Networks ([IJCNN](#)), 2025



- o IEEE International Conference on Communications ([ICC](#)), 2021-2025
- o IEEE Global Communications Conference ([GLOBECOM](#)), 2024-2025
- o IEEE Consumer Communications and Networking Conference ([CCNC](#)), 2021-2025
- o IEEE Vehicular Technology Conference ([VTC](#)), 2023-Fall
- o IEEE International Conference on Consumer Electronics ([ICCE-Berlin](#)), 2023
- o IEEE International Conference on Consumer Electronics ([ICCE-Taiwan](#)), 2024
- o IEEE Conference on Technologies for Sustainability ([SusTech](#)), 2020-2025
- o Asia Conference on Computer Vision, Image Processing, and Pattern Recognition ([CVIPPR](#)), 2024
- o IEEE [BigData](#), 2020
- o IEEE International Conference on Acoustics, Speech & Signal Processing ([ICASSP](#)), 2020-25
- o IEEE Sensors, 2020
- o International Telecommunication Networks and Applications Conference ([ITNAC](#)), 2025
- o IEEE International Wireless Communications and Mobile Computing Conference ([IWCMC](#)), 2023
- o IEEE International Workshop on Communication and Networking for Swarms Robotics ([ROBO-COM](#)), 2024
- o ACM 9th International Conference on Multimedia Systems and Signal Processing 2024
- o IEEE 4th World Forum on Internet of Things (WF-IoT 2018)

#### SOCIETY MEMBERSHIPS

Note:- Some memberships may not be currently active!

- o IEEE Communication Society ([ComSoc](#))
- o IEEE Computer Society ([CompSoc](#))
- o IEEE Signal Processing Society ([SPS](#))
- o IEEE Industrial Electronics Society ([IES](#))

#### TECHNICAL COMMITTEES

- o IEEE [TCCC](#): CompSoc's TC on Computer Communications
- o IEEE [TCPAMI](#): CompSoc's TC on Pattern Analysis and Machine Intelligence
- o IEEE [MDA](#): CTSoc's TC on ML, DL and AI in CE
- o IEEE [IOT](#): CTSoc's TC on Internet of Things
- o IEEE VTS TC on Autonomous Vehicles
- o IEEE VTS TC SAGW Integrated Communication Systems
- o IEEE Internet of Things Community
- o IEEE Sensors Council

#### COURSES

- o [Chartered Engineer](#), EC UK
- o Juniper Networks Certified Internet Associate - [JNCIA](#)
- o IPv6 Forum Certified Network Engineer, [IPv6 Forum](#)
- o 4G Mobile and Future Internet, [ITU Academy](#)
- o Mobile Broadband: LTE/LTE-Advanced, WiMAX and WLAN, [ITU Academy](#)
- o Future Internet, [ITU Academy](#)
- o Migration to IPv6, [ITU Academy](#)
- o TensorFlow Specialization, Andrew Ng ([Deeplearning.ai](#))
- o Deep Learning Specialization, Andrew Ng ([Deeplearning.ai](#))
- o Machine Learning, Andrew Ng (Stanford University)
- o Introduction to On-device AI, [Qualcomm](#)
- o Fundamentals of Accelerated Computing with CUDA Python, [NVIDIA](#)
- o Getting Started with AI and Jetson Nano, [NVIDIA](#)
- o Introduction to IoT, Stanford University.
- o Machine Learning School 2019, BigML and QCRI, Doha, Qatar
- o Supervising Doctoral Studies, Epigeum, Oxford University Press
- o Certified Peer Reviewer, Elsevier
- o Certified Peer Reviewer, Web of Science Academy
- o Mentor Community and Training, Coursera
- o IBM Maximo, Asset, Inventory, and Work Order Management

#### SKILLS

- o **Programming:** Python, C++
- o **ML/DL frameworks:** Scikit-learn, PyTorch, TensorFlow, Keras.
- o **LLMs:** LLMs pretraining, finetuning, and deployment, prompt engineering, RAG.
- o **Scientific computation:** OpenCV, Numpy, Scipy, Pandas, ...
- o **Simulators:** ns-3, sumo, CARLA, Riverbed Modeler.

- o **Image/Sound/Text Processing:** OpenCV, Open3D, Librosa, Beautiful Soup
- o **Visualization:** Matplotlib, Plotly, Seaborn
- o **GPU/Edge:** Cuda, ONN, TensorRT, NVIDIA Jetson edge devices
- o **ML/DL Models** MLP, SVM, RF, DT, XGBoost, LSTM, CNNs, ViTs, DRL, FL

## REFERENCES

- o Prof. Ridha Hamila  
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- o Dr. Fethi Filali  
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