

Mahnoor Anjum

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AWARDS & GRANTS

Development and Research Training Grant , UNSW, Sydney, Australia	2025
Exemplary reviewer award , IEEE Wireless Communications Letters	2024
Best paper award , 3rd Workshop on Sustainable and Resilient Industrial Networks at IEEE GLOBECOM	2023
University International Postgraduate Award (UIPA) , UNSW, Sydney, Australia	2023
Distinction in master of science in electrical engineering , NUST, Pakistan	2022
Rector's medal nomination for Bachelor thesis , NUST, Pakistan	2019
A1 exceptional in higher secondary school certification (HSSC) , FBISE, Islamabad, Pakistan	2014
A+ distinction in secondary school certification (SSC) , BISE, Rawalpindi, Pakistan	2012

EDUCATION

University of New South Wales, Sydney, Australia	2023 – present
<i>PhD in Electrical Engineering</i>	
* Thesis: Design of integrated sensing and communication systems	
* Advised by Dr. Deepak Mishra & Prof. Aruna Seneviratne	
National University of Sciences & Technology, Pakistan	2020 – 2022
<i>Master of Electrical Engineering</i>	CGPA: 4.0/4.0
* Thesis: Optimization of RIS-assisted communication systems using machine learning	
* Advised by Prof. Syed Ali Hassan	
National University of Sciences & Technology, Pakistan	2015 – 2019
<i>Bachelor of Electrical Engineering</i>	CGPA: 3.1/4.0
* Thesis: Design and implementation of an object tracking system using LoRa technology	
* Advised by Prof. Syed Ali Hassan	

WORK EXPERIENCE

Research Assistant University of New South Wales, Sydney, Australia	03/2024 – 06/2025
Design and analyze quantum communication systems using statistical analysis, machine learning, and optimization techniques.	
Visiting Researcher Kyung Hee University, South Korea	12/2024 – 02/2025
Design and analyze near-field integrated sensing and communication systems at the Wireless Systems Lab.	
Senior Design Engineer Adept Tech Solutions, CA, USA	07/2022 – 08/2023
Designed, implemented and developed production-ready solutions with a directed focus on machine learning, data science, big data analytics, algorithm design and communication systems.	
Design Engineer Adept Tech Solutions, CA, USA	06/2019 – 06/2022
Prototyped and developed algorithms for data-driven solutions using machine learning, big data analytics, data science and communication theory.	
Research Assistant Information Processing and Transmission Lab, SEECS, NUST	01/2022 – 03/2023
Utilized machine learning and stochastic methods to analyze a time-weighted positioning system based on LoRa technology. Explored system level optimization of IRS-assisted 3D-interconnected communication systems using machine learning.	
Research Assistant Information Processing and Transmission Lab, SEECS, NUST	01/2020 – 06/2020
Researched wireless and data-driven systems using machine learning and data science techniques. Published two articles.	
Researcher Information Processing and Transmission Lab, SEECS, NUST	07/2018 – 05/2019
Researched and documented communication systems and networks, tracking techniques and algorithms, time synchronization, LPWAN technologies and published a paper in IWCMC 2019.	
Research Intern IMPACTS Lab KAUST, Saudi Arabia	08/2018 – 09/2018
Researched tracking systems, localization systems, Simblee Programming and communication systems. Learned application development, PCB design, PCB fabrication, and 3D printing.	

Intern SWAM Lab, SEECS, NUST Programmed mathematical models of neural networks using PyTorch and Matlab.	06/2018 – 08/2018
Intern Signal Processing and Machine Learning Lab, SEECS, NUST Programmed reusable codes of machine learning algorithms, deep learning algorithms, artificial intelligence, computer vision and natural language processing.	06/2018 – 08/2018
Intern CEFAR Lab, SEECS, NUST Worked on the Internet of Things (IoT), Microcontroller programming, development boards, sensors, and motors.	06/2017 – 09/2017
Development Intern KSOFT, Software house, Islamabad Worked with advanced electronics, development boards, GUI design and computer networking.	07/2017 – 08/2017

ACADEMIC EXPERIENCE

Head Lab Demonstrator ELEC4601 Digital and Embedded Systems Design School of Electrical Engineering and Telecommunications, UNSW, Sydney	02/2026 – 05/2026
Lab Demonstrator ELEC3104 Digital Signal Processing School of Electrical Engineering and Telecommunications, UNSW, Sydney	09/2025 – 12/2025
Head Lab Demonstrator ELEC9123 Design Proficiency School of Electrical Engineering and Telecommunications, UNSW, Sydney	04/2025 – 09/2025
Marker ELEC2141 Digital Circuit Design School of Electrical Engineering and Telecommunications, UNSW, Sydney	02/2025 – 05/2025
Lab Demonstrator DESN1000 Introduction to Engineering Design and Innovation School of Electrical Engineering and Telecommunications, UNSW, Sydney	02/2025 – 05/2025
Lab Demonstrator ELEC3104 Digital Signal Processing School of Electrical Engineering and Telecommunications, UNSW, Sydney	09/2024 – 12/2024
Workshop Facilitator UNSW Science Week School of Electrical Engineering and Telecommunications, UNSW, Sydney	08/2024 - 08/2024
Lab Demonstrator ELEC9123 Design Proficiency School of Electrical Engineering and Telecommunications, UNSW, Sydney	05/2024 – 09/2024
Teaching Assistant CS470 Machine Learning School of Electrical Engineering and Computer Science, NUST, Pakistan	01/2019 – 05/2019
Teaching Assistant SE801 Artificial Neural Networks School of Electrical Engineering and Computer Science, NUST, Pakistan	09/2018 – 01/2019
Workshop Facilitator Internet-of-Things Workshop School of Electrical Engineering and Computer Science, NUST, Pakistan	2017

JOURNAL PAPERS

Energy-efficient Cell-free Integrated Sensing and BackCom for Sustainable Networks <i>M Anjum, D Mishra</i>	MDPI Energies
DRL-based user fairness in BDRIS-assisted ELAA systems <i>MA Khan, M Anjum, D Mishra, H Jung, TQ Duong</i>	IEEE WCL
Energy efficient near-field integrated sensing and communication: A comprehensive review <i>M Anjum, MA Khan, H Jung, D Mishra, A Seneviratne</i>	MDPI Energies
Green transceiver design and antenna selection for QoS-aware ISAC systems <i>M Anjum, D Mishra, A Seneviratne</i>	IEEE TGCN
Energy efficient near field beamforming: A review on practical channel models <i>H Ni, M Anjum, D Mishra, A Seneviratne</i>	MDPI Energies
Analysis of time-weighted LoRa-based positioning using machine learning <i>M Anjum, MA Khan, SA Hassan, H Jung, K Dev</i>	Elsevier Computer Communications
RSSI fingerprinting-based localization using machine learning in LoRa networks <i>M Anjum, MA Khan, SA Hassan, A Mahmood, HK Qureshi, M Gidlund</i>	IEEE Internet of Things Magazine
A battery health monitoring method using machine learning: A data-driven approach <i>M Anjum, MA Khan, SA Hassan, HA Khalid, A Gastli, LB Brahim</i>	MDPI Energies

CONFERENCE PAPERS

- Integrating AI in Project-Based Engineering Education: Strengthening Course Design and Assessment Integrity** EDUCON '26
M Anjum, T Zhang, D Mishra, E Ambikairajah
- RL-based Resource Allocation in Secure BDRIS-Aided Movable Antenna Systems** ICC '26
MA Khan, M Anjum, D Mishra, H Jung
- DRL-based Max-Min Fairness in Fluid RIS-aided Fluid Antenna Systems** GLOBECOM '25
M Anjum, MA Khan, D Mishra, H Jung, A Seneviratne
- Service fairness enhancement for BDRIS assisted fluid antenna systems** VTC '25
M Anjum, MA Khan, D Mishra, H Jung, A Seneviratne
- QoS-aware power minimization for fluid antennas assisted integrated sensing and communication** ICC '25
M Anjum, D Mishra, M Matthaiou, A Seneviratne
- Green transceiver design for integrated sensing and backscatter communication with QoS demands** ICC '25
M Anjum, D Mishra, A Seneviratne
- RL-enabled resource allocation in BD-RIS-assisted MIMO systems** INISCOM '25
MA Khan, M Anjum, M Usman, H Jung, M Guizani
- Deep RL-based resource allocation for user fairness in STAR-RIS-assisted NOMA-enabled B5G networks** GLOBECOM '24
M Usman, M Anjum, MA Khan, SA Hassan, H Jung
- Power-efficient transceiver design for full-duplex dual-function radar communication systems** SPAWC '24
M Anjum, D Mishra, A Seneviratne
- A multi-level ML-based optimization framework for IIoT networks with distributed IRS assisted UAVs** GLOBECOM '23
M Anjum, MA Khan, SA Hassan, H Jung, A Mahmood, M Gidlund
- Machine learning-based resource allocation for IRS-aided UAV networks** GLOBECOM '23
MA Khan, M Anjum, SA Hassan, H Jung
- Dedicated versus shared element-allotment in IRS-aided wireless systems: when to use what?** VTC '23
M Anjum, MA Khan, S Basharat, SA Hassan, H Jung
- Analysis of RSSI fingerprinting in LoRa networks** IWCMC '19
M Anjum, MA Khan, SA Hassan, A Mahmood, M Gidlund

BOOK CHAPTERS

- Designing an end-2-end sustainable IoT network: A comprehensive guideline** Elsevier, 2025
M Anjum, MA Khan, H Jung
- Artificial intelligence in mobile and modern wireless Networks** IGI Global, 2023
MA Khan, M Anjum, SA Hassan, H Jung
- Theoretical landscape of LPWANs** Springer Nature, 2023
M Anjum, MA Khan, SA Hassan, H Jung
- Applications of LPWANs** Springer Nature, 2023
MA Khan, M Anjum, SA Hassan, H Jung

ACTIVITIES

- Poster Presentation | Education Festival** 2025
Poster: AI-Empowered Project-Based Learning
- Poster Presentation | PST2024 Industry Day** 2024
Poster: Green Transceiver Design for Dual Function Radar Communication Systems
- Champion | UNSW STEMM Champions Program** 2024
- Vice President | Distinguished Innovations, Collaboration & Entrepreneurship (DICE), NUST** 2018
- Marketing Executive | Association for Computing Machinery (ACM) NUST** 2017
- Deputy Director Admin Events | Finding Innovative & Creative Solutions for Society (FICS), NUST** 2017
- Treasurer | Institute of Electrical and Electronics Engineers (IEEE), SEECS Chapter** 2017
- Internee | World Wildlife Fund (WWF), Pakistan** 2013

SERVICES

Technical Program Committee Member	2026
IEEE ICC 2026: Track Wireless Communications	
Technical Program Committee Member	2025
IEEE ICC 2025: Track Integrated Sensing And Communications	
Reviewer	2025
IEEE Transactions on Green Communications and Networking	
IEEE Vehicular Technology Conference	
IEEE Wireless Communications Letters	
IEEE Transactions on Communications	
IEEE Communications Letters	
IEEE Access	
IEEE Conference on Local Computer Networks	
IEEE Global Communications Conference	
Technical Program Committee Member	2024
IEEE VTC Spring 2024: Track UAV Communications, Vehicular Networks, and Telematics	
IEEE VTC Fall 2024: Vehicular Communications, Unmanned Vehicle Communications, Vehicular Networks and Telematics	
Reviewer	2024
IEEE Wireless Communications Letters	
IEEE Global Communications Conference	
International Symposium on the Modeling, Analysis, and Simulation of Computer and Telecommunication Systems	
IEEE Transactions on Intelligent Vehicles	
Reviewer	2023
IEEE Access	
IEEE Wireless Communications Letters	
IEEE Global Communications Conference	
IEEE International Conference on Communications	
Reviewer	2022
IEEE Global Communications Conference	

Last updated on February 10, 2026