

# Md Tarek Hassan

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Belfast, Northern Ireland - BT9 5FB, United Kingdom

## OBJECTIVE

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PhD researcher at Queen's University Belfast, specializing in reconfigurable intelligent surface (RIS)-enabled wireless communication systems for future 6G networks. Actively conducting research on antenna configuration, propagation-aware modeling, and machine learning-based beam management, with a focus on RIS-assisted localization and sensing.

## WORK EXPERIENCE

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- **Queen's University Belfast** [🌐] Feb 2025 – Present  
*PhD Researcher and Graduate Teaching Assistant (Electrical and Electronics Engineering)* Belfast, Northern Ireland, United Kingdom
  - Doing research in AI-enabled electromagnetic environment for integrated sensing and communication system in 6G and beyond wireless communication.
  - Supervising and demonstrating undergraduate and master's students for the laboratory courses.
- **Rajshahi University of Engineering & Technology (RUET)** [🌐] Dec 2021 – Present  
*Lecturer (On Leave) (Electronics & Telecommunication Engineering)* Bangladesh
  - Conducted research and teaching in wireless communication, mmWave systems, and machine learning-enabled networks.
  - Supervised undergraduate research projects related to 5G/6G and signal processing.
- **Robi Axiata Limited** [🌐] Apr 2019 - May 2019  
*Intern in Radio Access Network* Dhaka, Bangladesh
  - Performed system by remote access and prepared reports to support the operation and planning of telecommunications systems.
  - **Technical Skills:** LTE (4G), UMTS (3G), Switching System, Access Network, Backhaul Networks.

## EDUCATION

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- **Queen's University Belfast** Feb 2025 - Present  
*PhD in Electrical and Electronic Engineering* Belfast, Northern Ireland, UK
  - **Research Title:** Intelligent AI Electromagnetic Environment for Communication and Sensing within 6G
  - **Specialization** in 6G, Reconfigurable Intelligence Surface (RIS), Integrated Sensing and Communication (ISAC)
- **Rajshahi University of Engineering & Technology** Sep 2021 - Dec 2024  
*M.Sc. in Electronics & Telecommunication Engineering* Rajshahi, Bangladesh
  - Graduated with Honors
  - **CGPA:** 3.92 out of 4.00 (1st Class **First** Position)
  - **Research Title:** Machine Learning Driven Mobile Edge Computing for Connectivity and QoS in Next Generation Networks
  - **Specialization** in Edge Computing, Machine Learning, Beyond 5G
- **Rajshahi University of Engineering & Technology** Jan 2016 - Mar 2021  
*B.Sc. in Electronics & Telecommunication Engineering* Rajshahi, Bangladesh
  - Graduated with Honors
  - **CGPA:** 3.85 out of 4.00 (1st Class **First** Position)
  - **Research Title:** Radio Resource Management in 5G Heterogeneous Networks
  - **Specialization** in Wireless Communication, 5G, Millimeter Wave (mmWave)

## PUBLICATIONS

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1. **M. T. Hassan**, D. Zelenchuk, and M. A. B. Abbasi, "Near Field-Aware UE Localization in RIS-Aided Wireless Networks through ML-Regressor", (Accepted) *2026 IEEE International Symposium on Antennas and Propagation and INC/USNC-URSI Radio Science Meeting in Detroit, Michigan, USA*.
2. **M. T. Hassan**, D. Zelenchuk, M. A. B. Abbasi, and I. Munina, "Impact of RIS Size on Machine Learning-Enabled Beam Sweeping for User Localization", (Accepted) *20th European Conference on Antennas and Propagation 2026 (EuCAP 2026) in Dublin, Ireland*.
3. **M. T. Hassan**, D. Zelenchuk, and M. A. B. Abbasi. "Machine Learning-Driven User Localization in RIS-Assisted Wireless Systems." (Accepted and Presented) *20th RIA/URSI Research Colloquium on Radio Science and Communications, Royal Irish Academy, Dublin, Ireland*.
4. **M. T. Hassan** and M. M. Mowla, "An Efficient Proportional Fair MAC Scheduling for Resource Allocation in 5G Millimeter Wave Networks," in *2022 25th International Conference on Computer and Information Technology (ICCIT), Cox's Bazar, Bangladesh*.
5. **M. T. Hassan** and M. M. Mowla, "Investigation of TCP Performance in 5G mmWave Networks," in *2020 IEEE Region 10 Symposium (TENSymp)*, Dhaka, Bangladesh.


## SKILLS

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- **Programming Languages:** Python, MATLAB, C++, C
- **Web Technologies:** HTML5, CSS3, Bootstrap, JavaScripts, PHP, WordPress
- **Database Systems:** MySQL, FireBase
- **Data Science & Machine Learning:** SciKit Learn, Pandas, Matplotlib, TensorFlow, Keras, NumPy
- **Specialized/Research Area:** 5G/6G, Wireless Communication, mmWave, Reconfigurable Intelligent Surface
- **Mathematical & Statistical Tools:** Octave GNU, MATLAB
- **Other Tools & Technologies:** CST Studio, NS3, Anaconda, Jupyter Notebook, LaTeX

## HONORS AND AWARDS

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- **Most Impactful Thesis Award** March 2021  
*Rajshahi University of Engineering & Technology* 
  - Bachelor of Science (B.Sc.) Thesis Award
  - 3 good conferences based on the thesis
- **Student of the Year** November 2018  
*Rajshahi University of Engineering & Technology*
  - This award based on the highest results in a year
  - Got the medal and certification for the award
- **University and Board Scholarships** 2008 - 2022  
*RUET and Bangladesh Government*
  - Undergrad Scholarship in RUET
  - Bangladesh Government Scholarship in HSC, SSC and JSC Examination

## CERTIFICATIONS

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- **CISCO Certified Network Associate (CCNA): Routing and Switching** February 2020
- **International Business Machines Corporation (IBM): IBM Data Science Professional Certification** July 2020
- **University of Michigan: Python For Everyone Specialization** Sep 2020

## ADDITIONAL INFORMATION

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**Languages:** English (Proficiency level), Hindi (Intermediate), Bangla (Native)

**Interests:** Traveling, Documentation, Watching Films, Cooking

## REFERENCES

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### Dr Dmitry Zelenchuk

Senior Lecturer  
Electrical and Electronic Engineering  
Queen's University Belfast  
Email: d.zelenchuk@qub.ac.uk  
Relationship: Ph.D Thesis Supervisor

### Dr Muhammad Babar Abbasi

Reader (Assoc. Professor)  
Electrical and Electronic Engineering  
Queen's University Belfast  
Email: m.abbasi@qub.ac.uk  
Relationship: Ph.D Thesis Supervisor

### Dr Md Munjure Mowla

Innovation Manager, R&D Section  
IS Wireless  
Email:  
munjuremowla.official@gmail.com  
Relationship: Mentor and B.Sc. Thesis Supervisor