

Curriculum Vitae

Md Owahedur Rahman | NUIST



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Technical & Research Skills

AI, Modeling & Analytics

Machine Learning Deep Learning

Computer Vision Quantum ML

Bayesian Modeling Spatio-Temporal Forecasting

Probabilistic Risk Modeling

Remote Sensing Analytics Explainable AI

Programming

Python MATLAB C C++ Java PHP

JavaScript TypeScript

Databases

MySQL PostgreSQL MongoDB

AI/ML Tools & MLOps

TensorFlow PyTorch Scikit-Learn

OpenCV MLflow DVC ONNX Runtime

Docker Git CI/CD

Cloud, HPC & Big Data

Google Cloud GEE Vertex AI AWS

Azure Spark Hadoop GPU Acceleration

Kubernetes

Remote Sensing, GIS & UAV Tools

ArcGIS QGIS Rasterio Pix4D

Agisoft Metashape Mission Planner

QGroundControl

Professional Summary

Interdisciplinary researcher specializing in **quantum-inspired machine learning**, **autonomous UAV intelligence**, and **spatio-temporal environmental modeling**. I develop next-generation aerial and environmental AI systems by integrating variational quantum models, multi-agent autonomy, and multi-modal remote sensing. My work focuses on early wildfire detection, climate-risk forecasting, and secure quantum-resilient UAV networks for real-time environmental decision-making.

Research Vision

To advance **quantum-enhanced autonomous UAV ecosystems** capable of intelligent environmental sensing, early wildfire intelligence, and secure distributed climate resilience through multi-modal data fusion and spatio-temporal learning.

Research Interests

- Quantum-Inspired & Variational Quantum Machine Learning
- UAV Swarm Autonomy & Multi-Agent Decision-Making
- Spatio-Temporal Forecasting, Graph Learning & State-Space Models
- Early Wildfire Detection & Climate-Driven Risk Prediction
- Multi-Modal Remote Sensing Fusion (UAV + Satellite)
- Quantum-Secure, Federated & Distributed AI Architectures
- Adversarial Robustness & Cyber-Physical Defense for 6G UAV Networks

EDUCATION

2023–
Present

Nanjing University of Information Science & Technology (NUIST)



Nanjing, China

Information and Communication Engineering (ICE)
GPA: 3.14 (out of 5.00)

2017–2020

Hohai University



Nanjing, China

Information and Communication Engineering (ICE)
GPA: 79.25 (out of 100)

2011–2015

University of Information Technology and Sciences – (UITS)



Bangladesh

Electrical and Electronic Engineering (EEE)
GPA: 3.14 (out of 4.00)

Research & Data Acquisition

Google Scholar

Scopus

Web of Science

IEEE

Elsevier

Patent Search

OSINT

Systematic Review

Languages

Bengali - Native Language

English - Professional working proficiency

Chinese - working proficiency

Hindi - working proficiency

Urdu - Fluent in Speaking and Listening

Professional Skills

Skill 1

Skill 2

Skill 3

Skill 4

Skill 5

Other Interests

Guitar

Piano

Chess

Gym

Travels

Movies

Books

Research Publications

A. Published / Accepted Papers (Own Work)

Journal Articles

1. Rahman, M. O.,, Yaseen, M. B., Shafiq, A., Qammar, R., & Chaturvedi, S. (2025). *Quantum-Driven Optimization in UAV-Assisted RIS Networks: A Comprehensive Framework for Maximizing Quantum-Enhanced Signal Reconfiguration Efficiency*. **International Journal of Communication Systems**, 38(14), e70224. <https://doi.org/10.1002/dac.70224>

2. Rahman, M. O., & Tariq, M. B. (2019). *The Causes, Effects and Control Systems of Industrial Air Pollution*. **North American Academic Research (NAAR) Journal**, 2(6). <https://doi.org/10.5281/zenodo.3245566>

3. Wan, F, Yaseen, M. B., Riaz, M. B., Shafiq, A., Thakur, A., & Rahman, M. O., (2024). *Advancements and challenges in UAV-based communication networks: A comprehensive scholarly analysis*. **Results in Engineering**, 24, 103271. <https://doi.org/10.1016/j.rineng.2024.103271>

4. Yaseen, M. B., Wan, F, Rahman, M. O., & Siddique, F. (2025). *EMI Analysis and Nonlinearity Characterization of 5G FR1 Amplifiers for UAV-RIS Networks*. **Drones**, 9(5), 328. <https://doi.org/10.3390/drones9050328>

Conference Paper

• *High-Performance Failure Prediction in Industrial Engines: A Random Forest Approach with Advanced Feature Engineering and SHAP Interpretability*. **ICDTDE 2025**, Springer. (Accepted).

B. Under Review Publications (Own Work)

1. *REACT-DRL: Resilient Energy Allocation through Deep Reinforcement Learning for Adaptive Renewable Power Systems*.

2. *Multi-Agent Predictive Intelligence Framework for UAV Network Optimization: Security, Scalability, and Real-Time Decision-Making*.

Research Projects

• Quantum-Enhanced Cognitive Firewall for Federated Wildfire Response

• Quantum-Inspired Spatio-Temporal Graph Learning for Early Wildfire Detection

• Quantum-Resilient UAV Networks via Variational Quantum Neural Architectures

• UAV-Based State-Space Modeling for Dynamic Wildfire Propagation Forecasting

• QAOA-Reinforcement Learning Hybrid Framework for UAV Trajectory Optimization

• Quantum-Driven Swarm Intelligence for Multi-UAV Coordination

• Hybrid Tensor-Graph Learning for Low-Light UAV Environmental Perception

• Quantum-Secure UAV Mesh Networks with Entanglement-Assisted Key Distribution

• Federated Quantum UAV Intelligence for Cross-Region Disaster Assessment