

Asadullah Bin Rahman



galib.hstu.cse17@gmail.com



asadullahgalib007.github.io



in/asadullah007



Google Scholar

Research Interests: Image Processing, Machine Learning, Quantum Computing

Education

07/2023 – Present

◇ M.Sc.(Engineering) in Computer Science and Engineering

Hajee Mohammad Danesh Science and Technology University (HSTU)
Dinajpur-5200, Bangladesh

Thesis title: *Biomedical Image Denoising with Hybrid Wavelet-Deep Learning Techniques*.
GPA : 3.625/4.00 (Thesis in progress)

Courses: Advanced Image Processing; Advanced Machine Learning; Wireless Sensor Networks; Advanced Database; Data Mining.

01/2017 – 12/2022

◇ B.Sc.(Engineering) in Computer Science and Engineering

Hajee Mohammad Danesh Science and Technology University (HSTU)
Dinajpur-5200, Bangladesh

Thesis title: *Multiclass Brain Tumor Classification Using Deep Learning*.
CGPA : 3.31/4.00

Relevant Coursework: Mechanics, Waves, and Optics; Electrical Engineering; Electronic Devices and Circuits; Digital Electronics and Pulse Techniques; VLSI Design; Calculus and Co-ordinate Geometry; Matrix, Ordinary and Partial Differential Equations; Numerical Methods.

Skills

Quantum Computing

◇ Areas – Quantum Algorithm Development, Quantum Machine Learning, Quantum Key Distribution; Frameworks & Tools – Qiskit, Cirq, PennyLane, Classiq

Machine Learning

◇ Areas – Image Processing, Computer Vision; Frameworks & Libraries – NumPy, Pandas, SciPy, Matplotlib, OpenCV, PyTorch, TensorFlow

Programming

◇ Object Oriented Programming with C++, Java, and Python. Data-structures and Algorithms, Database, Problem solving (300+ problems solved on CodeForces, HackerRank, UVa, etc.)

Web Dev

◇ HTML, CSS, JavaScript, PHP, MySQL

Languages

◇ Bangla (Native), English (IELTS Academic: **6.5**, CEFR Level: B2)

Others

◇ Linux, Git, LaTeX

Research Publications

1. **A. B. Rahman**, M. I. Afjal, and M. A. A. Mamun, “Mitigating Noise from Biomedical Images Using Wavelet Transform Techniques,” in *2025 4th International Conference on Electrical, Computer and Communication Engineering (ECCE)*, **Accepted and Presented**, 2025.
2. **A. B. Rahman**, M. Touhid Islam, M. R. Islam, M. Sohrawordi, and M. N. Sultan, “Enhanced Brain Tumor Classification from MRI Images Using Deep Learning Model,” in *2023 26th International Conference on Computer and Information Technology (ICCIT)*, 2023, pp. 1–6. DOI: [10.1109/ICCIT60459.2023.10441064](https://doi.org/10.1109/ICCIT60459.2023.10441064).

Employment

- 07/2023 – Present ♦ **Research Assistant (RA) at IoThink Lab**
Department of Computer Science and Engineering, Hajee Mohammad Danesh Science and Technology University (HSTU), Dinajpur-5200, Bangladesh
Supervisor: Dr. Md. Abdulla Al Mamun 🔗
- 03/2023 – 09/2023 ♦ **Lecturer of Computer Science and Engineering**
Govt. Shahid Akbar Ali Science and Technology College (SASTC) (Affiliated to HSTU) Thakurgaon, Bangladesh
Reference: Md. Rashedul Islam 🔗

Teaching Experience

- 03/2023 – 09/2023 ♦ Instructor, SASTC. Theory of Computation and Concrete Mathematics, CSE258 (Undergraduate)
- ♦ Instructor, SASTC. Computer Graphics and Image Processing, CSE405 (Undergraduate)
- ♦ Instructor, SASTC. Machine Learning and Pattern Recognition, CSE469 (Undergraduate)

Research and Projects

- 11/2024 ♦ **Guava Fruit Disease Dataset @ IoThink Lab** 🔗 : Collaborated on interdisciplinary research and dataset collection under the supervision of Dr. Md. Abdulla Al Mamun 🔗 .
- 08/2024 ♦ **Quantum Variational Classifier @ Womanium Program** 🔗 : Performed feature engineering (EDA, handling NaN values, normalization) and implemented a Quantum Variational Classifier for Penguin Classification.
- ♦ **Quantum Convolutional Neural Networks @ Womanium Program** 🔗 : Implemented a Quantum Circuit as a 3×3 kernel for the Quantum Convolutional layer and developed Ansatz(e) for MNIST Digit Classification.
- ♦ **Quantum Regression Model @ Womanium Program** 🔗 : Implemented a Quantum Machine Learning Model to learn and predict the sine function on the interval $[0, 2\pi]$.
- ♦ **Quantum Machine Learning for Anomaly Detection @ Womanium Program** 🔗 : Developed a hybrid quantum-classical machine learning model for anomaly detection in production, leading to project finalist recognition.

Miscellaneous Experience

Awards and Achievements

- 02/2025 ♦ **MIT iQuHACK 2025** 🔗 : Participated in the MIT's Quantum Hackathon and solved IONQ's challenge on Max Cut problem.
- 08/2024 ♦ **Womanium Quantum + AI 2024 Finalist** 🔗 : Program finalist and Womanium Quantum Solution Launchpad (QSL) fellowship nominee.
- 06/2024 ♦ **IBM Quantum Challenge 2024** 🔗 🔗 : Successfully completed all 6 labs, finishing with an unofficial rank of **11th** globally.
- 01/2016 ♦ **6th Bangladesh Academy of Sciences (BAS) Divisional Science Olympiad** 🔗 : Secured 3rd position in the division and was selected for the national level.
- 09/2015 ♦ **5th Physics Olympiad organized by Dinajpur Science Academy** 🔗 : Achieved 7th position.

Miscellaneous Experience (continued)

Professional Development

- 02/2025 – 05/2025 ◇ **QClass24/25 Spring Semester:** Attending the **European Union**-funded advanced quantum computing course, **ADEQUATE**, offered jointly by QWorld and QURECA. **Focus Areas:** Quantum Error Correction Codes (QECCs), Quantum Machine Learning (QML), Quantum Neural Networks (QNNs).
- 09/2024 – 12/2024 ◇ **QClass24/25 Fall Semester** 🌀: Achieved 96% in a 3 ECTS graduate-level program awarded by QWorld and the University of Latvia. **Skills:** Quantum Algorithms, Quantum Key Distribution (QKD).
- 06/2024 – 08/2024 ◇ **Womanium Quantum + AI Global Summer School 2024** 🌀: Completed coursework and attended keynotes, seminars, and lab tours conducted by researchers from MIT, IBM, NVIDIA, Fraunhofer ITWM, Xanadu, D-Wave, and other industry experts. **Skills:** Quantum Computing, Artificial Intelligence.
- 08/2024 ◇ **Qiskit Global Summer School 2024 – Quantum Excellence** 🌀 🌀: Completed a 10-day intensive boot camp by IBM Qiskit. **Skills:** Quantum Circuit Transpilation, Circuit Simulation, Quantum Error Suppression and Mitigation using **Qiskit**.
- 08/2024 ◇ **Classiq Diploma** 🌀: Demonstrated advanced proficiency in designing and developing quantum algorithms using Classiq's features and the high-level Qmod language. **Skills:** Quantum Algorithm Development.
- 08/2024 ◇ **Pennylane Diploma** 🌀: Successfully completed the Pennylane Quantum Machine Learning Challenge in the Womanium Global Quantum + AI Program 2024. **Skills:** Quantum Machine Learning (QML)
- 07/2024 ◇ **QNickel Diploma** 🌀: Successfully completed the QNickel workshop in Quantum Algorithms using QWorld's elementary-level tutorial QNickel. **Skills:** Quantum Algorithms.
- 07/2024 ◇ **QBronze Diploma** 🌀: Successfully completed the online training in Quantum Computing & Programming using QWorld's introductory tutorial Bronze-Qiskit. **Skills:** Probability Theory, Linear Algebra, Programming, Quantum Computing.
- 09/2020 ◇ **Python for Everybody Specialization** 🌀: Completed a Coursera specialization covering Python fundamentals, data structures, and a capstone project.

Volunteering Work

- 03/2025 – Present ◇ **Volunteer, QBangladesh – QCousins**
A regional chapter of QWorld 🌀, a global non-profit promoting quantum education, outreach, and research. I volunteered to establish QBangladesh as a platform for advancing quantum computing education and community engagement in Bangladesh.

Hobbies

- ◇ Chess 🌀
◇ Gardening