

# Mominul Islam

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🌐 [mominul-ssv.github.io](https://mominul-ssv.github.io)

🎓 [Google Scholar](#)

🔑 [ORCiD](#)

🐙 [GitHub](#)

🌐 [LinkedIn](#)

## Education

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**BSc** **North South University**, Computer Science and Engineering Jan. 2019 – Jun. 2023

- CGPA: 3.86/4.00 ( $\approx$ Top 4%)
- Graduated Summa Cum Laude
- Merit Scholarships: Spring 2020 – Fall 2022

## Teaching Experience

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**Lecturer** **Primeasia University** Oct. 2024 – Present  
Dept. of Computer Science and Engineering (Full-time)

Courses Taught:

- CSE485 / CSE486: Internet and Web Technology (Theory & Lab)
- CSE101 / PHN102: Introduction to Computer
- CIS201: Computer Applications

**Lab Instructor** **North South University** Jul. 2024 – Present  
Dept. of Electrical and Computer Engineering (Part-time)

Courses Taught:

- CSE225L: Data Structures and Algorithms (Lab)

**Teaching Assistant (GA / UGA)** **North South University** Feb. 2022 – Jun. 2024  
Dept. of Electrical and Computer Engineering 2 years 4 months

Graduate Assistant (GA) — (Jul. 2023 – Jun. 2024)

Undergraduate Assistant (UGA) — (Feb. 2022 – Jun. 2023)

Courses Assisted:

- CSE332: Computer Organization and Architecture
- CSE325: Concepts of Programming Language

## Industry Experience

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**Intern** **Beximco Communications Limited** Mar. 2024 – Jun. 2024  
Dept. of Business Systems 3 months

Key Responsibilities:

- ERP data verification and migration using Python.
- UI testing for web applications with test cases.
- Maintained project tracker for monitoring development of ongoing projects.

## Publications

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Mominul Islam, Hasib Zunair, Nabeel Mohammed, "CosSIF: Cosine similarity-based image filtering to overcome low inter-class variation in synthetic medical image datasets," *Computers in Biology and Medicine (CIBM)*, 2024 [[Paper](#)] [[Code](#)] [Q1, IF: 7.0]

## Research Interests

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- Computer Vision (Image Quality Assurance, Segmentation, Pose Estimation, Generative Models)
- Natural Language Processing (LLM Context Preservation, Q&A, XAI, Ethical AI)
- Quantum Machine Learning (Classical to Quantum Knowledge Transfer, Hybrid QML)

## Research in Progress

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CV — Frame Distillation Algorithm for Reducing Manual Annotation in Video Datasets

NLP — Context-Aware Semantic Chunking Algorithm for Retrieval-Augmented Generation

QML — Alzheimer's Disease Detection from 3D MRI Images with Classical-Quantum Neural Networks

## Projects

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- Cattle Pose Estimation Using a Semi-Annotated High-Resolution Image Dataset [[Code](#)] Jun. 2024
- Context-to-Question Generation Using Transformer Models [[Code](#)] [[Model](#)] Jan. 2024
- Bengali Text Summarization Using a Multilingual Encoder-Decoder Model [[Code](#)] Jun. 2023
- Skin Lesion Classification Using Cross-Stage CNNs and Transformers [[Code](#)] Sep. 2022
- Image-to-Image Translation with GAN to Address Class Imbalance [[Code](#)] Aug. 2022
- Heart Disease Detection Using Machine Learning [[Code](#)] Jul. 2022

## Courses

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Quantum Computing, Information and Communication

Jan. 2024 – Present

- Supervisor: [Dr. Mahdy Rahman Chowdhury](#)
- Status: [Part-A](#) : Completed (Marks: 80%+) — [Part-B](#) : Ongoing

## Academic Archive

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Introduction to Linear Algebra [[1](#)] [[2](#)]

Calculus and Analytical Geometry I [[1](#)] [[2](#)] [[3](#)]

Calculus and Analytical Geometry II [[1](#)] [[2](#)] [[3](#)]

Calculus and Analytical Geometry IV [[1](#)] [[2](#)]

Engineering Mathematics [[1](#)] [[2](#)] [[3](#)]

Probability and Statistics [[PDF](#)]

Discrete Mathematics [[PDF](#)]

Digital Logic Design [[PDF](#)]

Computer Organization and Architecture [[PDF](#)]

Pattern Recognition and Neural Network [[PDF](#)]

## Skills

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**Programming Languages:** C/C++, Python, Java

**ML Frameworks:** PyTorch, TensorFlow, OpenMMLab, Qiskit

**Web:** HTML, CSS, JavaScript, SQL

**Simulation Software:** Logisim, Proteus

**Typesetting:**  $\LaTeX$

## Languages

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**Bengali:** Native

**English:** Proficient

IELTS, Overall: 7.0 — (Reading: 7.5, Speaking: 7.5, Writing: 7.0, Listening: 6.5)

Oct. 2023

## References

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[Dr. Nabeel Mohammed](#)

Associate Professor

Dept. of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh

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[Dr. Mohammad Ashrafuzzaman Khan](#)

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