

Mominul Islam

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Education

BSc	Computer Science and Engineering , North South University	Jan. 2019 – Jun. 2023
	<ul style="list-style-type: none">• CGPA: 3.86/4.00 (\approxTop 2%)• Distinction: <i>Summa Cum Laude</i>• Merit Scholarships: <i>Spring 2020 – Fall 2022</i>	

Employment History

Academia

‡Lecturer	Primeasia University Department of Computer Science and Engineering	Oct. 2024 – Present (Full-time)
†Lab Instructor	North South University Department of Electrical and Computer Engineering	Jul. 2024 – Present (Part-time)
ϕTeaching Assistant (GA / UGA)	North South University Department of Electrical and Computer Engineering <i>Graduate Assistant (GA) — (Jul. 2023 – Jun. 2024)</i> <i>Undergraduate Assistant (UGA) — (Feb. 2022 – Jun. 2023)</i>	Feb. 2022 – Jun. 2024 2 years 4 months

Industry

Intern	Beximco Communications Limited Business Systems	Mar. 2024 – Jun. 2024 3 months
	Key Responsibilities: <ul style="list-style-type: none">• 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

Journal Articles

Citations: 14

- [1] M. Islam, M.J. Hasan, M.R.C. Mahdy, “CQ-CNN: A hybrid classical-quantum convolutional neural network for Alzheimer’s disease detection using diffusion-generated and U-Net segmented 3D MRI,” *arXiv*, 2025 [Paper] [Code] [Under Review → *Computerized Medical Imaging and Graphics (CMIG)*] [Q1, IF: 5.4]
- [2] M. Islam, H. Zunair, N. 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

Computer Vision (*Generative Models, Image Quality Assurance, 3D Imaging*), **Natural Language Processing** (*LLM Context Preservation, Lossless RAG*), and **Quantum Computing** (*Quantum Machine Learning, Hybrid Neural Networks*).

Research in Progress

- i] Frame Distillation Algorithm for Reducing Manual Annotation in Video Datasets (2024 – Present)
- ii] Context-Aware Semantic Chunking Algorithm for Clinical RAG-Based Q&A Systems (2024 – Present)

Projects

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

Certificates

Quantum Information, Quantum Computing and Quantum Machine Learning	Jan. 2024 – Jun. 2024
<ul style="list-style-type: none">• <i>Supervisor:</i> Dr. Mahdy Rahman Chowdhury• <i>Recommendation / Certification:</i> [PDF]	

Academic Archive

Introduction to Linear Algebra [α] [β]	Probability and Statistics [PDF]
Calculus and Analytical Geometry I [α] [β] [γ]	Discrete Mathematics [PDF]
Calculus and Analytical Geometry II [α] [β] [γ]	Digital Logic Design [PDF]
Calculus and Analytical Geometry IV [α] [β]	Computer Organization and Architecture [PDF]
Engineering Mathematics [α] [β] [γ]	Pattern Recognition and Neural Network [PDF]

Number of Scanned Pages: 2,698 (Mathematics: 2,141, Computer Science: 557))

Teaching History

†CSE225L: Data Structures and Algorithms Lab	‡CSE485/CSE486: Internet and Web Technology
†CSE115L: Structured Programming Language Lab	‡CSE101/PHN102: Introduction to Computer
ϕCSE332: Computer Organization and Architecture	‡CIS201: Computer Applications
ϕCSE425: Concepts of Programming Languages	

Skills

Programming Languages: C/C++, Python
ML Frameworks: PyTorch, TensorFlow, OpenMMLab, Qiskit
Web: HTML, CSS, JavaScript, SQL
Simulation Software: Logisim, Proteus
Typesetting: L^AT_EX

Languages

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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