Mominul Islam

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🎓 [Google Scholar](#)   [ORCiD](#)   [GitHub](#)   [LinkedIn](#)

Education

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

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

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

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

- 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

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

— 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

Quantum Computing, Information and Communication   Jan. 2024 – Present
- Supervisor: *Dr. Mahdy Rahman Chowdhury*
- Status: *Part-A : Completed (Marks: 80%+) — Part-B : Ongoing*

Academic Archive

Introduction to Linear Algebra [1] [2]   Probability and Statistics [PDF]
Calculus and Analytical Geometry I [1] [2] [3]   Discrete Mathematics [PDF]
Calculus and Analytical Geometry II [1] [2] [3]   Digital Logic Design [PDF]
Calculus and Analytical Geometry IV [1] [2]   Computer Organization and Architecture [PDF]
Engineering Mathematics [1] [2] [3]   Pattern Recognition and Neural Network [PDF]

Skills

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

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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