

# Mominul Islam

☎ (+880) 179 594 8308

✉ [mominul.islam05@northsouth.edu](mailto:mominul.islam05@northsouth.edu)

🌐 [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%)

## Experience

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**Lab Instructor**

July. 2024 – Present

Dept. of Electrical and Computer Engineering  
North South University

– CSE225L: Data Structures and Algorithms Lab

**Intern**

Mar. 2024 – Jun. 2024 3 months

Business Systems

Beximco Communications Limited

**Teaching Assistant (GA / UGA)**

Feb. 2022 – Jun. 2024

Dept. of Electrical and Computer Engineering  
North South University

2 years 4 months

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

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

– CSE332: Computer Organization and Architecture

– CSE425: Concepts of Programming Language

## Publications

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**CosSIF: Cosine similarity-based image filtering to overcome low inter-class variation in synthetic medical image datasets**, \*Mominul Islam, Hasib Zunair, Nabeel Mohammed

Mar. 2024

*Computers in Biology and Medicine* (Impact Factor: 7.7 — Q1)

Paper: [doi.org/10.1016/j.compbiomed.2024.108317](https://doi.org/10.1016/j.compbiomed.2024.108317) — Code: [GitHub](#)

## Research Interest

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– Computer Vision (*Image Quality Assurance, Classification, Segmentation, Pose Estimation, Generative Models*)

– Natural Language Processing (*LLM Context Preservation, Q&A, XAI, Ethical AI*)

## AI/ML Projects

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**Fine-Tuned the Pre-Trained T5 Transformer Model for Context-to-Question Generation**

Jan. 2024

- Code: [Kaggle](#)
- Model: [Hugging Face](#)
- ML Domain: Text Generation, Sequence-to-Sequence Modeling

**Fine-Tuned the Pre-Trained mT5 Transformer Model for Abstractive Bengali Text Summarization**

Jun. 2023

- Code: [GitHub](#)
- ML Domain: Text Summarization

### Image-to-Image Translation via GAN to Address Class Imbalance

Sep. 2022

- Ref. Code: [GitHub](#)
- ML Domain: Generative Adversarial Networks
- GAN Architecture: Nvidia's StyleGAN2-ADA

### Skin Lesion Classification Using Cross-Stage CNNs and Transformers

Aug. 2022

- Ref. Code: [GitHub](#)
- ML Domain: Binary & Multi-Class Image Classification
- Models: ConvNeXt, Swin-Transformer, ViT

### Heart Disease Detection Using Machine Learning

Jul. 2022

- Code: [GitHub](#)
- ML Domain: Binary Classification
- Algorithms: Logistic Regression, Random Forest, Decision Tree, KNN, Naive Bayes

## Honors and Awards

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### Bachelor's Degree Honors:

– *Summa Cum Laude (Highest Distinction)*

### Merit Scholarships During Bachelor's Studies:

– 50% Tuition Waiver (Summer 2022 - Fall 2022)

– 25% Tuition Waiver (Spring 2020 - Spring 2022)

## Skills

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

**Simulation Software:** Logisim, Proteus

**Frameworks / Libraries:** PyTorch, TensorFlow, LangChain, Scikit-learn

**Development Platforms:** Colab, Kaggle, AWS ML

**Version Control:** GitHub, Git

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

**Miscellaneous:** LaTeX

## Languages

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**Bengali:** Native

**English:** Proficient

**IELTS, Overall:** 7.0 — S: 7.5, R: 7.5, W: 7, L: 6.5 — [Certificate](#)

Oct, 2023

## Certificates

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2022 Coursera, Deep Learning Specialization, Neural Networks and Deep Learning; Grade: 97% — [Certificate](#)

## References

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### Dr. Nabeel Mohammed

Associate Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh

Email: [nabeel.mohammed@northsouth.edu](mailto:nabeel.mohammed@northsouth.edu)

Contact Number: (+880) 172 050 5591

### Dr. Mohammad Ashrafuzzaman Khan

Assistant Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh

Email: [mohammad.khan02@northsouth.edu](mailto:mohammad.khan02@northsouth.edu)

Contact Number: (+880) 175 257 6450