Mominul Islam

📞 (+880) 179 594 8308   ✉ mominul.islam05@northsouth.edu   🌐 mominul-ssv.github.io

🎓 [Google Scholar](https://scholar.google.com)   ⓘ [ORCiD](https://orcid.org)   🐙 [GitHub](https://github.com)   in [LinkedIn](https://linkedin.com)

Education

BSc   **North South University**, Computer Science and Engineering   Jan. 2019 – Jun. 2023
- CGPA: 3.86/4.00 ($\approx$Top 4%)

Experience

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
Business Systems   3 months
Beximco Communications Limited

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

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

CosSIF: Cosine similarity-based image filtering to overcome low inter-class variation in synthetic medical image datasets, **<u>Mominul Islam</u>*, 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 ↗ — Code: [GitHub](https://github.com) ↗

Research Interest

– 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

Fine-Tuned the Pre-Trained T5 Transformer Model for Context-to-Question Generation   Jan. 2024
- Code: [Kaggle](https://kaggle.com) ↗
- Model: [Hugging Face](https://huggingface.co) ↗
- 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](https://github.com) ↗
- 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

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

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

Bengali: Native
English: Proficient
IELTS, Overall: 7.0 — S: 7.5, R: 7.5, W: 7, L: 6.5 — Certificate ↗   Oct, 2023

Certificates

2022 Coursera, Deep Learning Specialization, Neural Networks and Deep Learning; Grade: 97% — Certificate ↗

References

Dr. Nabeel Mohammed
Associate Professor
Department of Electrical and Computer Engineering
North South University
Dhaka, Bangladesh
Email: 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 ↗
Contact Number: (+880) 175 257 6450