

Mohammad Shariful Islam

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EDUCATION

Noakhali Science and Technology University (NSTU)

Noakhali, Bangladesh

B.Sc. in Computer Science and Telecommunication Engineering, CGPA: 3.25/4

Jan 2018 – May 2023

SKILLS

Python, R, C/C++, Java, SQL (MySQL, PostgreSQL, SQLite), Pandas, NumPy, SciPy, scikit-learn, XGBoost, TensorFlow, Keras, PyTorch, Hugging Face Transformers, spaCy, NLTK, OpenCV, Matplotlib, Seaborn, Plotly, Jupyter Notebook, Google Colab, RStudio, PyCharm, VS Code, Git, GitHub, GitLab, HTML, CSS, JavaScript, Django, LaTeX/Overleaf.

UNDERGRADUATE COURSEWORK

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- **Programming & Algorithms** — Object Oriented Programming with C++ (3.00 cr) & Lab (1.50 cr); Object Oriented Programming with JAVA (3.00 cr) & Lab (1.50 cr); Algorithm Design and Analysis (3.00 cr) & Lab (1.50 cr).
 - **Math & Theory** — Matrices, Vector Analysis and Co-ordinate Geometry (2.75 cr); Complex Variables, Statistics and Probability (3.00 cr); Theory of Computation (3.00 cr).
 - **Electronics & Signals** — Digital Electronics and Pulse Technique (2.00 cr) & Lab (1.00 cr); Signals and Systems (2.00 cr).
 - **Communication & Networking** — Electronic Communication (3.00 cr) & Lab (1.00 cr); Data Communication (3.00 cr); Computer Networking Lab (1.00 cr); Microwave and Satellite Communication (3.00 cr) & Lab (1.00 cr); Optical Fiber Communication (3.00 cr) & Lab (1.00 cr); Wireless Communication and Networks (3.00 cr) & Lab (1.00 cr); Advanced Wireless Communications (3.00 cr); Multimedia Communications (3.00 cr).
 - **Software, Web & Security** — Web Technologies (3.00 cr) & Lab (1.00 cr); Software Engineering and Information System Design (3.00 cr) & Lab (1.50 cr); Cryptography and Network Security (3.00 cr) & Lab (1.00 cr).
 - **Project & Viva** — Project and Thesis (3.00 cr); Viva Voce (2nd Year) (1.00 cr); Viva Voce (3rd Year) (1.00 cr); Viva Voce (4th Year) (1.00 cr).

EXPERIENCE

Research Assistant — Bangladesh University of Business and Technology

Dhaka, Bangladesh

Research in ML, DL, and NLP; design and implementation of models

Apr 2025 – Present

- Built a reproducible end-to-end pipeline (ingestion → preprocessing → training → evaluation) with Python, Pandas/NumPy, scikit-learn, PyTorch/TensorFlow, and Jupyter/Colab.
- Implemented baseline and deep models; added configurable training loops (early stopping, checkpoints) and experiment configs (YAML/JSON) for fast ablations.
- Packaged research code as a small library/CLI; standardized environments with conda/pip and optional Docker for portability.

Course Instructor — aiQuest Intelligence

(Remote / Bangladesh)

Live teaching: Research Methodology and Machine Learning

Jan 2024 – Mar 2025

- Designed a hands-on syllabus and weekly labs using Jupyter/Colab; provided starter notebooks and solution keys.
- Created assignments and mini-projects with rubrics; collected via GitHub and delivered code reviews with actionable feedback.
- Held office hours (debugging, experiment design, result interpretation); maintained materials in a shared repo/drive.

STEM Mentor (O-Level Physics & Additional Mathematics) — Private Chattogram, Bangladesh
/ **One-to-one Tutoring**

Mentoring O-Level students in Physics and Additional Mathematics

2022 – 2024

- One-to-one mentoring for O-Level Physics and Additional Mathematics with structured lessons, exam-focused practice, and regular progress tracking.

PUBLICATIONS

JOURNAL ARTICLES

- [J1] **M. S. Islam**, M. A. T. Rony, M. R. Hossain, S. Alshathri, W. El-Shafai. *Zero-BertXGB: An Empirical Technique for Abstract Classification in Systematic Reviews*. *IEEE Access*, 13:18418–18440, 2025. doi:10.1109/ACCESS.2025.3531778.
- [J2] **M. S. Islam**, M. A. T. Rony, T. Sultan. *GastroVRG: Enhancing Early Screening in Gastrointestinal Health via Advanced Transfer Features*. *Intelligent Systems with Applications*, 23:200399, 2024. doi:10.1016/j.iswa.2024.200399.
- [J3] **M. S. Islam**, M. A. T. Rony. *CDK: A high-performance transfer feature technique for early detection of osteoarthritis*. *Journal of Pathology Informatics*, 15:100382, 2024. doi:10.1016/j.jpi.2024.100382.
- [J4] **M. S. Islam**, M. A. T. Rony, S. Alfarhood, D. Che. *Elevating driver behavior understanding with RKND*. *IEEE Access*, 12:65780–65798, 2024. doi:10.1109/ACCESS.2024.3397725.
- [J5] **M. S. Islam**, M. A. T. Rony. *Navigating the global stock market: correlation, prediction, and external factors*. *Iran Journal of Computer Science*, 7(3):397–422, 2024. doi:10.1007/s42044-024-00177-w.
- [J6] M. A. T. Rony, **M. S. Islam**, T. Sultan, S. Alshathri, W. El-Shafai. *MediGPT: Exploring Potentials of Conventional and Large Language Models on Medical Data*. *IEEE Access*, 12:103473–103487, 2024. doi:10.1109/ACCESS.2024.3428918.
- [J7] T. Sultan, M. A. T. Rony, **M. S. Islam**, S. Alshathri, W. El-Shafai. *SumGPT: A Novel Multimodal Framework for Radiology Report Summarization to Improve Clinical Performance*. *IEEE Access*, Early Access, 2025.
- [J8] M. S. Sayed, M. A. T. Rony, **M. S. Islam**, et al. *A Novel Deep Learning Approach for Forecasting Myocardial Infarction Occurrences with Time Series Patient Data*. *Journal of Medical Systems*, 48:53, 2024. doi:10.1007/s10916-024-02076-w.
- [J9] J. O. Bappi, M. A. T. Rony, **M. S. Islam**, S. Alshathri, W. El-Shafai. *A Novel Deep Learning Approach for Accurate Cancer Type and Subtype Identification*. *IEEE Access*, 12:94116–94134, 2024.
- [J10] T. Sultan, M. A. T. Rony, **M. S. Islam**, S. Aldosary, W. El-Shafai. *MemesViTa: A Novel Multimodal Fusion Technique for Troll Memes Identification*. *IEEE Access*, 12:177811–177828, 2024. doi:10.1109/ACCESS.2024.3505614.
- [J10] N. Thalji, A. Raza, **M. S. Islam**, N. A. Samee, M. M. Jamjoom. *AE-Net: Novel Autoencoder-Based Deep Features for SQL Injection Attack Detection*. *IEEE Access*, 11:135507–135516, 2023.

CONFERENCE PAPERS

- [C1] **M. S. Islam**, M. A. T. Rony. *BanVATLLM and BanTSS: A Multimodal Framework and a Dataset for Detecting Toxic Speech in Bangla and Bangla-English Videos*. In *WiNLP 2024 (Phase II)*, 2024 (online). OpenReview PDF.

- [C2] **M. S. Islam**, M. A. T. Rony, M. Ahammad, S. M. N. Alam, M. S. Rahman. *An innovative transformer model and datasets for safeguarding religious sensitivities*. *Procedia Computer Science*, 233:988–997, 2024. doi:10.1016/j.procs.2024.03.288.
- [C3] **M. S. Islam**, M. A. T. Rony, P. Saha, M. Ahammad, S. M. N. Alam, J. O. Bappi, *et al.* *Language Analysis in NLP*. In *Proceedings of Trends in Electronics and Health Informatics (TEHI 2023)*, 2024, p. 73.
- [C4] **M. S. Islam**, M. A. T. Rony, P. Saha, M. Ahammad, S. M. Alam, J. O. Bappi, *et al.* *The Multi-class Paradigm: How Transformers Are Reshaping Language Analysis in NLP*. In *International Conference on Trends in Electronics and Health Informatics*, 2024, pp. 73–88.
- [C5] **M. S. Islam**, M. A. T. Rony, P. Saha, M. Ahammad, S. M. N. Alam, M. S. Rahman. *Beyond Words: Unraveling Text Complexity with a Novel Dataset and a Classifier Application*. In *Proceedings of the 26th International Conference on Computer and Information Technology (ICCIT 2023)*, 2023.
- [C6] M. A. T. Rony, **M. S. Islam**. *Evaluating Large Language Models for Summarizing Bangla Texts*. In *Eighth Widening NLP Workshop (WiNLP 2024) Phase II*, 2024.
- [C7] M. A. T. Rony, **M. S. Islam**, P. Saha, F. T. Johora, M. Ahammad, S. M. N. Alam, *et al.* *Deciphering Diabetes: Illuminating Prognostic Insights with an Interpretable Machine Learning Framework*. In *International Conference on Intelligent Systems and Sustainable Computing*, 2024.
- [C8] A. S. Ipa, M. A. T. Rony, **M. S. Islam**. *Empowering Low-Resource Languages: TraSe Architecture for Enhanced Retrieval-Augmented Generation in Bangla*. In *Proceedings of the 1st Workshop on Language Models for Underserved Communities (LM4UC 2025)*, Albuquerque, New Mexico, May 2025, Association for Computational Linguistics, pp. 8–15. doi:10.18653/v1/2025.lm4uc-1.2 | ACL Anthology.
- [C9] T. Sultan, M. M. H. Sarker, M. K. B. Bhuiyan, M. Saib, **M. S. Islam**, M. R. Hossain, *et al.* *ViTDeBERTaNews: A Comparative Study of Single-modal, Multimodal, and LLM Techniques for Detecting Fake News*. In *2025 International Conference on Control, Automation and Diagnosis (ICCAD)*, pp. 1–6, 2025.
- [C10] T. Sultan, H. A. Akbarpour, W. El-Shafai, M. Saib, M. K. B. Bhuiyan, **M. S. Islam**, A. T. Azar, C. B. Njima. *MemeFusionNet: A Cross-Linguistic Multimodal Model for Identifying Troll Memes*. In *2025 International Conference on Control, Automation and Diagnosis (ICCAD)*, pp. 1–6, 2025. doi:10.1109/ICCAD64771.2025.11099160.

PROJECTS

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- **Customer Segmentation** — Targeted marketing clusters. [Link](#).
 - **Heart Disease Prediction** — ML-based risk prediction. [Link](#).
 - **Face Verification System** — DL-based detection and recognition. [Link](#).

CERTIFICATIONS

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- Data Science Capstone (Certificate).
 - Natural Language Processing Specialization (Certificate).
 - Deep Learning Specialization (Certificate).
 - Web Design for Everybody (Certificate).
 - Machine Learning for Materials Boot Camp (NUMBR), University of Wisconsin–Madison.

EXTRACURRICULAR ACTIVITIES

NSTU CSTE Club — Executive Member (Nov 2021 – Dec 2022).

REFERENCES

Dr. Nahid Akter — Professor & Chair, Dept. of Computer Science and Telecommunication Engineering (NSTU). nahid_akter@nstu.edu.bd

Dr. Ashadun Nobi — Professor, Dept. of CSTE (NSTU). ashad@nstu.edu.bd

A Q M Sala Uddin Pathan — Assistant Professor, Dept. of CSTE (NSTU). salauddin.cste@nstu.edu.bd