

Niloy Farhan

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RESEARCH INTERESTS

Multilingual & Low-Resource NLP, Vision-Language Models, Multimodal Learning, LLM Evaluation

EDUCATION

Master of Science in Computer Science and Engineering

CGPA: 4.00 out of 4.00

Thesis: Evaluating the Effect of Synthetic Images on Low-Resource VQA with Low-Parameter Vision-Language Models

Supervisor: Dr. Md. Golam Rabiul Alam

BRAC University

September 2024 - August 2026

Bachelor of Science in Computer Science

CGPA: 3.94 out of 4.00

Thesis: Research on the latest trends in Bangla Named Entity Recognition

Supervisor: Dr. Farig Yousuf Sadeque

BRAC University

January 2020 - September 2023

ACADEMIC EMPLOYMENT

Lecturer (Full Time)

Department of CSE, BRAC University

June 2025 - Present

Dhaka, Bangladesh

- Course Taught - Natural Language Processing, Machine Learning & Numerical Methods
- Developing course materials and supervised student projects
- Supervising undergraduate thesis students

Adjunct Lecturer

Department of CSE, BRAC University

January 2024 - May 2025

Dhaka, Bangladesh

Adjunct Lecturer

Dhaka International University

October 2023 - March 2024

Dhaka, Bangladesh

Undergraduate Teaching Assistant

Department of CSE, BRAC University

October 2022 - September 2023

Dhaka, Bangladesh

PUBLICATIONS & MANUSCRIPTS

* = Equal Cont., C = Conference, U = Under Review, T = Thesis

- [C] Niloy Farhan, I. T. Awishi, M. H. K. Mehedi, M. M. Alam, and A. A. Rasel, “Ensemble of Gated Recurrent Unit and Convolutional Neural Network for Sarcasm Detection in Bangla,” 2023 IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC), Mar. 2023. [DOI]
- [C] D. Sumit, A. K. R. Srizon, S. K. Rodela, A. H. Asha, M. Afrin, Niloy Farhan, and F. Sadeque. “When Does Knowledge Distillation Hurt? Reliability-Aware Distillation for Low-Resource Language Summarization” accepted at AACL-IJCNLP 2026. [Preprint]
- [U] Niloy Farhan*, S. S. Joy*. “MedPRESS: A Multi-turn Benchmark for Patient-Pressure-Induced Medical Sycophancy in LLMs” Under review in ACL Rolling Review, August 2026 cycle. [Preprint & Dataset]
- [U] M. T. Rahman, M. T. Safin, N. R. Afnan, A. I. Mahir, M. S. Saquib, Niloy Farhan, and F. Sadeque. “BanglaHateMeme: A Multimodal Benchmark for Fine-Grained Hate Speech Detection in Bangla Memes.” Under review in ACL Rolling Review, August 2026 cycle.
- [U] Niloy Farhan*, M. A. Uddin*. “Rank Radii Transfer as Quantiles: Taxonomic Placement and Sub-Taxonomy Construction for Unseen Species.” Under review at WACV 2027.
- [T] Niloy Farhan and M. G. R. Alam. “Evaluating the Effect of Synthetic Images on Low-Resource Visual Question Answering with Low-Parameter Vision-Language Models.” MSc thesis, 2026. Planned submission to ACL ARR, October 2026 (NAACL 2027).
- [T] Niloy Farhan, S. S. Joy, T. B. Mannan, and F. Sadeque, “Gazetteer-Enhanced Bangla Named Entity Recognition with Bangla BERT Semantic Embeddings K-Means-Infused CRF Model,” BSc thesis, 2023. [Preprint & Thesis]

RESEARCH SUPERVISION & MENTORING

Undergraduate Thesis & Research Supervision, BRAC University

2025 - Present

- Supervised/co-supervised 20 undergraduate research groups: 15 thesis and 5 project groups involving approximately 88 students.
- Served as primary supervisor for 7 groups and co-supervisor for 13 groups.

- Supervised/co-supervised 5 successfully defended undergraduate theses and currently mentoring multiple ongoing thesis and research projects.
- Research areas include multilingual and low-resource NLP, LLM evaluation and interpretability, multimodal AI, medical AI, federated learning, computer vision, and AI alignment.
- Selected supervised research has been accepted for publication in an ACL venue.

Selected Ongoing/Recent Research Supervision:

- *When Does Knowledge Distillation Hurt? Reliability-Aware Distillation for Low-Resource Language Summarization* - Supervisor - Accepted at AACL-IJCNLP 2026 Conference
- *Detecting Sandbagging in Language Models via Cross-Context Consistency and Behavioral Fingerprinting* - Co-Supervisor
- *Interpreting the Internal Mechanisms of Program Repair in Large Language Models* - Co-Supervisor
- *Exploring the Limits of Pruning: Task-Specific Neurons, Model Collapse, and Recovery in Task-Specific Large Language Models* - Co-Supervisor - Best Thesis Award, Summer 2025
- *Towards Robust NLP for Bengali-English Code-Mixed Language* - Co-Supervisor
- *RBHate: Hate Speech Detection in Romanized Bangla Social Media* - Co-Supervisor

INVITED TALKS & WORKSHOPS

Invited Speaker, Talking to Machines: The Power of Natural Language Processing

April 2025

IEEE Robotics & Automation Society, BRAC University Student Branch Chapter

- Delivered an invited talk on natural language processing, language models, and contemporary NLP applications.

Instructor, Training on Development of Multimodal Models

Summer 2025

Computer Vision and Intelligent Systems Lab, BRAC University

- Conducted training on multimodal AI, machine learning, and deep learning for undergraduate students.

HONORS, AWARDS & FUNDINGS

- **BRAC University** - Highest Distinction in MSc in Computer Science and Engineering **2026**
- **BRAC University** - Merit Scholarship — Postgraduate - 100% Tuition Waiver **2026**
- **BRAC University** - **Excellence in Teaching Award** **2025**
- **BRAC University** - Highest Distinction in BSc in Computer Science **2023**
- **BRAC University** - Merit Scholarship — Undergraduate - 75% Tuition Waiver **2023**
- **BRAC University** - Vice Chancellor's Honor List **2023**
- **BRAC University** - Dean's Honor List **2023**
- **Dhaka Education Board** - Awarded a General Scholarship for HSC Examination Results **2019**

TECHNICAL SKILLS

- **Programming:** Python, C++, Java, C
- **Machine Learning & AI:** PyTorch, Hugging Face Transformers, TensorFlow, Scikit-learn
- **LLMs, VLMs & NLP:** PEFT/LoRA, transformer architectures, multimodal model fine-tuning and inference, LangChain
- **Data & Scientific Computing:** Pandas, NumPy, Matplotlib
- **Research & Development Tools:** Git, Linux, Jupyter

ENGLISH PROFICIENCY

IELTS Band: **7.5** - Listening: **8.5**, Reading: **8**, Writing: **6.5**, Speaking: **6.5**

2024

REFERENCE

Dr. Md. Golam Rabiul Alam

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Dr. Farig Sadeque

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Md. Saiful Islam

Senior Lecturer, Department of Computer Science and Engineering, BRAC University, Dhaka

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