

Deeparghya Dutta Barua

✉ deeparghya.csedu@gmail.com 📞 +1 (480) 560-5907 📍 850 S River Dr, Tempe, AZ 85281, US

🐙 Github [in](#) LinkedIn [🔗](#) Personal Website

Education

2025-08 – Present Tempe, AZ, US	PhD Student, Computer Science <i>Arizona State University</i> CGPA (Current): 4.00/4.00
2019 – 2024-01 Dhaka, Bangladesh	Bachelor of Science, Computer Science and Engineering <i>University of Dhaka</i> CGPA: 3.76/4.00
2018 Dhaka, Bangladesh	Higher Secondary Certificate <i>Notre Dame College</i> GPA: 5.00/5.00

Professional Experience

2024-10 – 2025-05 Dhaka, Bangladesh	Krait 🔗 <i>Software Engineer</i> R&D, Core architectural design
2024-03 – 2024-10 Dhaka, Bangladesh	Penta Global Limited <i>Research and Development Engineer (Machine Learning)</i> Agentic LLM systems, RAG systems
2024-10 Dhaka, Bangladesh	Hands-On Deep Learning & Open-Source Large Language Model, CAIL@CSEDU 🔗 <i>Trainer</i> Two-day workshop hosted by CAIL@CSEDU on large language models, finetuning and MLOps.

Publications

2026	CASHEW: Stabilizing Multimodal Reasoning via Iterative Trajectory Aggregation 🔗 <i>Pre-print</i> Chaoyu Li, Deeparghya Dutta Barua , Fei Tao, Pooyan Fazli
2025	Chitrojera: A Regionally Relevant Visual Question Answering Dataset for Bangla 🔗 <i>ECML PKDD 2025</i> Deeparghya Dutta Barua , Md Sakib Ul Rahman Sourove, Md Fahim, Fabiha Haider, Fariha Tanjim Shifat, Md Tasmim Rahman Adib, Anam Borhan Uddin, Md Farhan Ishmam, Md Farhad Alam
2025	BANTH: A Multi-label Hate Speech Detection Dataset for Transliterated Bangla 🔗 <i>NAACL 2025 (Findings)</i> Fabiha Haider, Fariha Tanjim Shifat, Md Farhan Ishmam, Deeparghya Dutta Barua , Md Sakib Ul Rahman Sourove, Md Fahim, Md Farhad Alam

- 2025 **Enhancing Heterogeneous Multi-Agent Cooperation in Decentralized MARL via GNN-driven Intrinsic Rewards** [↗](#)
AAMAS 2025 (Extended Abstract)
Jahir Sadik Monon, **Deeparghya Dutta Barua**, Md Mosaddek Khan
- 2024 **BanglaTLit: A Benchmark Dataset for Back-Transliteration of Romanized Bangla** [↗](#)
EMNLP 2024 (Findings)
Md Fahim, Fariha Tanjim Shifat, Fabiha Haider, **Deeparghya Dutta Barua**, Md Sakib UI Rahman Sourove, Md Farhan Ishmam, Md Farhad Alam

Projects

- 2022-12 – present **Cambia** [↗](#)
A compact disc ripper log checking utility.
A command-line utility and a web UI to analyse log files generated by various compact disc ripping programs. It is designed to make media archival metadata more accessible.
Stack: Rust (backend), SvelteKit, Tailwind CSS (Web UI frontend)
- 2024-05 **Rongali** [↗](#)
A Bangla transliteration annotation tool.
A web application for quickly annotating Banglish text to Bangla using keyboard shortcuts. Uses the Google Transliteration API, with enhanced support for acronyms, numerals and certain vowels.
Stack: SvelteKit, Tailwind CSS

Skills

Programming Languages

Python, Rust, TypeScript/JavaScript, Java, C#, Dart, Kotlin, C/C++

Web/Frontend Tooling

SvelteKit, Tailwind CSS, NextJS, React, Flutter, ASP.NET Razor

Machine Learning/Data Science

PyTorch, vLLM, Pandas, Seaborn, NumPy, Matplotlib

Database

PostgreSQL, Firebase, SQLite

Achievements

Grand Jury Finalist (Top 7)

Robi Datathon 3.0, national data science competition organised by Robi Axiata Limited in 2024

Champion (CSE_FRD)

DUCTF 2023, Capture The Flag competition organised by University of Dhaka

Scores

- 2024 **GRE**
325/340
- 2024 **TOEFL**
117/120

References

Md Mosaddek Khan [↗](#), *Associate Professor*,

Department of Computer Science and Engineering, University of Dhaka
mosaddek@du.ac.bd, +880 1768-408402

Md Farhad Alam Bhuiyan [↗](#), *Head of Research and Development*, Penta Global Limited

pdcsedu@gmail.com, +880 1534-575354