

Mohammad Sadat Hossain

sadatho2014@gmail.com

B.Sc. - Computer Science and Engineering
Bangladesh University of Engineering & Technology

+880-1875-027794

[Portfolio Site](#)
[GitHub](#) | [LinkedIn](#)

Demra, Dhaka, Bangladesh

ABOUT ME

I am a passionate and curious learner. Beyond my academic pursuits, I have actively explored diverse areas of Computer Science, including competitive programming, hackathons, and deep learning competitions. I am eager to embrace opportunities that enable me to apply my problem-solving skills and curiosity to address real-world challenges while further expanding my expertise.

EDUCATION

•**Bangladesh University of Engineering & Technology (BUET)** *Feb 2020 - March 2025 (Expected)*
B.Sc. in Computer Science and Engineering, Current CGPA: 3.99 Dhaka, Bangladesh

RESEARCH WORKS

- Language Models for Phylogenetic Trees** *Ongoing*
Undergraduate Thesis
- Developing deep learning models for phylogeny and MSA datasets.
 - Investigating tree representation learning for bioinformatics applications.
- Enhancing LLMs for Solving Graph Problems in Natural Language** *Ongoing*
CSE472 - Machine Learning Project
- Extended work on the [NeurIPS 2023 paper](#), improving benchmarks with advanced prompting techniques.
 - Applied prompt engineering and fine-tuned pretrained language models, achieved much superior results.
- OCT Image Analysis for Medical Imaging** *Ongoing*
IEEE SPS VIP Cup 2024
- Focused on image denoising, super-resolution, and classification tasks.
 - Fine-tuned state-of-the-art models ([Restormer](#), [SwinIR](#)).
 - Generated synthetic dataset for supervised training.

PROJECTS

- TaskFlow - AI Based Task Assistant | [Demo](#)** *Feb. 2024*
CSE408 - Software Engineering Project [GitHub](#)
- Comprehensive task planner, with an AI Assistant for content generation.
 - Track task progress and work in collaboration.
 - Implemented using SvelteKit, Express.js and PostgreSQL.
- ExploreMate - Traveler Friendly App | [Demo](#)** *Oct. 2023*
CSE326 - Information System Design Project [GitHub](#)
- Designed a web app in phases and implemented partially in a 5-person group.
 - Planned BPMN, Entity Relationship, class, sequence, collaboration and state diagrams.
 - Implemented the travel plan suggestion module using SvelteKit, Express.js and relevant APIs.
- Harmony - Social Media Platform for Students** *Sep. 2022*
CSE216 - Database Sessional Project [GitHub](#)
- Designed and implemented a full stack web application for real-time learning resource management and sharing in a 3-person team.
 - Implemented user login, news feed, chat, voting, file sharing, event management features.
 - Used Svelte/TailwindCSS stack for frontend development, and PL/pgSQL for database transactions.
- Wazuh Exploration Project | [Demo](#)** *Feb. 2022*
CSE322 - Computer Security Project
- Open source XDR (Extended Detection and Response) and SIEM (Security Information and Event Management).
 - Explored various features extensively in a 3-person group, including Malware Detection, File Integrity Module etc.

•Football Club Manager - Desktop App for Player Management | [Demo](#)

July 2021

CSE108 - JavaFX Project

[GitHub](#)

- Built a UI application using JavaFX.
- Used multithreaded socket programming in Java for server-client communication.
- Scraped data of over 16,000 football players, implemented searchable database and real time player exchange.

•Yet Another C Compiler

March 2023

CSE310 - Compilers Sessional

[GitHub](#)

- Implemented a partial compiler for C language in C++.
- Used flex and bison for frontend lexing and syntax analysis.
- Wrote backend targeting the Intel 8086 platform assembly.

•DxBall Remake

March 2020

CSE102 - iGraphics Project

[GitHub](#)

- Built a remake of the classic DxBall game in C.
- Used OpenGL based iGraphics library.

SKILLS & ACTIVITIES

- **Programming Language:** C, C++, Java, Python, Bash, JavaScript, TypeScript, 8086 Assembly
- **Framework/Tool:** PyTorch, Scikit-learn, Transformers, vLLM, SvelteKit, Express.js, TailwindCSS, Git, Docker, TeX, Beamer, Wazuh, BeautifulSoup
- **Database:** PostgreSQL, Oracle, PL/pgSQL, Database Design
- **Co-curricular Activity:** Programming Contests, Competitive Programming, Technical Writing
- **Extra-curricular Activity:** Debating, Public Speaking

ACHIEVEMENTS

- **Champion**, Hackathon (DevOps), BUET CSE Fest 2023
- **Finalist**, Robi Datathon 2024 (withdrew due to final exams) 2024
- **24th Place**, ICPC Asia Dhaka Regional Contest (310 teams) 2024
- **Dean's List Award**, Achieved in all levels 2021-2023
- **University Merit Scholarship**, Achieved in all terms 2020-2023
- **15th Place**, Inter University Programming Contest, BUET CSE Fest (105 teams) 2023
- **4th Place**, AI Contest, BUET CSE Fest 2022
- **2nd Runners Up**, Dhaka Region, NASA Space Apps Challenge 2021