

Education

Bachelor of Computer Science & Engineering, 3rd year

Expected Graduation: 2026

Bangladesh University of Engineering and Technology(BUET)

Other Courses: [CS50X](#), [CS50W](#), [CS50AI](#)

Experience

Research Assistant | Remote | (November, 2025 - Present)

- My role at [sysmodeler.ai](#) involves working on novel research problems in SysML generation with AI.

Backend Engineer | Remote | (December, 2024 - July, 2025)

- Worked as a backend engineer at [Systemica Institut](#). It's a German-based company that provides training to Psychiatrists. Designed, developed and maintained a scalable File Processing API with Python & FastAPI. Introduced architectural changes, design principles and added E2E tests to ensure scalability & robustness of the API. | [Design Document](#).

Freelance developer (2023 - 2024)

- I've worked as a freelance developer for two years. I've made applications for small- to medium-scale businesses. Some of my clients include [Rantir](#), [ChaarChakka](#) etc.

Open source contributor (2023 - Present)

- Contributing to a range of open-source projects, from **small tools to large enterprise systems**. I've contributed to enterprise level projects like [Apache Seata](#), [edX Platform](#), [The Plone Foundation](#) and many more. Check out my [GitHub](#) to see other contributions that I made in the past.

Awards & Achievements

IEEE VIP Cup - Champions | 2025

- Our team NeuronX emerged as the [Champions](#) of the IEEE ICIP 2025 VIP cup for our work on **real-time multimodal drone detection, tracking and payload classification**. We worked with RGB and infrared modalities under significant constraints, delivering robust models for complex environments. I had the honor of presenting our solution live at ICIP 2025 in Anchorage, Alaska.

AI Engineering Hackathon - Champions | 2025 | [Design Document](#)

- Our team BUET XFACTOR won the AI Engineering Hackathon organized by [Poridhi](#) and [Brain Station 23](#). We developed an **intent-based search system with multilingual capabilities**, competing against **86 teams** from **300+ participants** nationwide and achieving optimal performance with minimal resources.

Therap Javafest - Top 10 Finalist | 2024

- Achieved top 10 finalist position among 1300+ participants at Therap Javafest 2024. Built a comprehensive personalized mentorship platform with advanced features including **session booking, real-time chat, payment integration and AI-powered recommendations**. Invited to present at the grand finale at [Therap BD Limited](#) Headquarters.

Skills

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- **Programming Languages:** C, C++, Python, JavaScript, TypeScript, Java
 - **Front-End Development:** HTML, CSS, JavaScript, TypeScript, React, Tailwind, Bootstrap, Chart.js
 - **Backend Development:** REST, gRPC, microservices architecture, Django, Spring Boot, Flask, FastAPI
 - **Cloud & Infra:** DigitalOcean, Netlify, Firebase, Docker, Kubernetes, Terraform
 - **Machine Learning:** scikit-learn, TensorFlow, PyTorch, nltk
 - **Tools & Others:** Git, Postman, Axios, VS Code, MS Word, Blender, Adobe PS, Adobe Premiere Pro

Noteworthy Academic Projects

Compiler | [GitHub](#)

(May, 2025 - July, 2025)

- A full compiler for a subset of the **C programming language**, built for an academic course - CSE310: Compiler Design. Implements the complete compilation pipeline from **tokenizing to code generation, featuring modern C++ symbol tables, flex lexical analysis, ANTLR4 parsing and x86 Assembly output** executable on x86 emulators.

Other Projects

Vehicle Buy/Sell Platform | [Live Site](#)

(February, 2024 - March, 2024)

- I built the **backend** for ChaarChakka, a vehicle marketplace, using **Django Rest Framework, React, and TypeScript**. This production-grade project enhanced my skills in **scalability, performance, and API hosting on DigitalOcean**.

Treasure Hunt Organizer | [GitHub](#)

(December, 2023 - January, 2024)

- I co-developed TreasureKoii, a platform that **lets you organize treasure hunts**. Users can create teams and take part in treasure hunts. This app lets you **create puzzles and participants solve them** to get to the next level. The overall user experience is very interactive and fun with **real-time leaderboards, announcements** and many more features.

To learn more about me and my work, please visit my [website](#).