Mehedi Khan

(Dhaka, Bangladesh)

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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.

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
➔ 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

➔ **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 r**eal-time leaderboards, announcements** and many more features.

To learn more about me and my work, please visit my **website.**