

# Nafiz Khan

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## Profile

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I am a final-year B.Sc. student in Computer Science and Engineering at BRAC University, aiming to build a career in software engineering. I am a full-stack developer specializing in the MERN stack, with experience in building scalable web applications. Currently, I am researching noise-injection techniques to defend large language models (LLMs) against quantization attacks without requiring architecture changes or heavy fine-tuning. With a strong foundation in data structures, algorithms, and system design, I am passionate about developing efficient software solutions and contributing to forward-thinking tech initiatives that drive meaningful innovation.

## Skills

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- **Languages:** Python, C, JavaScript (ES6+), SQL, Solidity, PHP, Assembly
- **Frameworks & Libraries:** MERN Stack, Tailwind CSS, Socket.IO, PyTorch, Scikit-learn, Web3.js
- **Tools & Platforms:** Docker, Hyperledger Fabric, Postman, OAuth2, Passport.js, n8n, Puppeteer
- **AI & Processing:** Groq AI, Compromise.js, pdf-parse, mammoth, Regex
- **Other:** Git, GitHub, Linux, Figma, Arduino, STM32, Raspberry Pi

## Education

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| <b>BRAC University</b> — BSc in Computer Science and Engineering                        | Jan 2022 – Jan 2026 |
| • GPA: 3.63 / 4.00  |                     |
| <b>Adamjee Cantonment College</b> — Higher Secondary Certificate (HSC)                  | 2018 – 2020         |
| • GPA: 5.00 / 5.00  |                     |
| <b>Bangladesh International School and College</b> — Secondary School Certificate (SSC) | 2004 – 2018         |
| • GPA: 5.00 / 5.00  |                     |

## Projects

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### Personal Portfolio Website

- Created a personal portfolio website to showcase projects, skills, and achievements, utilizing HTML, CSS, and JavaScript for a responsive design.
- Tools Used: HTML, CSS, JavaScript

### TrackUp — Job Application Management Platform

- Built a platform for managing job applications with tracking, reminders, analytics, AI chatbot, resume parsing, and job recommendations via NLP.
- Tools Used: React.js, Tailwind CSS, Node.js, Express.js, MongoDB, Socket.IO, Docker, Vercel, Render

### Thesis Management System

- Developed a web-based platform to streamline thesis submission, progress tracking, and supervision for students and faculty.
- Tools Used: MongoDB, Express.js, React.js, Node.js (MERN stack), HTML, CSS

### DisasterGuard DApp — Blockchain Disaster Recovery Training Platform

- Built a decentralized application (DApp) for training and awareness in disaster recovery, leveraging blockchain for secure certification and training records.
- Tools Used: Solidity, Ethereum, Web3.js, React.js, Ganache

### BlockProperty — Decentralized Property Registry on Hyperledger Fabric

- Blockchain-based property registry system ensuring transparent, secure, and tamper-proof land ownership records.
- Tools Used: Hyperledger Fabric, Node.js, Docker, Smart Contracts (Chaincode)

### VaDE — Variational Deep Embedding for Face Clustering

- Implemented Bayesian deep clustering on Olivetti Faces dataset.
- Tools Used: Python, PyTorch, Scikit-learn, NumPy

### Rush-n-Dodge – GLproject

- 2D driving simulator game in Python using Pygame and OpenGL.
- Tools Used: Python 3.x, Pygame, OpenGL

### Software-Course-Management-System

- Web-based platform for managing university courses, allowing administrators to create courses, assign instructors, enroll students, and track academic progress.
- Tools Used: HTML, CSS, Node.js, React, MongoDB

### Voting System Interface

- Simple and secure voting system supporting user authentication, candidate selection, and vote management.
- Tools Used: Assembly

### Sanitary-Napkin-Dispenser-with-Auto-Refill-Signal

- Arduino-based automated sanitary napkin dispenser designed to improve hygiene access in public and private spaces.
- Tools Used: Arduino IDE and embedded components

### The Science of Cinema: Predicting Movie Ratings

- Implemented machine learning models to predict movie ratings based on various features, analyzing data from multiple sources.
- Tools Used: Python, Pandas, Scikit-learn

### YouTube UI Clone

- Developed a user interface clone of YouTube to practice frontend development skills, focusing on layout and responsiveness.
- Tools Used: HTML, CSS, JavaScript

## Experience

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**IT Instructor**, Zentorra — Dhaka, Bangladesh

Feb 2025 – Jul 2025

- Delivered recorded classes on Python fundamentals and project-based learning for beginner-level students.

**Private Tutor**, Self-Employed — Dhaka, Bangladesh

Jan 2024 – Apr 2025

- Tutored undergraduates in Python Data Structures and Computer Graphics, focusing on recursion, trees, OpenGL, and academic support.

## Research Experience

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**Undergraduate Researcher**, BRAC University, CSE

Jan 2025 – Present

**Title:** Noise-Injection Defense Against Quantization Attacks on LLMs

- Investigating controlled noise in model weights to defend LLMs against quantization attacks.
- Evaluating effectiveness without architecture changes or heavy fine-tuning.

## Achievements

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- Completed an **Intermediate ChatGPT** course on DataCamp, focusing on advanced prompt engineering and understanding GPT architecture.
- Completed the **Learn Blockchain and Cryptocurrency from Beginning** course on Udemy, gaining foundational knowledge in blockchain, Bitcoin, crypto exchanges, and DeFi.
- Completed the **Intro to Machine Learning** course on Kaggle, learning practical data science and ML applications.
- Completed the **Introduction to Microsoft 365 Copilot** course on Microsoft Learn, understanding AI integration in productivity tools.
- Completed the **AI Foundation** course on AI Certs, covering core AI concepts, machine learning, ethics, and business applications.
- Completed the **Intermediate SQL** course on DataCamp, mastering aggregate functions, sorting, grouping, and data presentation.