

SHEIKH SAFWAN HOSSAIN

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EDUCATION

Bachelor of Science - Computing Science with Specialization in Software Practice Sep 2021 – May 2025

University of Alberta, Edmonton, AB

Relevant coursework: Introduction to Software Engineering in **Java OOP**, Advanced Games Programming in **C++**, Practical Programming Methodology in **C**, Software Process and Product Management in **JavaScript**

PROFESSIONAL EXPERIENCE

Bank Asia PLC, Dhaka, Bangladesh May 2024 – Aug 2024

Machine Learning Intern

- Developed machine learning models using **Python**, **NumPy**, and **TensorFlow** to predict customer churn and loan default with 85% accuracy, to automate business decisions.
- Collaborated with MIS team to built random forest models using bank's customer data to predict loan defaulters, achieving 92% detection rate and reducing false positives by 30% compared to existing rule-based systems.

PROJECTS

MP4 to MP3 Converter May 2024 – May 2024

A scalable web application built using **Python** for converting video files to audio easily.

- Designed and implemented RESTful microservices architecture with API gateway, handling requests through REST endpoints and used JWT-based authentication for securing 100% of service access.
- Developed a notification system capable of handling 50,000+ messages using SMTP.
- Built and containerized services using **Docker** and **Kubernetes**, reducing CI/CD lead time by 40% and ensuring high availability and load balancing.
- Enhanced system scalability and reliability by implementing **RabbitMQ** for message queuing and using **MongoDB** for large media file uploads, capable of supporting 10,000+ users.

NexaPulse

Jan 2024 – Apr 2024

Collaborated in a team of five to develop a distributed social networking web application with **Django** serving a REST API on the back-end and **Svelte** on the front-end.

- Worked in a dynamic group, adapting to changes in deadline and effectively communicating with team members.
- Designed a user-friendly front-end and implemented 3 key dynamic features—liking, commenting, and **AJAX** across all posts, boosting user engagement by 25%.
- Increased team efficiency by 20% by adhering to best practices, including participating in weekly scrum meetings, performing 50+ unit tests, committing code to **GitHub**.

Four-Colour Map Theorem Solver - DevelopEd 2.0

Sep 2023 – Sep 2023

Collaborative web project demonstrating a graph-based solution to the famous Four-Colour Map Theorem by letting the user draw a map and receive back a coloured one.

- Developed using **Next.js**, **Flask**, **clingo API**.
- Contributed by developing the routing system on the backend, managing database and authentication.

BlackBox

Sep 2023 – Dec 2023

Co-developed an inventory management Android application in a team of six using **Java** and **Android Studio**.

- Practiced **Object-Oriented Programming** and **Agile Methodologies**.
- Implemented sorting function and displaying images of items on the screen following user friendly UI/UX design.
- Communicated with clients to finalize user requirements, ensuring precise alignment with project objectives.

TECHNICAL SKILLS

Programming: Python, C, C++, C#, Java, JavaScript, TypeScript, R, Lisp, Prolog, CUDA C.

Web Frameworks: Svelte, React, React Native, Django, Flask.

Developer Tools: Docker, Kubernetes, Git, GitHub, Linux, Heroku, Nginx, RabbitMQ, Android Studio.

DBMS: MongoDB, SQLite, PostgreSQL, MS SQL Server.