

Mushfiqur Rahman Chowdhury

Software Engineer | Samsung R&D Institute Bangladesh

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Portfolio: <https://mushfiqur-chowdhury05.github.io/>

EDUCATIONAL BACKGROUND

University of Dhaka, Bangladesh

Jan 2019 - Dec 2023

BSc. in Software Engineering

- CGPA: 3.79/4.00

Graduate Record Examinations (GRE)

Jul 2025

- Score: 323/340, Q (170/170), V (153/170), AWA (4.5/6.0)

International English Language Testing System (IELTS)

Jun 2024

- Overall: 7.5 (Listening: 8.5, Reading: 8.0, Speaking: 7.0, Writing: 7.0)
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EXPERIENCE

Software Engineer (Embedded Systems)

Samsung R&D Institute Bangladesh, Dhaka, Bangladesh

Dec 2023 - Present

- Samsung Buds Audio Project
 - Developed and deployed new features on the Galaxy Buds platform, with a focus on Galaxy Buds 3 and Galaxy Buds 3 Pro devices.
 - Diagnosed and resolved over 100 bugs reported by the testers and market users by analysing the device logs from the earbuds, identifying the root cause of the bugs and developing patches to fix the bugs.
- Research & Innovation
 - Submitted DOI on preserving privacy for virtual assistants in multi-user scenario
 - Developed a PoC for determining the stress level of a user based on data collected from earbud sensors.
- **Technical Skills:** Real-time Operating Systems (RTOS), Android Studio, LLM security, Deep Learning, C/C++, Java, Kotlin

Research Intern

May 2025 - Present

University of Texas at Arlington, TX, USA

- Working under the supervision of Dr. Faysal Hossain Shezan.
- Working to develop a tool that would allow KLEE based symbolic execution on large scale tightly coupled projects such as Tensorflow.
- **Technical Skills:** Program analysis, Automated Software Testing, LLMs for Software Engineering, C/C++

Researcher

Jun 2025 - Present

University of New Mexico, NM, USA

- Working under the supervision of Dr. Abdullah Mueen.
- Working to develop a tool that would perform analysis on the ethereum blockchain data to link address clusters based on temporal patterns.
- **Technical Skills:** Blockchain, Data Mining, Python

Software Engineering Intern

Samsung R&D Institute, Dhaka, Bangladesh

Jan 2023-July 2023

- Developed a prototype that showcases the use of schedulers using Real Time Operating Systems (RTOS) for the Buds Audio platform.
 - Developed a web application used internally for employee evaluation and quiz-taking at SRBD.
 - **Technical Skills:** PHP, Real-time Operating Systems (RTOS)
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RESEARCH PROJECTS

Tensorflow-KLEE

University of Texas at Arlington, TX, USA

May 2025-Present

- Under the supervision of Dr. Faysal Hossain Shezan, I am working to develop a tool that would perform symbolic execution on Tensorflow code.
- The approach generates a test harness for testing particular Tensorflow APIs and extracts its related dependencies.
- **Technical Skills:** C++, Program Analysis, Automated Software Testing.

BorderBlaze: Boundary Point Segmentation from Aerial LiDAR Point Cloud Data

University of Dhaka, Dhaka, Bangladesh

Jul 2023-Dec 2023

- Developed a web-based tool to evaluate boundary point segmentation algorithms on a LiDAR point cloud dataset of building roof structures in a landscape.
- Implemented three different algorithms for evaluation: Neighbourhood Based Approach, Concave Hull Algorithm and Delaunay Triangulation.
- **Github Link:** <https://github.com/mushfiqiit/BorderBlazeSPL3>
- **Technical Skills:** FastAPI, Python, Computer Vision

Detection of Various Crop Diseases From Images, A Convolution Neural Network based approach

University of Dhaka, Dhaka, Bangladesh

Sep 2023-Dec 2023

- Developed a CNN-based approach to detect plant diseases from an image dataset of plant leaves.
- Implemented image processing techniques such as pixel scaling and image augmentation.
- **Report Link:** <https://mushfiquirchowdhury05.github.io/files/CropDiseaseDetection.pdf>
- **Technical Skills:** CNN, Python, Image Processing

Bangladesh Institute of Capital Market (BICM) website

Bangladesh Institute of Capital Market, Dhaka, Bangladesh

Apr 2022-Nov 2022

- Developed the backend of the official BICM website that uses python web scraping techniques to extract stock market data from the official Dhaka Stock Exchange (DSE) website.
- Solved multiple vulnerabilities of the application by using context-based program analysis techniques which were exposed due to the dynamic changes in the DSE website.
- **Website Link:** <https://dfl.bicm.ac.bd/>
- **Technical Skills:** Python, Django, Web scraping, Program analysis.

ACADEMIC PROJECTS

Save The Date: A Party Planner

Jan 2022-Jun 2022

University of Dhaka, Dhaka, Bangladesh

- Developed a party planning web application which serves as a centralised hub, connecting various party service providers (caterers, decorators, vendors etc.) with potential customers.
 - Developed a recommendation system using K-Nearest Neighbor algorithm to generate a complete plan based on user inputs such as, date, budget, and location.
 - **Github Link:** <https://github.com/saleheenshafi9/SaveTheDate>
 - **Technical Skills:** Django, Python, ReactJS
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ACHIEVEMENTS

Excellence Award, Samsung R&D Institute Bangladesh

Received excellence award in recognition of my contribution to the company during October-December of the year 2024. During that time, I developed a PoC for calculating stress score of an individual using earbud's sensor data.

Certificate: <https://mushfiqur-chowdhury05.github.io/files/ExcellenceAward.pdf>

Inter Collegiate Programming Contest (ICPC) Dhaka Regional Contest 2021

- **Official Rank:** 23 (qualified for the contest from a pool of 1747 teams participating across Bangladesh)
- **Team Name:** DU_Untitled(4)
- **Standings:** <https://icpc.global/regionals/finder/Dhaka-2022/standings>
- **ICPC ID:** <https://icpc.global/ICPCID/OTLKXQQ6H3EW>

Inter Collegiate Programming Contest (ICPC) Asia Dhaka Regional Site Online Preliminary Contest 2020

- **Rank:** 49 among 1272 teams
 - **Team Name:** IITDU_DeathStars
 - **Standings:** <https://icpc.global/regionals/finder/Dhaka-Preliminary-2021/standings>
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SKILLS

Programming Languages: Python, C/C++, Java, JavaScript, PHP, Kotlin

Frameworks/Libraries: FastAPI, Django, ReactJS, MySQL, Real-time OS, Android SDK

Soft Skills: Planning, Presentation, Teamwork, Documentation, Leadership

REFERENCES

Faysal Hossain Shezan
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Texas, USA
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Kazi Muheymin-Us-Sakib
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Institute of Information Technology
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