Mushfiqur Rahman Chowdhury

Lecturer | Daffodil International University

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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)

RESEARCH EXPERIENCE

Researcher   **May 2025 - Present**
University of Texas at Arlington, TX, USA
- Working under the supervision of Dr. Faysal Hossain Shezan.
- Working to develop a novel methodology that would allow KLEE based symbolic execution on large scale tightly coupled projects. Our work is currently focused on applying the methodology and detecting vulnerabilities in the Tensorflow Github repository.
- The concept involves extracting program slices from the Tensorflow code repository and its related dependencies so that it can be made executable using KLEE.
- **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

TEACHING EXPERIENCE

Lecturer (Full-time)   **Sep 2025 - Present**
Daffodil International University, Dhaka, Bangladesh
I conduct classes and evaluation, design course materials and create assignments
Fall 25 courses:
- Natural Language Processing
- Introduction to Data Science
- Compiler Design Lab

Credentials: https://faculty.daffodilvarsity.edu.bd/profile/cse/mushfiqurcse.html

INDUSTRY EXPERIENCE

Software Engineer (Embedded Systems)   **Dec 2023 - Sep 2025**
Samsung R&D Institute Bangladesh, Dhaka, Bangladesh
- **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

Experience Certificate: https://mushfiqur-chowdhury05.github.io/files/SamsungExp_MR_Chowdhury.pdf

Software Engineering Intern   **Jan 2023 - Jul 2023**
Samsung R&D Institute Bangladesh, Dhaka, Bangladesh
- I developed a prototype using an STM32 microcontroller that imitates and demonstrates the use of schedulers in the Galaxy Buds platform.
- I developed an employee evaluation system that generate a quiz based on pre-defined questions and scores the employees of the company.
- I conducted multiple knowledge transfer sessions with my teammates.

RESEARCH PROJECTS

Tensorflow-KLEE   **May 2025-Present**
University of Texas at Arlington, TX, USA
- 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   **Sep 2023-Dec 2023**
University of Dhaka, Dhaka, Bangladesh
- 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://mushfiqur-chowdhury05.github.io/files/CropDiseaseDetection.pdf
- Technical Skills: CNN, Python, Image Processing

Bangladesh Institute of Capital Market (BICM) website   **Apr 2022-Nov 2022**
Bangladesh Institute of Capital Market, Dhaka, Bangladesh
- 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/
- **Techincal 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/saleheenshafiq9/SaveTheDate
- **Technical Skills:** Django, Python, ReactJS

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

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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