

MEHBUBUL HASAN AL-QUVI

quvi007@gmail.com | +8801877828385 | [Website](#) | [GitHub](#)

EDUCATION

Bangladesh University of Engineering and Technology (BUET)
Bachelor of Science in Computer Science and Engineering

April 2019 – July 2024
CGPA: 3.84/4.00

RESEARCH EXPERIENCE

Summer Research Internship, OrderLab, University of Michigan
Remote Research Intern advised by Prof. Ryan Huang

June 2024 – Present

- Co-developed a framework for enhancing the flexibility and the runtime safety of eBPF programs.
- Contributed to the framework's code generation module and the custom IR for code instrumentation.
- Wrote passes that moved some static checks to runtime and improved runtime safety.
- Curated a dataset of accepted and rejected eBPF programs from real-world projects for evaluation.
- Conducted evaluations of scalability, safety, and verifier enhancements.
- Co-authored a paper on the framework, currently under submission to **OSDI 2025**.

BUET CSE, and Samsung Research Bangladesh

February 2024 – December 2024

Research Assistant advised by Prof. Anindya Iqbal and Prof. Sukarna Barua

- Co-developed an automated app-testing framework that utilizes large language models as autonomous agents.
- Proposed and implemented the framework's verification module for enhanced reliability.
- Led the initiative for dataset collection and fine-tuning language models.
- Co-authored a paper on the framework which is currently under review by Samsung Research Bangladesh.

ACHIEVEMENTS AND AWARDS

RISE Research Grant

2023

Bangladesh University of Engineering and Technology

- Awarded the RISE Research Grant for outstanding research contributions and potential.

Dean's List Award, Merit Scholarship, and Admission Test Scholarship

2019 – 2024

Bangladesh University of Engineering and Technology

- Awarded after each term for academic excellence.

Second Runner-Up, DUITs IT Fest Hackathon

2014

Dhaka University IT Society

- Secured the second runner-up position for developing EmerApp.

PROJECTS (SELECTED)

Paging Framework and Scheduler for xv6 Operating System

2023

- Implemented a simple paging framework and a lottery scheduler for the xv6 OS.

QCC - Tiny C Compiler | [GitHub](#)

2022

- Built a tiny C compiler using C++ that translates C code into assembly code.

4-Bit MIPS CPU | [GitHub](#)

2022

- Built hardware and a virtual simulation for the CPU pipeline.

Ray-Tracing in OpenGL | [GitHub](#)

2023

- Implemented rasterization and a ray-tracing pipeline in C++ and OpenGL.

CryptoSys - Basic Crypto-System for Secured Communication GitHub	2023
<ul style="list-style-type: none"> Implemented a basic crypto-system utilizing AES and Diffie-Hellman algorithm. 	
HTTP Server GitHub	2022
<ul style="list-style-type: none"> Built a multi-threaded HTTP server using Java and socket programming. 	
Microcontroller based Automated Traffic Signaling System GitHub	2022
<ul style="list-style-type: none"> Built an automated traffic signaling system with Arduino. 	
Gradery - An Online CMS GitHub	2022
<ul style="list-style-type: none"> Developed an online course management system (CMS) for BUET CSE. 	
KagOJ - An Online Judge GitHub	2023
<ul style="list-style-type: none"> Co-developed an online judge platform for coding practice and contests. 	
Bounce Game for Windows GitHub	2019
<ul style="list-style-type: none"> Built the desktop version of the popular mobile game, Bounce. 	
EmerApp - Helper in Emergency	2014
<ul style="list-style-type: none"> Developed an Android app to assist users during emergencies. 	

ACTIVITIES

Director of Technology, BUET Cyber-Security Club	2023 – 2024
<i>Bangladesh University of Engineering and Technology</i>	
<ul style="list-style-type: none"> Organized workshops on various cyber-security topics and arranged Capture-the-Flag (CTF) competitions. 	
Student Mentor	2019 – 2024
<i>Bangladesh University of Engineering and Technology</i>	
<ul style="list-style-type: none"> Mentored several undergraduate students in research and university projects. Mentored around 20 high school students in informatics, physics and mathematical olympiads. 	

LANGUAGES

English: TOEFL 111/120 (Reading: 29, Listening: 26, Speaking: 29, Writing: 27)
Bengali: Native Proficiency

SKILLS

Programming: C/C++, C#, Bash, Java, Python, SQL, JavaScript, HTML/CSS, R, \LaTeX , Kernel Hacking and eBPF
Frameworks: Node.js, Express.js, React
Miscellaneous: Vim, Emacs, Git, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, pandas, NumPy, Matplotlib

REFERENCE

Ryan Huang	University of Michigan, Ann Arbor
<i>Associate Professor, Computer Science and Engineering</i>	<i>ryanph@umich.edu</i>
Anindya Iqbal	Bangladesh University of Engineering and Technology
<i>Professor, Computer Science and Engineering</i>	<i>anindya@cse.buet.ac.bd</i>
Sukarna Barua	Bangladesh University of Engineering and Technology
<i>Associate Professor, Computer Science and Engineering</i>	<i>sukarnabarua@cse.buet.ac.bd</i>