

Md. Rizwanul Haque

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RESEARCH INTERESTS Blockchain, Networks and Distributed Systems, Information Security, Machine Learning

EDUCATION **University of Dhaka** **CGPA:** 3.59/4.00
B.Sc. in Computer Science and Engineering Jan 2019- 2024

RESEARCH EXPERIENCE **Collaborative Proof-of-Work: A Dynamic Approach to Fair and Efficient Blockchain Mining**

Have been engaged in a research project focused on creating a collaborative mining pool within blockchain systems, specifically on the **Ethereum** blockchain. Worked extensively with the **Go-Ethereum v1.11.6** source code to develop innovative solutions that enhance **fairness** in reward distribution, improve **energy efficiency**, and foster **trustless collaboration** within the existing **Proof-of-Work** consensus protocol. Contributing to the advancement of **decentralization** by enabling more equitable participation in mining operations. This research project has significant implications for energy optimization, inclusivity, and decentralization in blockchain ecosystems. Notably, this work has been accepted at the **2025 IEEE 15th Annual Computing and Communication Workshop and Conference (CCWC 2025)**

RELEVANT COURSES COMPLETED Computer Networking, Database Management Systems, Design and Analysis of Algorithms, Operating Systems, Introduction to Data Science, Artificial Intelligence, Parallel and Distributed Systems, and Internet of Things.

TECHNICAL SKILLS **Programming Languages:** C, C++, C#, Java, Javascript, Dart, Golang
Frameworks and Libraries: React JS, Node JS, Flutter, Windows Presentation Forms (WPF)
Database: MySQL, MongoDB, Firebase
Tools: Git, LaTeX, Postman, Wireshark

INDUSTRY EXPERIENCE **Software Engineer** (Windows Application),
Samsung R&D Institute, Bangladesh.
Duration: February, 2024 - Now

PROJECTS

Automatic File Comparison Tool

A windows application to compare files, directories, images etc.

I am serving as the **main developer** of a versatile file comparison tool for **Samsung R&D Institute, Bangladesh**. The tool, built using **C#** and the **WPF** library, supports comparison of a wide range of file types, including text files, compressed files, binary files, and tabular data formats. It also features recursive comparison of files and sub-folders between directories and image comparison capabilities. This project emphasizes precision and efficiency in file management and analysis.

Elect Me .

An online voting web app

"Elect Me" was developed using **React JS** for the frontend and engineered responsive **RESTful APIs** with **Node JS** for the backend. Integrated **MongoDB** as the database to manage and store election data. The app allows a manager to create elections, generate a voter list by including email addresses, and provide voters with unique IDs to cast their ballots. The option with the highest votes at the end of the election period is declared the winner.

Lexis .

A fun word forming game

Designed with **Flutter** to provide a smooth cross-platform experience, Lexis pushes players of all ages to demonstrate their word-building and vocabulary abilities. **Firestore** authentication is a core component of the app, guaranteeing a safe and convenient login experience. Behind the scenes, I developed a robust **RESTful API** using Flask to handle game data efficiently. Lexis uses **MongoDB** as a dependable backend for storing and retrieving player data, enabling seamless and scalable data storage.

Quizzr

An exciting quiz app

"Quizzr" is an app built using **Flutter** that allows users to take quizzes from a predefined set of questions across various subjects. The app also supports the creation of new custom quizzes with fresh questions, and users can join these quizzes using a unique token. **Firebase** was integrated for secure user authentication.

Snake & Ladder

A fun ludo game

Developed a Snake & Ladder based Ludo game using **C++** and **SDL**, where players navigate a board featuring snakes and ladders to reach the final destination..

TEST SCORES Test Of English as a Foreign Language (TOEFL):

Reading	Listening	Speaking	Writing	Total
29	29	25	22	105

REFERENCES

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