

# Mohd Ramzan

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## Education & Coursework

**University of Washington Seattle, Paul G. Allen School of Computer Science**  
BS, Computer Science, Math minor

Expected Grad: June 2027

**Coursework:** Data Structures, Algorithms, Data Management, Artificial Intelligence, Computer & Network Security, Discrete Math I & II, Linear Algebra, System & Software Tools, Hardware Software Interface

## Experience

### The Verse | Software Development Intern

June 2024 - Sept 2024

- Developed a MERN webapp in Agile environment, primarily through creating & deploying a Node.js backend with MongoDB.
- Architected database with scalability and security focus, enabling safe support for **1100+ users**.
- Developed a frontend audio frequency modulation system with React. Implemented frontend features & refactored existing webapp.
- Created a secure **JWT authentication/authorization** pipeline and managed frontend & backend production environment.

### Xiaomi India | Software Development Engineer Intern

June 2023 - Sept 2023

- Saved the team **\$50,000+** in query costs per year by building a full-stack query system to help on-call devs handle tickets more efficiently.
- Designed and implemented a system to harvest, store, and render over **1.1 million** new records per week.
- Built RESTful APIs using Java (Spring Boot) with asynchronous job queues for high-throughput data handling.
- Implemented secure authentication and deployed the platform on internal cloud infrastructure using Docker and Nginx.

### Bangladesh University of Engineering and Technology School of CS | Undergraduate Teaching Assistant

Mar 2023 - Dec 2023

- TA CSE 107, the **600 student**, final intro series CS course, teaching students about OOP, linked lists, binary trees & recursion.
- Teach & help plan 1-hour sections 2x weekly to 21 students, hold office hours to debug code, grade approx. 20 assignments per week.

### Bangladesh University of Engineering and Technology Underwater Robotics | Software Lead

Jan 2023 - June 2023

- Oversaw software development in Python & Godot for the 2023-2024 season. Architected & developed code on Linux, leading autonomous motion development. Led **10-member** software team & helped manage **40+ member** org.
- Using Python & PyTorch, created a CV project to detect and classify organisms for the 2023 BDET ML competition, placing **2nd nationally**.

### BitCrew | Co-Founder, Co-Director

Jan 2023 - Aug 2023

- Started & managed a **16 staff member** charitable organization that taught over **250 students** Python and Java.
- Created long-term roadmaps and coordinated their execution. Created **48 hours** of content in both languages and built up to high-level concepts like data structures and OOP. Raised over **\$7,000** for multiple partner charities.

## Research

### IAC Lab Bangladesh University of Engineering and Technology | Undergraduate Research Intern

Jan 2023 - Dec 2023

- Working under Professor Dr. Anindya Iqbal & Lead Engineer Dr. Sadia Sharmin on Project Rotary, a web app which collects computer vision labels from over **10,000 users**, which Google Maps uses for route creation. Maintain the app and its related APIs.
- Full stack dev in JavaScript, Scala (Slick framework) & PostgreSQL, now mainly resolving backend tickets & pushing to production weekly.
- Developed features to simplify users' experience labeling sidewalks. Created APIs for tables collecting complex user data.

### Bangladesh University of Engineering and Technology | Undergraduate Research Assistant

Oct 2023 - Dec 2023

- Studied average-case behavior of randomized Quicksort under input distributions common in Bangladeshi e-commerce datasets.
- Developed analytical bounds using probabilistic recurrence relations and verified them through empirical simulations in Python.
- Extended analysis to hybrid sorting algorithms and proposed a distribution-aware switching heuristic to improve performance.

## Projects

### Producers-Forte | Audio Processing Machine Learning | [GitHub](#)

Sep 2024 - Nov 2024

- Built & trained **deep CNNs** with PyTorch to predict traits about songs, helping producers create similar sounds.
- Created a Flask server for the app. Wrote frontend in React. Containerized the application with **Docker**.
- Created/managed dataset of over **10,000 songs** and wrote Python scripts for data manipulation & audio processing.

### Bhaghini | Full Stack E-Commerce Platform | [GitHub](#)

Nov 2024 - Feb 2025

- Built full-stack e-commerce site showcasing Bengali heritage clothing using React and Spring Boot.
- Implemented user login with JWT, product search, cart, checkout. Added shop creation for sellers with image uploads.

### Personal Website | [GitHub](#)

May 2025 - Jun 2025

- Built responsive portfolio website using React with dynamic UI features including animated text transitions, smooth scrolling navigation, and modern gradient-based design. Structured with reusable components showcasing professional experience and technical expertise.

### Campus Maps

Apr 2025 - Jun 2025

- Built Java and React-based GUI displaying shortest path between UW campus buildings. Applied CSE 331 data structures & algorithms.

## Skills

- Languages:** Java, Python, JavaScript, Scala, TypeScript, PostgreSQL, MySQL, MongoDB, C, C++, HTML5/CSS
- Frameworks/Libraries:** Node & Express.js, Flask, React, Spring Boot, Slick, PyTorch, Pandas, NumPy
- Developer Tools/Misc Skills:** Git, Docker, AWS, Kubernetes, Heroku, Shell, Linux, OOP, REST APIs