

# Muhammad Zafar

[mkzafar23@gmail.com](mailto:mkzafar23@gmail.com) | [Linkedin](#) | [GitHub](#) | [Portfolio](#)

## Education

Expected Grad. May 2026 | Bachelor of Engineering, Computer Engineering | York University Toronto, ON

- Awards: President's Entrance Scholarship.
- **Relevant Courses:** Data Structures & Algorithms, Advanced Object Oriented Programming, Logic for Computer Science, Electronic Circuits & Devices, Professional Engineering & Ethics, Database Management Systems, Software Design, Embedded Systems, Communication Network Protocols & Applications.

## Experience

Sept. 2023 - Apr. 2024 | Software Developer Intern BMS Lab (University of Twente) The Netherlands

- Engaged in the development of a research-focused application using **Vue.js**, **Java**, and **MongoDB**, which is expected to be used by over **100** researchers, ensuring a user-friendly UI and seamless functionality.
- Worked closely with researchers to understand project needs and deliver solutions that enhanced their research capabilities, while also providing technical support to resolve hardware and software issues.
- Automated testing processes for existing applications using **Python** and **Selenium**, reducing manual testing efforts by **40%** and improving overall software quality.
- Assisted in developing emotion-based **VR** environments using **Unity**, collaborating with researchers to simulate realistic scenarios; supported testing on over **75** participants to improve the accuracy of physiological data collection.

Aug. 2022 - Mar. 2023 | Freelance Software Developer | Riipen Mississauga, ON

- Project-based role where I completed **3** freelance projects, delivering web development, technical support, and digital marketing solutions using tools like **HTML**, **Figma**, and **Java** to meet diverse client needs.
- Provided technical support and inventory management for a Covid-19 healthcare clinic by resolving system issues, facilitating the management of over **250** daily doses.
- Orchestrated the development and maintenance of complex interfaces between **SAP** and **assorted systems**, enhancing data accuracy and streamlining efficiency by automating **30%** of previous manual data entry processes

## Personal Projects

### Automated Plant Watering System

- Designed and built an automated plant watering system using **Arduino** and **Java**, resulting in an increase in crop yield by **30%** and decreasing water consumption by **40%**.
- Implemented remote monitoring and control capabilities, to allow for real-time adjustments to water schedules.

### Disney+ Clone

- Engineered a Disney+ clone, managing **30+** user accounts with Google Authentication. Utilized **Firebase** for authentication, and session management, achieving **99.9%** uptime with Firebase Hosting.
- Leveraged Styled Components for **CSS** modernization, creating **20+** hover animations helping to develop a fully responsive design, and improving user retention rate by **20%**.

### Quantitative Trading Platform

- Developed a program that fetches historical stock data, calculates moving averages, considers news headlines & relevant information, and ultimately generates buy/sell signals.
- Fetch and process data using **API's** while structuring raw data using **NumPy**.
- Developed buy/sell indicator algorithms using **C++** while visualizing market trends using **Matplotlib**.

## Campus Involvement

Sept. 2021 - Present | Student Support Application Development Services Toronto, ON

- Collaborated with peers to build student-focused applications, including prerequisite charts, empty room finders, class locators, and study group matchmakers, to improve access to academic resources and campus tools.
- Utilized **Python** and **HTML** for application development, focusing on user-centric solutions
- Automated **MySQL** database updates through web scraping to maintain up-to-date course data; leveraged **GitHub** workflows to improve version control, collaboration, and deployment efficiency.

## Relevant Skills

- **Languages & Programming:** Java, C/C++, Python, HTML, CSS, JavaScript, SQL, Bash/Powershell,
- **Systems & Frameworks:** Linux, Unix, Windows, JUnit, VsCode, Git, GitHub, MySQL, Hibernate, .NET, Flask,
- **Libraries & Platforms/Tools:** Node.js, React.js, Vue.js, MDM Solutions, VoIP, Microsoft365,