Muhammad **Zaman**

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Skills & Awards

Languages: Python, JavaScript, C, C++, C#, Java, TypeScript, HTML/CSS, MySQL, R

Technologies: Pandas, Numpy, Scrapy, MongoDB, Express, React, Angular, Node, Firebase, Spring Boot, JWT, ASP.NET

Education

University of Waterloo *Waterloo, Canada*
Bachelor of Computer Science, Minor in Statistics *Expected Graduation: 2024*
- Coursework: Object-Oriented Software Development **(C++)**, Algorithm Design & Data Abstraction **(C)**, Statistics **(R)**

Experience

Achievers Inc *Remote*
Software Developer Intern *May 2022 - Aug 2022*
- Developed an internal **React** component library with **25+** standardized components to ease front-end development
- Migrated external dependencies such as **Material-UI** out of the library by rewriting components which decreased load time by **8%** and made it easier for the architecture team to stage and deploy the library to production
- Completed a wide variety of **30+** Jira tickets ranging from resolving bugs to creating independent components such as Icon and Checkbox Group, and had written documentation about their function and utilization
- Ensured the library met the **WCAG 2.1** Web Accessibility standards by adding **ARIA** labels with proper tab indexing to components and testing their accessibility with **JAWS** and **NVDA** screen readers
- Met the **80%** coverage threshold of **JavaScript** unit testing by writing **50+** React unit tests to affirm expectations

SPARK *Remote*
Software Developer *July 2021 - June 2022*
- Created a multiple choice quiz section using **ASP.NET Core** as the back-end for handling the logic related to determining quiz results, and an **SQL** database for storing the questions which were used in **800+** quizzes taken by students
- Authenticated **200+** student accounts to access quizzes using **ASP.NET Core** with **C#** to validate credentials
- Set up automated emails which sent **2000+** emails to student accounts confirming registration, quiz results, etc.
- Developed a user-friendly front-end using **React** and **Bootstrap** to educate **500+** children in developing countries
- Reduced load time by **17%** by code-splitting, utilizing CDNs, minifying code, and removing unnecessary plugins
- Addressed previous **UX/UI** design issues and standardized all design outputs with a mobile-first approach which increased the satisfaction rate of survey respondents who accessed the website through mobile **by 29%**

CrowdDoing *Remote*
Data Scientist Intern *May 2020 - Aug. 2020*
- Collected data of **65+** herbs from different sources including the National Library of Medicine using **data crawling** techniques through **Python** with libraries such as **Scrapy** and **Beautiful Soup**, to provide data to the analytics team
- Processed and cleaned **35+** unstructured data sets through libraries such as **Pandas** and **NumPy** for standardization
- Applied cluster analysis techniques such as **K-means clustering** to classify **100+** items into nutrient categories
- Assisted in the development of a recommender system to suggest items based on user interaction with clusters
- Constructed the end-to-end system using **TensorFlow** for covering the entire stack from efficient serving with **ScaNN** for retrieval, through ranking with **TF ranking**, to post ranking, while leveraging **multitask learning** in the process

Projects

Forex ↗ *Solo Project*
Full-Stack MERN app featuring a discussion form that allows for P2P Currency Exchange *December 2021*
- Created a chat using **Firebase** which allows for unlimited messaging where users are asked to establish direct trade
- Utilizes **Fixer.io's API** to display real-time exchange rates for **170** currencies as recommendations on the dashboard
- Uses **MongoDB** to store login credentials as well as **Express** to facilitate the creation of a user authentication server
- Web application uses **JWT** signature verification to keep the user logged in to retain access to the API and chat
- **React**-based front-end is focused heavily on **UX/UI design** and uses frameworks like **Tailwind CSS** and **PostCSS**

Amazon Reviews Scraper ↗ *Solo Project*
Common freelance opportunity, created because of its real-world use and demand *July 2021*
- Leveraged **Python** and **Scrapy** to scrape **10k+** customer reviews from different products based on **ASIN** number
- Utilized Scrapy's built-in boilerplate and implemented the scraper components such as the **HTML** parser for scraping content on specific pages and the initiator which loops through the different products using **OOP principles**
- Added cool down and opened tabs in-browser to prevent the program from getting caught in Amazon's CAPTCHA trap

Employee Manager ↗ *Solo Project*
Full-stack CRUD application that allows managers to store information about employees *June 2022*
- Utilizes **Spring Boot** in **Java** on the back end to handle the logic related to managing employee data which is stored in the **MySQL** database, along with **Angular** in **TypeScript** and **BootStrap** in the front end for the UI
- **REST controller** is used for building the **REST API** which uses HTTP requests to access and use data from the server
- Utilized **Spring Data JPA** to effectively develop the persistence layer to communicate with the **MySQL** database