Zaid Omer

zaidomerone@gmail.com | 647-996-9024 | zaidomer | zaid-omer

Skills

Languages: C, C++, Java, C#, Python, Rust, CUDA C++/CUDA C, JavaScript, TypeScript, Dart, SQL, Scala, HTML, CSS, XAML, MATLAB, Verilog, Assembly, VHDL, Bash

Frameworks: React/React Native, Expo, Express.js, Node.js, Flutter, WPF, Hadoop/HDFS, Thrift, Spark, Zookeeper, RAFT, Kafka, curl, REST, SOAP, NumPy, Pandas, scikit-learn, Matplotlib, Seaborn, OpenCV, Tesseract OCR, FFmpeg

Tools: Git, MySQL, Docker, AWS, LLaMA, Parallels, Jupyter, Linux, Vim, Jenkins, Postman, Firebase, CLion, Visual Studio, Jira

Experience - Internships

Apple - Embedded Firmware Engineer — Jan 2023 - Apr 2023

- Developed **C** and **C++** code controlling hardware modules, mock **drivers**, & high-speed data transfer**. Improved spurious emissions** in frequency response by **20%** through code adjustments and verified results with **spectrum analyzers**.
- Contributed to Apple's **RF** sector, used tools like **GitHub, Make**, **CMake**, **PetaLinux**, **CLion**, **Jenkins** for build tests, and **Parallels** for **Ubuntu VM**. Utilized **Python** and **Jupyter** to run debugging scripts & analyze firmware code results/graphs.
- Discussed issues with **vendors** & built upon their work. Participated in international factory build with team members.

TD Bank - Full Stack Software Engineer — May 2022 - Aug 2022

- Functioned in a team producing a web app managing financial reports, projects, etc. **Upgraded 90%** of legacy codebase.
- Administered **SQL** to manage **15+ database tables** in **SSMS** and **SSIS** in Visual Studio to troubleshoot bugs in migration tasks. Crafted front & back-end code in **React** & **JavaScript**. Utilized **Python** for **REST API** requests to access external data.

Abliminal - Software Developer — Jan 2021 - April 2021, Nov 2021 - Dec 2021

- Led the development of a mobile app created in **React Native** & the **Expo** framework. Incorporated **firebase** for sign-up/auth and to store **85%** of user-specific data in real-time databases. Used the **Google Play** Console for Android testing.
- Integrated **Google Analytics** code in a **JavaScript/ReactJS/Redux** web app to gather data on popular features & user demographics - improving user retention by **15%**. Helped revamp signup process by implementing the **auth0** framework.

HockeyShot - Mobile Developer — Sep 2021 - Nov 2021

- Collaborated on a **cross-platform** Android/iOS app (**Flutter/Dart**), managing the front/back-end in a scrum environment to develop various pages, in-app widgets, UI elements, and other features.
- Architected database models that were implemented with **firestore.** Employed **state management** tools like the 'get' package, streamlined code based on the model-view-view-model framework, and conducted code reviews on **GitHub**.

Ceridian - Software Developer in Test — May 2020 - Aug 2020

- Automated UI & API tests using **Java** for the app "Dayforce" on Android/iOS. Built and/or monitored **100+ tests.**
- Worked with **Jenkins**, JMeter, TestNG, Junit, **Selenium**, **Xcode**, mobile emulators, and **Appium** to write, debug, and test code. Managed tasks in scrum with Azure DevOps. Tested functionality on **70%** of supported OS versions.

Projects

AutoHelm - Final Year Design Project — May 2023 - April 2024

- Engineered in a team of 5; a **multi-threaded** Windows app (**C#/WPF/XAML**), allowing users to automate any computer tasks using simple UI building blocks. Also includes a web app (**JavaScript/React/Firebase**) for sharing user's work.
- Developed a custom programming language with **20+** components and proper **EBNF** grammar to power the software's functionality. Includes **compiler** elements (**lexer** & **parser**) for **AST** construction. Created in **C#** and **Python**.
- Deployed Meta's **Llama 2 (Code Llama 13B)** model on an **Ubuntu** server. Trained it with **LoRA** on **llama.cpp** to code in our proprietary language, acting as a virtual assistant. Made an **Express**-based **REST API** to communicate with the **LLM**.

Education

University of Waterloo - Computer Engineering 3.7/4.0 GPA, (B.A.Sc.) — Sep 2019 - Apr 2024

- *Taken Programming for Performance – All in **Rust**: Concurrency, async IO, **CUDA C** GPU programming, profiling, etc.*
- *Taken Intro to Machine Learning – All in **Python**: Data fitting, classification, regression, decision trees, SVM, KNN, etc.*
- *Taken Real-Time Operating Systems – All in **C/C++**: Process scheduling, caching, virtual memory, kernel development, etc.*