**Zaid Omer**

A phone handset on a black background

Description automatically generated with low confidenceA picture containing cat, mammal, silhouette

Description automatically generatedzaidomerone@gmail.com | 647-996-9024 | github.com/zaidomer

 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 Inc. - Embedded Firmware Engineer Jan 2023 - Apr 2023**

· Developed **C** and **C++** code for hardware modules, mock **drivers**, and high-speed data transfer**. Improved spurious emissions in** frequency responseby **20%** through code adjustments and verified results with **spectrum analyzers**.

· Contributed to Apple’s **RF** sector, used tools like **GitHub,** **Make**, **CMake**, **Peta Linux**, **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**. Worked with **firebase** real-time databases storing **85%** of user-specific data, sign-up/auth, UI design, the **Expo** framework, and the **Google Play** Console for android testing.

· Integrated **Google Analytics** code to a **ReactJS/JavaScript** web app to observe statistical user data, and helped revamp the signup process by implementing the **auth0** framework.

**HockeyShot - Mobile Developer Sep 2021 - Nov 2021**

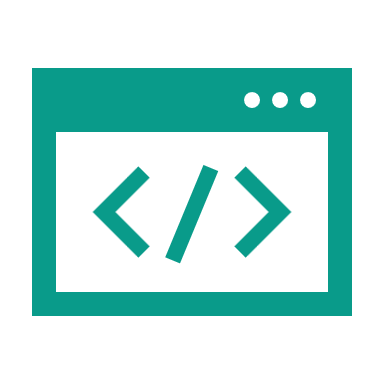
· Collaborated on a **cross-platform** Android/iOS app (**Flutter/Dart**), managing the front/back-end in a scrum environment to develop various pages, in-app widgets, and other features.

****·  Architecteddatabase 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 - Present**

* 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 languagewith **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.*