

Zaid Omer

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Skills

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

Frameworks: React/React Native, Express.js, Node.js, Flutter, Hadoop/HDFS, Thrift, Spark, Zookeeper, RAFT, Kafka, curl

Tools: Git, MySQL, Docker, LLaMA, Parallels, Jupyter, REST, Vim, SOAP, 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 response **by 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 features.
- Architected database models that were implemented with **firebase**. 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 robust multi-threaded Windows application, empowering users to automate computer tasks effortlessly. Can design workflows to automate anything using the simple UI building blocks provided by the software.
- Developed the **EBNF grammar** with **20+** components, for a **custom programming language** to handle tasks behind the scenes and a web app for sharing users' work. Created with C#, XAML, Python, JavaScript/React, Firebase.
- 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 Candidate 3.7/4.0 GPA, (B.A.Sc.)

Sep 2019 - Apr 2024 (Expected)

- *Currently in Programming for Performance – CUDA C GPU programming for CNNs. Concurrency, profiling, coding in Rust*
- *Currently in Intro to Machine Learning – Data fitting, training, neural networks, decision trees, regression in Python*