Zulaikha Zakiullah

4A Electrical Engineering

🌐 zulaikha.me ✉ zzakiull@uwaterloo.ca
⌨ /zzakiullah in /zulaikha-zakiullah

⚙ Skills

Languages C/C++, Python, Java, JavaScript, TypeScript, C#, R, Ruby, Go, MATLAB, ARM Assembly, VHDL

Hardware STM32F-, Arduino, OpenOCD, FreeRTOS, LTspice, PSIM, Altium Designer, Proteus, Quartus

Other Git, Linux/Unix, Docker, Android Studio, AWS, Jenkins, Vagrant, Pandas, CAN

◔ Experience

Onsemi
Hardware and Systems Developer

Jan 2023 – Apr 2023
Waterloo, ON

> Designed a proof of concept temperature control module using Microchip microcontroller and C to be used in the fabrication laboratory to replace current setup with one with a greater temperature range tolerance
> Validated schematics of new module presented by team and suggested changes to make more reliable
> Optimized booting time of company's new chip based on user's selection of power mode in code
> Extended custom hardware abstraction layer (HAL) libraries to include other feature support, including PWM

St. Michael's Hospital
Medical Application Developer

Aug 2021 – Aug 2022
Toronto, ON

> Worked with both developers and healthcare workers to ensure technical and medical needs were met for a clinical decision support system for asthma, ensuring the system recommended the correct medication based on different patients' asthma conditions
> Created automation software using Python and Selenium to run end-to-end tests of the system, saving over 100 hours of time for the research team
> Developed tools with intuitive UI to allow physicians and clinical researchers to make code changes to the system without needing technical knowledge

Waterloo Formula Electric
Firmware Developer

Sep 2019 – Present
Waterloo, ON

> Contributed to team's hardware-in-the-loop (HIL) software library to allow for easy simulation using HIL
> Redesigned vehicle dashboard using C++ and Qt library to read messages from CAN bus and display relevant information to driver, improving overall dashboard performance by over 200%
> Implemented linter in codebase using Cppcheck to ensure all vehicle code complies with MISRA C standard

Ford Motor Company
Software Developer

Jan 2021 – Apr 2021
Waterloo, ON

> Developed an API to enable controls on infotainment system based on vehicle's geographic location
> Integrated runtime resource overlay packages in Android OS for infotainment system to load specific app restrictions depending on its location, to ensure all vehicles adhere to driving standards set per country

🎓 Education

University of Waterloo
Candidate for BASc in Electrical Engineering – CAV: 90%

2019 – 2024 (Expected)
Waterloo, ON

> **Relevant Courses:** Integrated Digital Electronics (CMOS), Wireless Communications, Analog Control Systems, Digital Signal Processing, Data Structures and Algorithms (C++), Biology, Biochemistry

⚡ Interests

Subjects Medicine and healthcare, bioinformatics, astronomy, automotive industry