AREEJ ASLAM

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SUMMARY

Quality-driven Engineering graduate with professional and academic experience in embedded systems, seeking to leverage my firmware development and testing skills in a position where I can contribute and grow

EDUCATION

Bachelor of Applied Science in Electrical Engineering **Sep 2020 - May 2024**

University of British Columbia

Rel*evant Coursework*: Microcomputers, Digital Design, Data Structures and Algorithms, Machine Learning, Power Electronics

WORK EXPERIENCE

Firmware Engineer, PocketClinic Corp **May 2024-June 2024**

- Contributed to the development of a motor controlled insulin dispensing system for diabetic patients
- Developed firmware in **C** to process motor control commands received on an **STM32** BlueNRG mcu via **BLE** from a smartphone application

Electrical Engineer Co-op, MistyWest **Jan 2023 - August 2023**

- Contributed to the development and testing of a cosmic ray muon detector system for underground mineral exploration
- Wrote over 1000 lines of code in **C** to develop a driver for an 8-channel 16 bit **ADC** that enabled register read/write over **SPI**, channel sequencing, and device configuration
- Debugged ADC accuracy with a **logic analyzer** and tested driver functionality using an **STM32 MCU** and two analog test signals
- Implemented unit tests in **C++** for 15+ modules/drivers and achieved an average code coverage of 97%, resulting in faster deployment to client
- Performed board bring-up and voltage rail transient response testing using an **Oscilloscope** on several revisions of PCB

PROJECTS

Ultrawideband Proximity Alert System, picoTera Electronics **Sep 2023-May 2024**

- Refactored and tested firmware in **C** on two **ESP32 UWB Pro** modules for testing range, accuracy, and material propagation of UWB technology for proximity detection
- Parsed data with Python and analyzed results graphically through Matplotlib and Excel

Digital Communication System **May 2022-July 2022**

- Designed and implemented a digital communication system on **De1-SoC FPGA** using **Verilog**
- Simulated various communication techniques such as BPSK modulation/ demodulation and error correction encoding on **Simulink**
- Tested and verified system performance using module-level test benches and **Quartus** power analysis

EXTRACURRICULAR

IEEE UBC Student Chapter **April 2023 - April 2024**

Chair

Sustaingineering **Sep 2022 - April 2024**

Design Team Electrical Member

SKILLS

Programming

- Over 5000 lines: C,C++,Verilog, Assembly

Tools

- Git, Quartus, ModelSim, Jira, Docker
- SPI, UART, I2C, Dma, Logic Analyzer, Oscilloscope, RTOS, baremetal