# Ozayr Raazi

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*Seeking a 4-month co-op starting in May 2024*

## Education

**University of Waterloo** Sept. 2022 – April 2027
*Honours Computer Engineering* *Waterloo, ON*

## Skills

**Languages**: Python, C, C++, VHDL, Bash
**Technologies**: Git, Arduino, Logisim, KiCAD, Docker, Jenkins, Coverity, Quartus Prime, Linux, macOS, Windows
**Networking Protocols**: Segment-Routing, MPLS, IS-IS, IP, BGP, L2VPN

## Experience

**Ciena** Sept. 2023 – Dec. 2023
*Embedded Software Engineer (Co-op)* *Ottawa, ON*

- Increased thread safety of **C code** and protected internal data structures by converting APIs to signal-based
- Improved error-detection of a TCP-transport library by creating **GoogleTest** unit tests, allowing for send and receive functionalities to be tested concurrently using **C++** multi-threading
- Enabled rapid iteration/testing for a Segment-Routing module by pulling it out of the main build, mocking dependencies and configuring CMAKE to allow for independent compilation

**Dell Technologies** Jan. 2023 – April 2023
*Software Engineer (Co-op)* *Ottawa, ON*

- Enhanced security of a PCIe card by implementing Trusted Boot features such as allowing binary signing without access to private RSA keys
- Improved testing capabilities by increasing the number of automated tests running in **Docker** containers, creating new **Robot Framework** software robots
- Boosted software security by enabling fast discovery of potential vulnerabilities by creating **Jenkins** CI pipelines to run code analysis using **Coverity**

**Waterloo Rocketry** Sept. 2022 – Present
*Software/Electrical Member → Software Lead* *Waterloo, ON*

- Contributed to a team of 60+ students for the annual development and launch of a rocket to 30,000 ft
- Facilitated development by onboarding new members, breaking down projects into individual issues, creating and maintaining timelines, supporting developers, and reporting progress to team leads
- Augmented data collection capabilities for engine tests and added support for thermocouples by creating electrical schematics and designing PCBs using **KiCAD**
- Optimized Kalman filter for estimating rocket position during flight by developing **C code** to convert coordinates between reference frames using rotation matrices

## Projects

**Omnibus - Waterloo Rocketry** | *Python, PyQtGraph, Subprocess* Jan. 2023 – May 2023

- Reduced startup time by **67%** by creating a launcher to automatically start all required processes in the background based on user input and ensure clean exiting
- Redesigned a dashboard that displays sensor data, enhancing navigation and configuration ease-of-use, by rewriting the code using **PyQtGraph** and the **QGraphicsView** framework

**Sand Crab** | *Arduino, C++, 3D Printing* Sept. 2021 – June 2022

- Designed and built a remote-controlled car with a 3D-printed claw for transporting small objects
- Programmed an **Arduino** board to control a DC motor (for forward/back movement) and 4 servo motors (for turning and claw control)
- Programmed a second Arduino board to communicate with the first using nRF24L01 wireless communication modules (over 2.4Ghz radio) and act as a remote control