# OZAYR RAAZI

ozayr.cc | oraazi@uwaterloo.ca | 306-220-0713 | linkedin.com/in/ozayr-raazi | github.com/darth-raazi

## EDUCATION

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

## SKILLS

**Languages**: C, C++, Python, Verilog, ARMv7 Assembly, VHDL, Bash
**PCB/Embedded**: Cadence OrCAD X, KiCAD, STM32, Arduino, DediProg, Fusion Digital Power, PowIRCenter
**Protocols**: I2C, PMBus, Segment-Routing, MPLS, L2VPN
**Other**: AMD Vivado, GDB/LLDB, Logisim, Quartus Prime, OpenOCD, Git, Linux, Windows, macOS

## EXPERIENCE

**Untether AI**                                                                Jan. 2025 – April 2025
*Hardware Engineer (Co-op)*                                                                *Toronto, ON*
- Designed 4-layer evaluation **Printed Circuit Board** from scratch using Cadence OrCAD X, including component research, schematic diagram, and layout, enabling testing of new Power-Management ICs
- Verified functionality of **40+** AI Accelerator Cards by conducting physical inspections, short checks, performance benchmarks, and neural network correctness tests, while ensuring power/thermal compliance
- Reduced current sensing IC's error to <**1%** by sweeping configuration registers and comparing current values measured via **STM32** to adjustable current load's readout, simulating an active board

**Untether AI**                                                                May 2024 – Aug. 2024
*Firmware Engineer (Co-op)*                                                                *Toronto, ON*
- Developed firmware for an **AI Accelerator Card** (PCIe Gen5 x16), enabling key features such as power sequencing, temperature sensing, power monitoring, and fan control, using the **I2C** and **PMBus** protocols
- Brought-up first batch of cards by writing firmware, conducting hardware checks, flashing PMICs, power sequencers and ASICs, and debugging issues, achieving fully booted cards in **under 3 days**
- Researched and proposed switching a voltage rail from single-phase to dual-phase, potentially reducing power loss by **46%** and increasing efficiency by **10%**

**Ciena**                                                                      Sept. 2023 – Dec. 2023
*Embedded Software Engineer (Co-op)*                                                       *Ottawa, ON*
- Accelerated iteration and testing of a Segment-Routing module by developing an **event-based** client for simple user interfacing and by configuring CMAKE to enable independent compilation
- Improved error-detection of a TCP-transport library by creating **C++ GoogleTest** unit tests, allowing for send and receive functionalities to be tested concurrently using **multi-threading**
- Increased thread safety of **C code** and protected internal data structures by converting APIs to signal-based

**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**

## PROJECTS

**Biro-1** | *KiCAD, C++, Project Management*                                   Feb. 2025 – Present
- Ideated and planned a fully-custom **media controller device** to address a real-world need of keyboard not having hardware media keys, and created a team of 5 people to help realize the project
- Defined **product requirements**, set timelines, organized subsystems, and created high-level tasks for delegation among team members
- Researched components, designed block and schematic diagrams, and started layout for **prototype board**, while assisting in firmware and RTOS development