# Zaid Duraid

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# EDUCATION

## Memorial University of Newfoundland

St. John's, NL

Bachelor of Engineering: Computer Engineering - CGPA: 4.00/4.00 (95.4%)

Sept. 2022 - April 2027

- Dean's List (2022-2025)
- Scholarships: Memorial University Alumni Enterance, Verafin Inc. Computer Engineering, Charile Sheppard Memorial Hatch, PEGNL Past-President, Bob Thorburn Memorial, Gander Lions Club Community Leaders, NLESD Education Foundation, Town of Gander

### EXPERIENCE

# FPGA Hardware Engineer Intern

Jan. 2024 - Apr. 2024 and Sept. 2024 - Dec. 2024

Avalon Holographics Inc.

St. John's, NL

- Developed and documented simulation testbenches for FPGA designs in SystemVerilog, leading to the discovery and resolution of critical display datapath bugs
- Built new **internal verification tools using Python** that integrated with existing testbenches and used to verify hardware image correction for the holographic display
- Contributed to **FPGA RTL code in SystemVerilog**, including adding runtime-accessible register maps (regmaps) for debug and hardware image correction parameter loading
- Followed to internal test processes by assembling hardware, executing tests, and running TCL scripts for the bring-up of new/refurbished PCB boards and validation of FPGA build releases

# Software Team Co-Lead (Unpaid)

Aug. 2023 - Present

 $Eastern\ Edge\ Robotics$ 

St. John's, NL

- Wrote a backend application with Python, ROS2, and Docker to run on a Raspberry Pi and interface between the piloting frontend and the ROV's thrusters, active tools, sensors, and control profiles database
- Contributed to two independent **frontend applications**, in ReactJS and C++, providing both convenient (browser-based) and low-latency options for piloting the ROV
- Led and mentored software team by preparing **onboarding resources**, **documentation**, **and task assignments**, resulting in significant contributions and experience-gain by 5+ members
- Competed and presented alongside the team at the International MATE ROV Competition Explorer Class in 2023 and 2024, placing in 11th and 9th place in the world out of around 29 teams, respectively

## Protection and Controls Engineer Intern

May 2023 - Aug. 2023

 $New foundland\ and\ Labrador\ Hydro$ 

St. John's, NL

- Updated **electrical schematics and wiring diagrams using Bluebeam Revu** for various terminal stations, which were saved and used by on-site technicians for installation of new equipment
- Prepared complete set of above-mentioned documents along with a commissioning manual for the installation of a new 230kV SF6 circuit breaker in the Bay d'Espoir Terminal Station
- Conducted site visits to local terminal stations to take measurements of existing electrical panels, ultimately using data to design new electrical panels for the replacement of protection equipment

#### Projects

**ROV Simulator** - Gazebo, C++, ROS2, Python

Mar. 2024 - Present

• Implemented an ROV simulation environment in Gazebo Harmonic with custom C++ plugins, facilitating testing of the complete software stack, thruster configuration, and tooling for any small ROV design

#### Photosphere Board - KiCad

Dec. 2024 - Jan. 2025

• Designed a PCB in KiCad that interfaces with the Raspberry Pi Compute Module 4 and includes dual MIPI CSI camera ports and USB 2.0 for capturing 360-degree images in a space-constrained environment

## SKILLS

Programming Languages: Python, SystemVerilog, C/C++, ReactJS, HTML/CSS, Bash Tools: Git, Questa, Quartus, Vivado, Docker, ROS, Gazbeo, KiCad, LTSpice, Solidworks, Bluebeam Revu

Spoken Languages: English and Arabic (Native), French (Fluent, DELF B1 Certified)