

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 (95.6%)

Sept. 2022 - May 2027

- **Dean's List (2022-2024)**

- **Scholarships:**

Memorial University Alumni Entrance | Verafin Inc. Computer Engineering | Charlie Sheppard Memorial - Hatch | PEGNL Past-President | Bob Thorburn Memorial | Gander Lions Club Student Community Leaders | NLESD Education Foundation | Town of Gander Scholarship

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, making it possible 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
- Assisted with the **bringup of new/refurbished PCB boards and validation of FPGA build releases** by following internal test processes

Software Team Co-Lead (Unpaid)

Aug. 2023 - Present

Eastern Edge Robotics

St. John's, NL

- Wrote **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, respectively

Protection and Controls Engineer Intern

May 2023 - Aug. 2023

Newfoundland 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** that contains **customized plugins written C++**, facilitating testing of hydrodynamics, thrust, and tooling for any ROV design
- Facilitated **integration of Eastern Edge Robotics' backend with the simulated ROV**, used in testing of the complete software stack and development of advanced features, such as MATE's computer vision tasks

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)