Zaid Duraid

zaidduraid.com | linkedin.com/in/zaid-duraid | github.com/Zaid-Duraid

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 Entrance, 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

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** 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)