Ayman Islam

Electrical Engineering Co-Op Student

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EDUCATION

Bachelor of Electrical Engineering
Co-op, Expected Graduation Apr. 2026
Memorial University of Newfoundland
GPA: 3.8/4.0

SKILLS

KiCAD, Altium Designer
PCB Design, SMT Soldering
Oscilloscopes, VNAs, EMC Testing
Digital & Analog Circuit Design
Board Bring-Up and Testing
LTSpice, PSpice
Python, C++, MATLAB
Technical Writing

INVOVLEMENT

MUN Student Design Hub (SDH):

- SDH Board Student Advisor
- Working with professors, funders, and board members to improve student design and extra-curricular project opportunities at MUN

CanadianCancer Society:

- Relay for Life Participant since 2021, raising over $1000 for cancer research

Tutoring:

- Tutor refugee children with the Association for New Canadians

ACHIEVEMENTS

Scholarships:

- Entrance scholarships from the University of Waterloo, Queens University, and MUN
- J.M.C. Facey Engineering Scholarship, NL Electoral District Scholarship, Gov. of NL Research Inspired Student Enrichment (RISE) Award

Soccer:

- Feildians Provincial Soccer team, 2015 - Present
- Represented NL at the Canadian National Championships
- High school and provincial team captain

EXPERIENCE

BLUE ROBOTICS | VICTORIA, BC | JAN - APR 2025

Electronics Design Co-Op

- Designed the Gigaboard. This board bridges G.hn data over the tether to multiple Ethernet PHYs and also acts as a flight controller. The design includes a G.hn processor and two AFEs, four Ethernet PHYs, two Ethernet switch controllers, an STM32H5 MCU, four buck converters, and all necessary sensors and outputs for a flight controller.
- Designed the Switch Test Board, used to successfully test the interfacing of G.hn from the tether to the ROV. The design includes an Ethernet switch controller, an Ethernet PHY, connections to an external G.hn source, and external connectors and test pads for effective testing of these chips.
- Tested using oscilloscopes, Raspberry Pis, and Arduinos. Soldered PCBs.

SOLACE POWER | ST. JOHN'S, NL | APR - AUG 2024

Hardware Design, Integration, and Testing Co-op

- Designed a current sense PCB that successfully provides overcurrent protection for systems. This PCB successfully shuts down the system in 13 microseconds.
- Designed, populated, tested, and debugged PCBs for wireless power transfer systems.
- Tested using oscilloscopes, EMI analyzers, VNAs, and impedance analyzers.

MUNSTAR-1 CSA STUDENT TEAM | ST. JOHN'S, NL | SEPT 2023 – PRESENT

CubeSat Electrical Power System Designer

- Developed an inhibitor PCB to delay CubeSat power-up for the first 30 minutes post-launch, supplying DC power to all other subsystems after the 30 minutes.
- Creating a sea-ice monitoring satellite to understand the effects of climate change on the ocean environment.

PARADIGM ENGINEERING | ST. JOHN'S, NL | JAN 2023 - PRESENT

Team Lead and Electrical Hardware Designer

Autonomous Karting Series: Creating an autonomous go-kart to compete in June 2025 at Purdue University, Indiana:

- Designed multiple PCBs containing buck converters, hot-swap ICs, and necessary protections to safely distribute power from batteries to all motors and sensors on the vehicle.
- Designed a PCB containing an ESP32, USB to UART bridge, multiple USB ports, and voltage regulators to allow autonomous control of the motors on the vehicle.
- Designing a suitable racing system, interfacing batteries, motors, controllers, relays, computers, and PCBs.
- Leading a team of over 20 members. Mentoring younger students, conducting all project management, including creating timelines, working with sponsors, and organizing sub-teams.

F1Tenth: Created an autonomous racing vehicle to compete in the F1 Tenth competition. Placed top 10 in May 2023 in San Antonio, Texas:

- Soldered PCBs, wired various components.
- Configured a system containing a LiDAR, motor controller, and NVIDIA Jetson GPU.

NEWFOUNDLAND AND LABRADOR HYDRO | ST. JOHN'S, NL | AUG - DEC 2023

Protection, Controls and Communications Electrical Co-op

- Designed, reviewed, and created packages for generator excitation system upgrades.
- Supported on-site construction and commissioning, and created as-built drawings for new generator-exciter systems.
- Interpreted, reviewed, and edited AC and DC schematics for various systems.