



EDUCATION

University of Alberta

2023 - 2027

BSc. Electrical Engineering Co op

Completed Academic Terms: 5

Completed Work Terms: 1, Available for 8 months starting January 2025

Courses: Embedded Systems, Discrete Time Signals and Systems, Intro to Microprocessors, Digital Logic Design

TECHNICAL SKILLS

Programming Languages: C, C++, Python, HTML, CSS, Java

Software Tools: Altium, KiCAD, EPLAN, Linux, Git, Latex, ArcGIS, QEMU, nftables, dnsmasq

Protocols: DNS, DHCP, Wi-Fi 6E, TCP/IP, Ethernet/IP, CAN, I2C

Hardware: PCB Layout/Design, MCUs, Buck Converters, Li-Po/Ion Batteries

Fabrication: Soldering Iron, PCB Mill, 3D Printer, Laser Cutter, CNC Mill, Waterjet

WORK EXPERIENCE

Electrical & Automation Designer

May – August 2024

Modular Construction Research Group

University of Alberta

- Prototyped a CNC machine for precision cutting of styrofoam blocks to increase production for concrete formwork.
- Built Human Machine Interfaces using Vijeo Designer, SoMachine, and custom scripts in Java to incorporate real-time production visualization, critical system alarms, and operator dashboard.
- Configured Ethernet/IP control in Codesys for servo drivers in industrial steel and wood panel production.

Utilities Infrastructure Engineering Student

Jul – Aug 2023

City of St. Albert

St. Albert, AB

- Performed comprehensive inspections on water, sanitary, and storm utility infrastructure for repair assessment.
- Coordinated project timelines and resources, ensuring on-time delivery and effective stakeholder communication.
- Replaced paper-based inspection methods with GIS focused digital reporting processes, improving database management and doubling inspection efficiency.

PROJECT EXPERIENCE

Autonomous Robotic Vehicle Project | *Electrical Design, Networking, Computer Vision* Sept 2023 – Ongoing

- Senior member of a top-10 underwater robotics team competing at RoboSub in California.
- Led design of a PCBA to test systems functionality for streamlined setup of an autonomous underwater vehicle.
- Created a comprehensive network solution through a Linux laptop for wired and wireless connectivity with DHCP, DNS, and internet forwarding for testing, data labeling, and training machine learning models.
- Redesigned voltage converter PCBA with DC-DC buck converters to step-down voltage for various subsystems.

Personal Website | *Astro.js, HTML, CSS, Javascript*

- Developed a mobile-responsive website to house my personal projects and blogs.

Medication Tracking App | *Arduino, C, Python, Google Workspace API*

- Built a medication tracking mobile app integrated with a physical pill box.
- Implemented recurring notifications synced with an OLED screen programmed with C on Arduino and ESP8266.

Mechanical Keyboard | *KiCAD*

- Designed a keyboard which implements mechanical switches, OLED screen, and rotary encoder.
- Integrated a interchangeable Pro-Micro microcontroller to handle N-Key Rollover, screen, and encoder.

EXTRACURRICULAR

Vice President, Communications | *Electrical Engineering Club*

Sept. 2023 - May 2024

- Lead design for merchandise and managed the club discord server for over 280 members

Additional Info | *Licences and Certificates*

- Class 5 Advanced Driver's Licence
- Electrical Engineering Club Certificate in Hardware Design
- Drone Operations Licence