Lauryn Lee

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EDUCATION

Bachelor of Applied Science, Engineering Physics (with Distinction) **Sept. 2020 - May 2025**
University of British Columbia *Vancouver, BC*

- **GPA: 83.2%**; Dean's Honour List (2020-2025), TREK Excellence Scholarship (2022)
- **Relevant Coursework:** Analog CMOS Integrated Circuit Design, Digital Systems and Microcomputers, Introduction to Medical Physics, Signals and Systems

WORK EXPERIENCE

Sarcomere Dynamics **May 2024 – Aug. 2024**
Electrical Engineer (Co-op) *Vancouver, BC*

- Researched and designed compact sensor technologies, including machine vision and magnetometers, based on academic journals to evaluate the feasibility of integrating embedded force-sensing solutions into a highly dexterous robotic hand
- Developed custom PCBs integrating novel sensor systems using Altium, fabricated silicone molds and mechanical enclosures using OnShape and FDM printing, and developed firmware in C for STM32 microcontrollers to validate and compare each sensor technology prototyped
- Created data collection and analysis scripts in Python to calibrate and evaluate sensor accuracy

NZ Technologies Inc. **May 2023 – Dec. 2023**
Embedded Hardware Engineer (Co-op) *Vancouver, BC*

- Designed and fabricated 3D printed enclosures and electromechanical assemblies using SolidWorks to seamlessly integrate proprietary touchless technology into partner companies' existing applications
- Generated formal experimental procedures and test reports to diagnose deficiencies in the power management and logic subcircuits of an existing custom PCB and propose possible solutions based on varying levels of cost
- Customized an Arduino Teensy as an HID adaptor acting between proprietary touch screen and existing medical device
- Assembled, reworked, and inspected PCBs according to strict quality management system for Class 1 FDA devices

UBC Michael Smith Laboratories **Jan. 2022 – May 2022**
Junior Research Engineer *Vancouver, BC*

- Developed a custom pulsed laser-colour alternator using C and an Arduino Teensy to modulate the laser's colour in each frame captured by a CMOS camera, thus enabling fluorescent excitation of multiple dyes in one video feed

PROJECTS

LoRa Pet Tracker **Sept. 2024 – Apr. 2025**
UBC ENPH 479 *Vancouver, BC*

- Designed a compact, LiPo-powered wearable pet tracker PCB that integrates embedded chip antennas, LoRa, GPS, and IMU modules through I2C and UART protocols to provide real-time location monitoring via a mobile application
- Developed custom libraries in C and C++ to enable acknowledgement handshakes between communicating LoRa modules and integrate adaptive transmitting powers for improved power efficiency and battery life
- Awarded the Roy Nodwell Memorial Prize for our team's display of high professional standards and industrial relevance

Remotely Monitored Hybrid Renewable Energy System **Sept. 2020 – Dec. 2024**
UBC Sustaingineering (Co-lead of Electrical Sub-team) *Vancouver, BC*

- Co-lead a team of ten peers, ensuring communication with various multi-disciplinary teams, in the project planning and electrical design of a wind and solar-powered hybrid energy system for an off-grid mobile home
- Assisted in the design of a monitoring system PCB that can easily connect to solar-powered water pumps in rural Nicaragua

SKILLS & INTERESTS

- **Electrical:** Altium Designer, KiCAD, PCB Layout and Schematic Design, Oscilloscope, Waveform Generator, Spectrum Analyzer, SMT Soldering (0402), Circuit Board Debugging, Multimeter
- **Software:** C, C++, Python, MATLAB, Git, Object-Oriented Design, ROS, OpenCV, TensorFlow, VHDL
- **Interests***:* Hockey – Assistant coach to the U18A Vancouver Female Ice Hockey Association (2023-2025)