



# Tristan Lee

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## Skills

### ELECTRICAL

Altium • Oscilloscope • Eagle • Soldering

### PROGRAMMING

Python • Java • C/C++ • Git • Linux

### MECHANICAL

OnShape • SolidWorks • Fusion 360 • 3D Printing

## Education

### U. OF BRITISH COLUMBIA

ENGINEERING PHYSICS

Grad. 2026 Vancouver, BC

Third Year, 88.8% Avg.

## Links

in LinkedIn

linkedin.com/in/tristanlee/

GitHub trlee02

## Awards

### PRESIDENTIAL SCHOLARS

UNIVERSITY OF BRITISH COLUMBIA

Awarded to accomplished Canadian students.

### TUUM EST EXPERIENTIAL

UNIVERSITY OF BRITISH COLUMBIA

Awarded to students with excellent academic standing and strong personal profiles.

### TREK EXCELLENCE

UNIVERSITY OF BRITISH COLUMBIA

Awarded to top 5% of UBC undergraduate students.

## Interests

Robotics

Machine learning

Rocketry

Downhill Skiing

Mountain Biking

Surfing

Hiking

Powerlifting

## Technical Experience

### MANUFACTURING TEST ENGINEER

ENERSYS - ALPHA TECHNOLOGIES

Jan. 2022 - May 2022

Vancouver, BC

- Assembled 5 PCB test stands, validated LabVIEW signal tests to specific pins using an oscilloscope, troubleshot and repaired connections and tests to ensure proper performance.
- Created Python and LabVIEW software to enable data collection and PDF conversion for PCB tests, then implemented the software into 10 different test stands.
- Constructed circuit schematics in Altium Designer and wrote test scripts in LabVIEW for PCB test stands, as well as identified test points in Altium for a variety of DC-DC converters.

## Project Experience

### ENGINEERING PHYSICS MACHINE LEARNING COMPETITION

UNIVERSITY OF BRITISH COLUMBIA

Sep 2022 - Dec 2022

Vancouver, BC

- Worked in a group of 2 to design and create state machine architecture to control a robot using ROS Noetic on a simulated course in Gazebo.
- Implemented OpenCV in Python to capture images of license plates inside a simulated environment and identify characters using a convolution neural network.
- Setup data collection pipeline using OpenCV a Linux directory structure to collect over 25'000 images needed to run a data collection program using OpenCV for convolution neural network training for robot self driving.
- Managed features with my teammate using Git version control and GitHub.

### ENGINEERING PHYSICS ROBOT COMPETITION

UNIVERSITY OF BRITISH COLUMBIA

May 2022 - Aug 2022

Vancouver, BC

- Collaborated with a group of 4 to design and manufacture an item retrieval robot that navigated a course using line following and 10kHz IR sensing, achieving 4th place.
- Designed and constructed over 10 circuits including power distribution for motors and sensors, DC motor drivers, stepper motor drivers, and microcontroller pin distribution.
- Troubleshooted and tested many circuits constructed with my teammates, to ensure the presence of desired signals using an oscilloscope.
- Integrated firmware into a C++ statemachine using PlatformIO to control a linearly translating robot arm and 2 claws, as well as sense and acquire retrievable items using sonar sensors.
- Created CAD designs for the chassis and claw sections of our robot using OnShape.

### UBC ROCKET AVIONICS

UNIVERSITY OF BRITISH COLUMBIA

Oct 2022 - Present

Vancouver, BC

- Designed half-bridge e-match ignition PCB in Altium designer, as a part of a stackable, modular flight computer.
- Learning manufacturing and testing methods for our teams PCBs.
- Currently collaborating with a team of six to begin testing and manufacturing of flight computers.