Tristan Lee

+1(778)363-7904 @ tristan.rene.lee@gmail.com

Skills

ELECTRICAL

Altium • Oscilliscope • 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

Linkedin **linkedin.com/in/tristanrlee/**

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

MANUFACTING 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 oscilliscope, 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 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.
- Troubleshot and tested many circuits constructed with my teammates, to ensure the presence of desired signals using an oscilliscope.
- 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.

ENGINEERING PHYSICS MACHINE LEARNING COMPETITON

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 enviroment 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.

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.