Tristan Lee

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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

in 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 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.

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.

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.