





LOGAN UNDERWOOD

North Vancouver, BC

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Experience

Stantec Inc.

Vancouver BC

Data and Systems Intern

Spring 2023

Designed, built, and tested an iOS application to assist operators in day-to-day activities for the TransLink Yard control system.

- Built infrastructure to interface with communication module on the rail signalling machine E-LogIXS.
- Developed the user interface and added features to satisfy the requirements provided by TransLink.

Vancouver Golf Tour

Vancouver BC

Assistant of Tournament Operations

Summer 2022

- Successfully curated content for the tour's Instagram account driving an increase in engagement.
- Adapted procedures and directives to provide smooth operations of golf tournaments.

Personal Projects

Engineering Physics Machine Learning Competition - [LINK](#)

Winter 2023

A 12 week design project in which we had utilize ROS, Gazebo and a variety of machine learning techniques to create a virtual robot capable of traversing a environment.

- Utilized reinforcement learning techniques to ensure the robot could avoid pedestrians drive in multiple environments and avoid obstacles.
- Built the data pipeline for training of a text reading neural network used to extract information from the environment
- Trained, tested, and exported models for their operation in a competition environment

Golf Scorekeeping iOS Application - [LINK](#)

Fall 2023

An iOS application used to collect golf statistics using the strokes gained model. The application contains round entry, account management, Firebase backend, and statistical analysis/insights.

- Synthesized literature about modern golf analysis techniques augmenting the app's statistical analysis tools.
- Developed an object-oriented model for the data used in the application.
- Experimented and used stakeholder input to improve the UI design to maximize accessibility.
- Built login infrastructure and built a connection to a backend which contained user data and course data.

Engineering Physics Robotics Competition - [LINK](#)

Summer 2023

A 6-week design and build exercise in which you work in teams to build an autonomous robot capable of traversing a Mario Kart style track.

- Managed group tasks and personal dynamics by analyzing passions and building group vision in biweekly meetings.
- Used CAD to design, print/fabricate and build parts and robot elements.
- Integrated code modules for usage in a state machine, included a complicated state switching logic which required the integration of many different inputs.
- Wrote and tested PID algorithms for tape following and IR following.

Technical Skills

Languages: Java, Swift, Python, C/C++, HTML/CSS, JS/TS

Developer Tools: Linux, macOS, Windows, Git, Command Line, Test Flight

Frameworks: React, SwiftUI, OpenCV, TensorFlow, PlatformIO, Gazebo, ROS, Gradle, JUnit

Electrical: Oscilloscope, Function Generator, Circuit Design, Noise Reduction

Mechanical: OnShape, AutoCAD, Laser Cutter, 3D Printer

Education

UBC

Vancouver, BC

Bachelors of Applied Science in Engineering Physics

2021 - 2026 (projected)

- **Selected Coursework:** Robotics Competition (ENPH 253), Software Construction I (CPEN 221), E&M (PHYS 301), Machine Learning (ENPH 353)