MYKAL WESTEINDE

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WORK EXPERIENCE More information on mwesteinde.github.io

INSTRUMENTATION ENGINEER CO-OP Summer-Fall 2021
Precision NanoSystems Inc.

- Automated a critical piece of test equipment to generate 10x more data in 1/4 of the setup time to expedite the manufacturing process of covid vaccines in Asia.
- Built a custom non-fluid contacting pressure sensor & interface to detect fluid fouling rates on critical mRNA drug formulations.

TEACHING ASSISTANT Summer 2021
ENPH 253 Instrument Design | Profs. A. Marziali, M. Isbasescu & B. Zender

- Helped debug over 15 custom H-bridges and other circuits by communicating effectively over zoom.
- Explained basic control theory to assist over 5 teams develop an effective tape following algorithm.

MECHANICAL ENGINEER CO-OP Winter 2020
Genuine Guide Gear

- Carried out over 30 separate tests, built out test reports & analyzed the data to suggest potential product improvements.
- Used SOLIDWORKS to create a CAD model of a jig to assemble binding heel plates.

OWNER OPERATOR Summers 2017-2019
Chelsea Property Services

- Founded a seasonal landscaping company managing 5 full time employees & 90k/summer in revenue specializing in complete backyard renovation projects.
- Sold the name & goodwill of the business, which still runs today.

PROJECT EXPERIENCE

SIMULATED SELF DRIVING VEHICLE |Winner ENPH 353 2021

- Trained an ROS robot simulated in Gazebo with an imitation learning model and image processing to navigate a parking lot and read license plates.
- Worked with partner over zoom and GitHub to place 1st of 16 teams in program-wide competition.

AUTONOMOUS COLLECTION ROBOT | Winner ENPH 253 2020

- Complete mechanical, electrical & software build of an autonomous robot powered by a BluePill microcontroller capable of tape following, can collection & shooting ping pong balls into cups.
- 1st place robot of 64, collaborated online with team on design and best practices to place 1st of 16 in program-wide competition.

FENTANYL QUANTITATION DEVICE | Capstone Project Ongoing

- Integrating novel fentanyl quantitation electrochemical method into automated device to reduce sample detection time from 8 hours to 20 minutes.

CAMPUS INVOLVEMENT

CLUB LEAD | UBC Nordic Ski Team 2019-Present

- Co-ordinating training, racing and fundraising for a team of 20 high-performance athletes.

EDUCATION

UNIVERSITY OF BRITISH COLUMBIA
BASc. in Engineering Physics
Graduating May 2023| 86% GPA

Relevant Courses:
Robotics & Instrumentation Design
Computer Vision & Machine Learning
Industrial Robotics
Autonomous Control Theory
Signals & Systems
Principles of Software Architecture
Technical Communication
Digital Logic & Microcontrollers
Circuit Design & Analysis
Machine Design

SKILLS AND CERTIFICATIONS

Mechanical:
Solidworks Associate Cert. in Mechanical Design
40-hour Machine Shop Course
Design for Manufacturing
Fluid Path Design

Electrical:
Digital Logic Design
Circuit Analysis and Debugging
Soldering
RapidHarness

Software:
5000+ lines:
Python – Java
1000+ lines:
C – C++ – Assembly – MATLAB – OpenCV – ROS
Familiar:
Latex – VHDL

INTERESTS

Marathon running – Guitar – Climbing – Ski Touring – Cooking – Woodworking – Environmental Conservation