ubc science co-op
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YILIN LIU

SKILLS SUMMARY

- Completed 40 hour machine shop training course using drill press, lathes and mills
- Rapid Prototyping using laser cutters, water jet cutter and 3D printers
- Construction and debugging of circuit boards using soldering iron, digital multimeter and oscilloscope
- MATLAB, C++, Java, R, and Python

TECHNICAL EXPERIENCES

National Research Council- Data Analytics Center ***Feb. 2017-May 2017***
Data Scientist Co-op

- Tested social media web APIs for availability of data using R to provide recommendations for future research
- Exceeded deadlines by completing designated investigations within the first 2 month
- Expedited expectations by standardizing addresses and producing interactive density map for machine learning predictions on shipment addresses using JSON, Google Maps API and Overleaf
- Minimized manual data collection by writing R script to scrap weather website for updated weather conditions

TECHNICAL PROJECTS

ENPH Robot Competition (website: https://kaitaitong.github.io/pommedeterror/) ***Summer 2017***
ENPH253: Introduction to Instrument Design

- Built and raced an autonomous robot capable of navigation around an obstacle course, retrieve toy animals and delivery the toys using zip line.
- Won first place during competition among sixteen teams
- Designed and fabricated chassis assembly. Constructed four iterations using carboard and laser cutter.
- Used 3D printer and laser cutter to produce three iterations of claw design.
- Designed finite state machine for Arduino to coordinate robot motions. Used encoders and PID control for navigation.

UBC's Submarine Team (SUBC) (showcase: https://yilinliu123.github.io/COOP/SUBC/index.html) ***Sept. 2016-Present***
Frame Sub-Team Co-Lead

- Managed testing and design of aluminum internal frame to improve mechanical stability of mounting and resolve accessibility issues of the hull
- Implemented MATLAB code to generate propeller blade curves and airfoil profiles to simplify 3D design
- Manufacture 3D print propellers for testing, analyze results and construct propeller using carbon fiber
- Basic machining like drilling, tapping, filling and sanding to shape mounts and ensure correct mating

EDUCATION

University of British Columbia ***Sept.2015-May 2020***
Bachelor of Applied Science, *Engineering Physics*

- Enrolled on Dean's Honour List since first year
- Outstanding International Student Award, Trek Excellence Scholarship and Applied Science International Student Scholarship

HOBBIES:

EWB Fairtrade volunteer and Venture Lead (UBC-Vancouver) ***Sept. 2015-December 2017***

- Planned Fairtrade campus week and made over 500 student's day by giving pancakes, free goodies and cheerful encouragement on life

Beginner Baker:

- Baked Banana bread for bake sale which sold out in the first 30 minutes, raising a net profit of 30 dollars for 15 slices of banana bread