Axel Jacobsen

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ubc science co-op

EXPERIENCE

DATA SCIENCE CO-OP | Control — Jan 2018 – Apr 2018

- Optimized SQL queries to increase execution speed by 283%
- Wrote and Re-factored Javascript for the website's API for concice and correct code

JUNIOR SOFTWARE DEVELOPER | ubyssey.ca — May 2017 – Aug 2017

- Worked on Dispatch (Django / React backend platform of ubyssey.ca)
- Created components that allows content to be modified by non-technical employees

PROJECTS

SENSOR TEAM LEAD | UBC Subbots — Sept 2018 – Present

- Team is constructing an autonomous robotic submarine to compete in the 22nd International RoboSub Competition
- Responsible for integrating all sensors on the robot into ROS framework including cameras, depth sensor, IMU, and hydrophones
- Designing signal amplification, filtering circuits, and processing signal for relevant information

ROBOT COMPETITION | Engineering Physics — May 2018 – Aug 2018

- Designed and built a robot to autonomously navigate and retrieve yarn Ewoks
- We located the Ewoks by running the YoloV2 neural network on a Raspberry Pi
- Developed custom IR distance sensor, servo control circuits, and IR signal circuit
- Wrote software to quickly and accurately detect 1 kHz and 10 kHz signals
  See axel-jacobsen.github.io/ENPHRobot/

VOLUNTEER EXPERIENCE

ENGINEERING PHYSICS MENTOR | UBC — Sept 2018 – Present

- Mentor of five 2nd year Engineering Physics Students

SQUADRON COMMANDER | 103 Thunderbird Squadron — Apr 2015 – July 2016

- Led the Command Team, a group responsible for running the Squadron of 20 senior and 60 junior cadets

EDUCATION

UNIVERSITY OF BRITISH COLUMBIA — Expected May 2021

- Bachelor of Applied Science, Engineering Physics | Minor in Mathematics

ABOUT ME

PROGRAMMING LANGUAGES

Python • Java • C
JavaScript • HTML • CSS/SCSS
MySQL • LaTeX

SUMMARY

I am an enthusiastic Engineering Physics Student at the University of British Columbia, with passion for mathematics, programming, and robotics. I spend my free time working on my personal projects, climbing, biking, or skiing.