

# Axel Jacobsen

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## 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 concise 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/](http://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.