

AMANPREET SINGH NIJJAR

Fourth Year Computer Engineering Undergraduate Student

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SUMMARY OF QUALIFICATIONS

- President of AUVIC: Leading a 15-member team to build an autonomous underwater vehicle (AUV) called Trident.
- Experienced with electrical, software, and mechanical development of an AUV.
- Built a website using Wordpress for AUVIC @ auvic.ca

RELEVANT COMPETENCIES

Application Development

- Continuous Integration Pipeline: Created a pipeline to run tests on pull-requests before merging to master. This will minimize new bugs appearing in the AUV system.
- Wrote unit and integration tests in C++ and Python to test AUV functions.
- Improved AUVIC's development practices by introducing an Agile Workflow using Jira.

Web Development

- Configured DNS settings of custom domains on Web Hosting Canada.
- Deployed a Wordpress site using UVic's server.
- Understand the server-client model and have practiced using HTML, CSS, and Javascript to make a game.

Administration

- Created and presented PowerPoint's to get companies to sponsor AUVIC.
- Software lead: Assisted members of AUVIC in software development of AUV functions.
- Host bi-weekly meetings with the leads of AUVIC to discuss direction of AUV development and goals for the month.

PERSONAL PROJECTS

Haze Removal - C++ Image Processing

This command line application removes fog and haze in images by using dark channel prior and several other filters. This is based on a Matlab script from Rachel Yuen at UW-Madison. ROS lacks Matlab support, so I rewrote the script in C++ to test it on AUVIC's AUV.

Audio-Effects PCB - C Signal Processing

An embedded application for the STM32F0xx discovery board. This board takes an audio signal from AUX jack and filters it with a butter-worth filter before entering the ADC on the STM. The STM then applies audio affects depending on which button is pressed, before being played on a speaker.

Coup online - HTML/CSS/Javascript

Building a web game based on the "Coup" by Rikki Tahta to play with my friends while in quarantine. This game is not released to the public.

WORK EXPERIENCE

Junior Electronics Engineer Co-op

Autonomous Underwater Vehicle Interdisciplinary Club (AUVIC)

May 2020 - Ongoing Victoria, BC

- Used Altium Designer to build a CAN-to-USB dongle that allows computers to send/receive messages on a simple CAN bus.
- Introduced CI and Agile workflows using Github Actions and Jira.
- Developed software to allow communication between high-level functions (Computer Vision, AI, and controls) and the embedded network on an AUV.

VOLUNTEER WORK

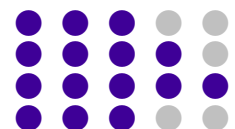
Ocean Networks Canada: Ran an activity for middle school students who are interested in engineering.

Ridge Meadows College: Taught ESL to adults.

Ridge Meadows HomeShow: Organized volunteers and managed the WorkSafe BC paperwork.

SKILLS

MS Office
C++/Python
Organization
HTML/CSS/JS



EDUCATION

Bachelor of Computer Engineering

University of Victoria

Sept. 2016 - Ongoing Victoria, BC

MORE INFO

- **Availability**
I am available for 4 months

QUALITIES

- ✳ **Persistence**
I went from a substitute basketball player in my highschool freshman year to a starter by sophomore year.
- 🗣 **Bilingual**
Fluent in English and Punjabi.