# Yousif El-Wishahy

Richmond, BC
yel.wishahy@gmail.com

UBC Engineering Physics

GitHub: yel-wishahy
LinkedIn: yousif-elwishahy

## Skills

| | |
|---|---|
| **Software** | Java, C/C++, C#, Python, Jupyter, Git, LaTeX, Arduino, PlatformIO, STLink, Particle, Microsoft Office |
| **Mechanical** | SolidWorks, Fusion360, laser cutting, 3D printing, FEA, hand tools, machine shop, BOMs, P&ID diagrams |
| **Electrical** | Eagle, CircuitMaker, soldering, reflowing, oscilloscope, DMM, AWG, circuit analysis and design, PID |

## Work Experience

**Tutor** **Oct 2021 — Present**
*Oxford Learning Centre* *Richmond, BC*

- Assist and supervise students from grades 1 to 12 with schoolwork and learning curriculum by teaching core concepts, grading work, and strengthening motivation and diligence
- Coordinate with staff in the development of tailored learning plans for each student by evaluating learning process

**Hardware and Firmware Engineer** **Jan 2021 — Apr 2021**
*Brave Cooperative, Internship* *Vancouver, BC*

- Tested and compared radar modules for a human detection system that went on to detect and assist over 100 overdoses
- Programmed software GUI utility with python to decode, visualize, and store live data for radar module testing
- Devised digital low pass filter in C to process radar signals in order to distinguish radar module performance
- Created electrical circuit schematics in Eagle and wrote C/C++ firmware for a prototype alarm system
- Utilized laser cutting, soldering and reflowing to assemble radar device and enclosure
- Optimized workflow by designing jigs in Fusion360 and documenting process

## Technical Projects

**Autonomous Waste Retrieval Robot** **May 2021 — Aug 2021**
*Engineering Project Course* *UBC*

- Engineered an autonomous waste retrieval robot and achieved top score out of 15 teams
- Designed and fabricated robot electronic systems including power, sensor, motor, and central processing circuits
- Implemented and optimized PID control navigation algorithm to accurately follow a tape path
- Programmed state machine firmware and startup sequence for 7 robot subsystem startup in C/C++ and platformIO to run on an STM32 microcontroller

**Game Server Economy Plugin** **Jan 2021 — June 2021**
*Personal Project* *Richmond, BC*

- Created a Java plugin for a Minecraft server which allows players to create in-game bank accounts item based currencies
- Produced AI bots that utilize player data to intelligently trade with and tax players to increase server immersion
- Programmed algorithms to parse and save plugin data in a local JSON database

**Mechanical Subteam Member** **Sep 2020 — May 2021**
*UBC Mars Colony Student Team, Sabatier Reactor Project* *UBC*

- Streamlined build process of a chemical reactor that produces methane fuel by prototyping the reactor design in SolidWorks and CircuitMaker, managing the team's PDM vault, and documenting parts in BOM
- Assembled reactor modules by compression fitting piping to components with wrenches and ferrules, and utilizing an industrial pipe bender to fit the steel pipes to the reactor frame
- Reduced project cost by $300 by designing an automated liquid output measuring system to replace a mass flow meter

## Education

**B.A.Sc. Engineering Physics**, *University of British Columbia* Graduating Apr 2024
*Dean's Honour List*

## About Me

- Frequently jog, bike, walk, and hike with friends
- Enjoys science, sci-fi, and fantasy in any form (novels, shows, movies, and video games)
- Passionate about robotics and aerospace and likes to tinker with electronics and program software and games