

Tobias Bobb

3rd-Year Integrated Engineering Student

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Education

Bachelor of Applied Science – Integrated Engineering

University of British Columbia [↗](#)

Specialization: Computer and Mechanical Engineering

Expected May 2024

Vancouver, Canada

Skills

Programming: C, C++, C#, Python, MATLAB, VHDL, Assembly

Tools/Technologies: Pytorch, OpenCV, Git, Jira, Bash, FPGA, SolidWorks, UML, XML

Technical Projects

SAND-e, UBC

Sep 2021 – Present

- Received **\$15,000** in funding from UBC Sustainability Fund by proposing an autonomous sustainable solution for cleaning small beach waste
- Spearheaded development for the project using **Python** to optimize path finding according to tide data and to implement LIDAR obstacle detection
- Building out a web dashboard interface in **Vue.js** to communicate with autonomous robot

2-D Solar System Simulator, UBC

Nov 2021 – Dec 2021

- Designed a console **C#** simulation of the solar system in 2-D
- Modeled a class diagram using **UML** to ensure **OOP** best practices such as data abstraction and encapsulation

Computer Vision Sudoku Solver, Personal Project [↗](#)

Jul 2021 – Aug 2021

- Trained a **98%** accurate digit classification **neural network** using **Pytorch**
- Performed pre-processing of images using **OpenCV** to transform non-playable Sudoku boards from pictures to an interactive web app
- Applied principals of agile management to improve workflow by regularly updating **JIRA**

Unmanned Aerial Ground Vehicle, UBC [↗](#)

Sep 2020 – Apr 2021

- Contributed **250+** lines of code to open-source **C++** and **Python** libraries to develop flight/ground control systems for a disaster relief survey drone
- Performed engineering analysis using **MATLAB** to improve mission time by **30%**

Professional Experience

Line Cook, Browns Socialhouse

Mar 2019 – Aug 2019

- Collaborated proactively with coworkers to serve customers within **10** minutes of ordering
- Developed excellent communication and time management skills by consistently serving **500+** guests every night and coordinating with three different work stations

Interests

- Volleyball
- Machine Learning
- Cooking