

Ron Kitainik

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Education

3rd Year Engineering Physics, University of British Columbia

Sep 2022 – May 2027

- **Awards:** EGBC Entrance Scholarship, Dean's Honour List

GPA: 3.95/4.33

Skills

- **Technologies:** SOLIDWORKS, Onshape, Altium, KiCad, MATLAB, Java, Python
- **Tools:** Oscilloscope, Wavegen, Soldering, PCBA, 3D Printing, Lathe, Waterjet, Shop Tools

Teams & Projects

Hardware Lead, UBC Orbit Design Team

Sep 2024 - Present

- Led a four-member team in design and MAIV of the electrical and structural components of a 1U CubeSat set to launch through ESA's Fly Your Satellite program
- Designed a custom FFC (Flat Flexible Cable) in Altium to minimize electromagnetic interference and ensure signal integrity of radio communications
- Selected materials and conduct RF testing to optimize PCB lifetime in extreme conditions
- Documented design processes and testing results in OpenProject to ensure compliance with ESA standards

Simulated Self-Driving Car

Dec 2024 - Apr 2025

- Designed and implemented a neural network using OpenCV to control autonomous navigation for a robot designed in ROS URDF and simulated in Gazebo
- Programmed and calibrated the car's virtual sensor suite, including LiDAR and cameras, for real-time environment perception and obstacle detection
- Applied reinforcement learning techniques to navigate through complex terrain

Autonomous Cooking Robots

May - Aug 2024

- Collaborated with a team to build a pair of autonomous robots that communicated with each other over WiFi to assemble and serve 3D-printed food in a kitchen-like environment
- Designed and soldered signal debouncer and reflectance sensor PCBs in Altium to accurately navigate the robots through the course
- Modeled motor mounts and chassis in SOLIDWORKS and manufactured components with waterjet, 3D printer, and machine tools

Work Experience

Survey Operator, City of Vancouver

May – Aug 2023

- Performed layout and construction surveys to complete four major water main replacement projects
- Drafted and revised engineering drawings and utility plans in AutoCAD
- Conducted site inspections with engineers and submitted reports to clients in POSSE

Survey Assistant, 360 Surveys

Summer 2020 & 2021

- Collaborated with BCLS crew chief to carry out topographic and legal surveys
- Collected and processed geodetic data with total station, laser scanner, and GPS
- Earned an end-of-season bonus for digitizing documents ahead of schedule

Vancouver, BC