Abigail Adam

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Education

University of British Columbia — Vancouver, BC
Bachelors of Applied Science in Engineering Physics, GPA: 86%, Dean's List — 2023–Current

Harvard University — Cambridge, MA
Summer Program, GPA: A — 2022

Skills

- **Software:** C, C++, CSS, Git, HTML, Java, Linux, MATLAB, Python, VDHL
- **Tools:** Altium, Bash/Linux Shell, Gazebo, FPGA, KiCAD, LaTeX, Prototyping, ROS, Soldering, TensorFlow

Experience

UBC Agroponics — Vancouver, BC
Automation Subteam — Sep 2024 - Current

- Assisted in the creation of an automated hydroponic system, while working on implementing a server using MQTT communication to interface between sensors and actuators, creating a secure and scalable system
- Working on C++ libraries and calibration procedures for lab-quality sensors to ensure data integrity

Jablonsky Ast and Partners — Toronto, ON
Engineering Designer Co-op — Jan - May 2025

- Performed an in-depth analysis of top-down construction based on hundreds of case studies, a method for building skyscrapers yet to be adopted in Canada, and pitched my conclusions directly to senior partners
- Helped develop models to predict rebar consumption on large projects to assist with accurate budgeting

Technion — Haifa, Haifa District
High Energy Physics Group Research Student — Summer 2024

- Participated in the International Undergraduate Summer Research Program, and worked with the High Energy Physics Group, supervised by Professor Yotam Soreq
- Analyzed electrical and mechanical functioning of instruments used in high energy physics

Projects

Machine Learning Robot Competition

ROS, Tensorflow, Linux

- Worked with a partner to create an autonomous ROS agent to be simulated in Gazebo in a Linux environment, with code done in Python
- Utilized TensorFlow and Keras to construct and train several convolutional neural networks to enable the robot to drive and detect and read clues from its environment

Autonomous Rescue Robot Competition

C++, KiCAD, Electronics Design

- Worked in a team to create an autonomous robot, including designing the robot's electrical systems (PCBs, power distribution, sensor nodes) and making libraries to interface with several sophisticated sensors in C++

Exoplanetary System Characterisation

Astronomy, EXOFASTv2

- Characterized a binary stellar system using data from the Transiting Exoplanet Survey Satellite (TESS), modelling using EXOFAST v2, and wrote a technical paper on my findings