

ARYAN CHAHARDOVALEE

Electrical Systems Engineer-in-Training, Student Pilot

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EDUCATION

Bachelor of Applied Sciences in Electrical Engineering

Sep. 2018 - May 2023 | Vancouver - University of British Columbia

PROJECTS

FPGA-Powered iPod | Firmware, Verilog, real-time audio signal processing, embedded microprocessor, debugging, UART.

RETRO Game Console | C, Verilog, memory size and address management, distributed systems, display integration, I2C.

Autonomous Reflow Oven | C++, Python, 8051-based microcontroller, ADC/DAC, oscilloscope, SPI.

Collaborative Design of a Silicon Photonic Integrated Circuit | Optical testing equipment, DFB lasers, Python automation.

Crack the Lottery? | ML ranking systems, CNN, Keras, Tensorflow, Python, normalization, hyperparameter tuning.

EXPERIENCE BEFORE GRADUATION

UBC ORBIT Satellite Design Team | Design Team | *Spacecraft Hardware Developer*

Jan. 2019 - Apr. 2023 | Vancouver - British Columbia

- Managed the development of a half-duplex radio system for ALEASAT using OpenLST software-defined radio and CC1110 low-power SoC, improving CubeSat's downlink performance and **reducing Bit-Error-Rate (BER) by 40%**.
- Developed and tested **communication PCBs**, including the RF communications board and antenna deployer board, using **Altium** to ensure seamless transmit/receive functionality at 433 MHz.
- Led **design review sessions**, collaborating across various disciplines to familiarize junior team members with processes and interfaces, including COMMS, Payload, Power interfaces, and satellite control sequences.
- Troubleshooted the **antenna deployment mechanism** by iterating the PCB design and adding a **bypass feature** to ensure successful antenna deployment in case of failure.

Seaspan (Vancouver Shipyards) | Internship | *Electronics Engineering Intern*

Sep. 2021 - May 2022 | North Vancouver - British Columbia

- Drafted design documents, including **design reports**, **test agendas**, and **block diagrams**, for communication subsystems (Wi-Fi, VHF, HF, UHF, NAVTEX, GMDSS, SATCOM) onboard the Canadian Coast Guard (CCG) fleet.
- Played a key role in Seaspan's first in-house **electromagnetic compatibility (EMC)** and **interference (EMI)** study using **FEKO Altair**, focusing on EMSEC and quality-of-service.
- Performed large-scale EMC/EMI simulations using on-premises High-Performance Computing (**HPC**) systems; allocated compute resources, and improved simulation time by **more than 300%**.
- Participated in trade-off studies, presenting a proposal to transition from Wi-Fi 4 to Wi-Fi 6, highlighting increased bandwidth and enhanced user experience for **over 120 users**.
- Continuously drove system improvements, including **identifying obsolete system** components based on user experience and vendor feedback.

Huawei Canada | Capstone Project | *Hardware/AI Integration Team Member*

Sep. 2022 - Apr. 2023 | Burnaby - British Columbia

- Collaborated with a team of five to design, implement, and test a functional prototype of an **AI-driven vlogging drone**, focusing on optimizing performance and communication efficiency.
 - Configured a **WLAN** for communication between the drone, sensors, and AI board, achieving a **250% increase in drone response speed** compared to previous models.
 - Utilized the drone's camera and real-time image processing techniques to feed the **computer vision AI model**; leveraging Python, combined outputs with **LiDAR sensor** readings to enhance the drone's blind spot obstacle detection.
 - Recalibrated the drone's **camera and IMU**, developed a **net system** for capturing rogue drones, and replaced damaged **propellers** after test failures, **enabling rapid prototyping** and testing.
 - Provisioned a **secondary battery** for the sensor module, reducing the primary battery's energy consumption and extending flight time **by over 7 minutes**.
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EXPERIENCE AFTER GRADUATION

Telus | Retail Position | *Sales Representative*

Jan. 2024 - Jul. 2024 | Vancouver - British Columbia

- Advanced sales of fibre optic Wi-Fi, security monitoring systems, phone plans, phones, and accessories.
- Provided personalized solutions, troubleshooting, **de-escalation**, and customer support.

Pacific Flying Club | Private Pilot License (PPL) Training | *Student Pilot*

Oct. 2023 - present | Delta - British Columbia

- Accumulated over **70 hours** of flight time on Cessna 152 aircraft to reach PPL flight test competency.
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CERTIFICATES

Amateur Radio (HAM) License | Call sign: VA7AYO.

Google Cybersecurity Certificate | Obtained at Google.
