

Education

University of British Columbia

BASc in Mechanical Engineering, Aerospace Option (Year 4)

Anticipated 2028

Langara College

Engineering Transfer Certificate, with Distinction

Conferred 2023

Work Experience

Seaspan Corp, Ship Management Intern

May 2026

Fleet Operations Team

- Support ship management across a 180-vessel fleet with the Fleet Director and 8 Fleet Managers, improving maintenance visibility, reliability, and operational readiness.
- Conduct failure and root cause analysis on auxiliary engine incidents from 2020–2026, reviewing approximately \$9M in unexpected damages and identifying manufacturer/model risk trends to support future fleet decisions.
- Maintain DNV compliance records for 85 vessels while supporting fleet cost analysis, budget tracking, overdue-maintenance prioritization, and regulatory traceability.

International Hellenic University, Intern

May 2023

EVAE Lab – Drones & EVs

- Designed and manufactured custom drone sensor housings for reliable sensor integration and environmental data collection.
- Programmed, wired, and calibrated 5+ multi-sensor systems with average measurement error below 3% during flight testing.
- Executed 10+ flight tests, diagnosing design issues and implementing improvements to flight stability and data quality.

Department of Industrial Engineering – ROUVs

- Rebuilt and optimized a Blue Robotics ROV-2, integrating sonar and GPS modules to improve underwater navigation accuracy by 40%.
- Designed upgraded camera mounts and a leak-detection system to improve subsystem reliability during deep-water operation.
- Integrated 4 environmental sensors for temperature, pressure, pH, and conductivity, achieving 95%+ measurement accuracy.

Technical Experience

UBC Subbots, Mechanical Lead

2023 – Present

- Lead mechanical and autonomous-system development for the team's autonomous underwater vehicle, responsible for BMS integration, structural frames, pressure enclosures, subsystem packaging, and mechanical-electrical integration.
- Designed a pressure-resistant battery/BMS enclosure for operation to 100 m depth, including a removable drawer architecture that improved serviceability, electrical packaging, and safe battery removal.
- Developed machine-learning and object-detection models using COCO and custom underwater datasets to improve target recognition in subsea environments.
- Developed vision-based path-planning and trajectory-generation algorithms for autonomous underwater navigation and mission execution.
- Integrated gyroscope and magnetic-field sensor circuitry to improve vehicle orientation estimation, navigation reliability, and closed-loop control performance.

SAKAND-1 High-Power Rocket

Sep 2026

- Designed an H-class high-power rocket in the 160–320 N·s total-impulse class, integrating propulsion, structures, aerodynamics, avionics, and recovery-system requirements.
- Created full-vehicle CAD and performed FEA on flight-critical components to evaluate stress, deformation, load paths, and structural performance under flight loads.
- Performed external-aerodynamics CFD in OpenFOAM to analyze airflow, pressure distribution, aerodynamic forces, and vehicle stability.
- Modelled trajectory, static stability, aerodynamic performance, and propulsion characteristics using OpenRocket, OpenMotor, and rocket-flight simulation tools.
- Designed an integrated avionics module incorporating two cameras, GPS, radio communications, and a multi-sensor cluster for flight-data acquisition and tracking.

Firefighting RC Rough Terrain Vehicle

Jan 2024

- Designed and prototyped a rough-terrain firefighting vehicle, including a two-speed forward/reverse transmission with a waterjet-cut planetary gear set.

CONTACT

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[LinkedIn](#)

[Portfolio](#)

Surrey, British Columbia

TECHNICAL SKILLS

Engineering Software

- SolidWorks
- OpenFOAM
- OpenRocket
- OpenMotor
- RASAero II
- RocketPy
- RockSim
- MATLAB/Simulink
- AutoCAD, Onshape, Revit

Programming

- Python
- C/C++, Arduino
- LaTeX

Manufacturing

- Waterjet Cutting
- Laser Cutting
- Lathe & Mill
- 3D Printing

Instrumentation

- Circuit Design
- Soldering, Wiring
- Oscilloscope, Multimeter
- Debugging

MEMBERSHIPS

- Edmonton Rocketry Club
- Canadian Association of Rocketry

CERTIFICATIONS

- Class 4 Driver's License
- UAS Drone Pilot A1A3
- Basic Security Training Certificate

AWARDS

- RoboSub 2026 Semi-Finalist
- Problem of the Month Grand Prize Winner
- Dean's Honour Roll
- IAPT Physics Olympiad
- Maths Olympiad Stage II

INTERESTS

- High-Power Rocketry
- Flying Drones
- Playing Chess
- Automotive Repair
- Duolingo 1500+ Streak