

ARI CHOLAKIAN

UBC Engineering Physics

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EDUCATION

University of British Columbia

Vancouver, BC

Bachelor of Applied Science in Engineering Physics, 3.7 GPA

Sep 2023 – May 2028

- **Courses:** Machine Design, Software Construction, Signals & Systems, Fluid Mechanics II, Machine Learning, Quantum Mechanics
- **Activities:** 40-hour Machining Certification, Engineering Physics Student Council, Clubroom Manager

TECHNICAL EXPERIENCE

AME Consulting Group

Vancouver, BC

Mechanical Engineering Co-op

Jan 2025 – May 2025

- Prepared and issued **30 mechanical drawing** sets in AutoCAD and Revit 3D and generated **\$150,000 of revenue**
- Designed HVAC/plumbing systems for data centers, biotech labs, multi-unit residential projects, and District Energy connections
- Cut costs for clients through detail-oriented, thorough and creative problem-solving, going beyond minimum guidelines
- Configured and performed flow, energy, and stress simulations in **AutoCAD MEP, CAEPIPE**, and internal tools

UBC Orbit - Satellite Design Team

Captain and Lead Systems Engineer

Sep 2025 – Present

- Directed the system architecture, design, integration, and verification of the **ALEASAT** project, a student-led disaster recovery CubeSat mission at UBC with the European Space Agency (ESA) and other international partners
- Led a **team of 70** undergraduate and graduate engineering students to design and meet mission objectives
- Designed budgets and enabled the integration of the satellite's power, on-board software, and communications subsystems
- Supported **Flatsat, vibration, thermal and EMC** testing campaigns to verify functionality
- Executed the design and installation of local CubeSat testing facilities, accelerating the West Coast and Canadian space industry

Radio Frequency Communications and Structure Designer

Sep 2023 – May 2025

- Designed the Antenna Deployer Module timer PCB in **Altium**, followed by fabrication and **SMT reflow** assembly
- Designed a **space-qualified** burn-wire deployer mechanism and carried out environmental testing in ESA CubeSat facilities, adhering to **ECSS** guidelines and **DFMA** practices to save thousands in manufacturing and qualification costs
- Simulated antenna properties and radiation patterns in **Ansys Electromagnetic Suite** to optimize for LEO omnidirectionality

PROJECTS

Autonomous Rescue Robot

Engineering Physics Mechatronics Competition

Aug 2025

- Designed a robust, autonomous robot in a demanding 6 week competition where we secured 1st place.
- Rapidly prototyped and manufactured a modular all-metal chassis and **3 DOF robot arm**
- Used a manual mill, lathe and 3D printers to manufacture fully custom parts designed in **OnShape**
- Designed custom LIDAR object-detection and incorporated dead-reckoning into feedback loop to significantly improve skid-steering

RESEARCH AND PUBLICATIONS

Using a Dynamic Channel Emulator for CubeSat GNSS Receiver Test and Integration

Published in 2025 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)

May 2025

A Dynamic Channel Emulator for CubeSat System Test and Integration

Published in 2024 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)

Sep 2024

SKILLS

- **Mechanical:** CAD/CAM, Solidworks, OnShape, AutoCAD, Revit, FEA, 3D Printing, Machining (lathe, mill, waterjet, lasercutter)
- **Electrical:** Circuit design (Altium), Ansys HFSS, Through hole and SMT soldering, Amateur Radio Operator, VNA
- **Software:** Python, Java/C#, git, MATLAB, Excel, Typst, VSCode