Alexander Li

**Engineering physics
(2nd year at UBC)**

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Summary

Second year Engineering Physics student at UBC looking for design, research, and/or teaching experience for grad school. Currently taking summer courses and conducting CS-related research part-time with serverless functions under Prof. Mohammad Shahrad. Specifically looking for CPEN 221 TAship in Winter Term 1.

Interested in mathematics and computer science topics and will consider pursuing an honours math minor or CS/CPEN tech electives.

Work Experience

UREP Affiliate at UBC CIRRUS Lab (Prof. Mohammad Shahrad)
7 May 2023 – 11 August 2023 (Expected), Vancouver, BC
- Modelling benchmark execution times on serverless platforms using Python and statistical analysis tools. Third author on paper submitted to conference which is awaiting result.

Manufacturing Engineering Co-op at Corvus Energy Inc.
5 January 2023 – 28 April 2023, Richmond, BC
- Designed improvements to tooling for large ship ESS (Energy Storage System) production
- Wrote clear work instructions for manufacturing line tasks

Education

2nd Year studying Engineering Physics (BASc) at UBC Vancouver
September 2021 - April 2026 (expected), Vancouver, BC

The engineering physics program at UBC combines a physics major with electrical, mechanical, and computer engineering coursework.

Students gain physics-based analytical skills to apply their knowledge to problems from a wide range of disciplines, along with considerable practical experience and professional development from mandatory co-op and 2.5 years of engineering design projects.

Technical Projects

'Robot Summer' Competition (Team, ENPH 253 course, in-progress)

Building and coding a line-following robot to navigate a racetrack with shortcuts and pick up blocks. Will compete on August 10.

Heavy use of PID control, circuits theory, mechanical design, and machining / rapid prototyping.

Foam Board RC Airplane (Personal)

Built from scratch and successfully flew foam board airframes housing a 2.4 GHz radio control system and onboard electronics

Researched basic flight dynamics to ensure control stability and optimize lift and drag characteristics.

Skills

Programming Languages and Applications

Java, Python, Arduino, C/C++, MATLAB, SolidWorks, MS Office Suite

Engineering skills

Mechanical design: drafting in SolidWorks, rapid prototyping, GD&T

Electrical: analog and digital circuits, mechatronics design, soldering, circuit bench testing with multimeters and oscilloscopes

Lab experiments and data analysis in MATLAB

Other certifications

PHAS Student Machine Shop certification (40 hour course)

Standard First Aid & CPR/AED Level C

Awards

UBC Trek Excellence Scholarship for Continuing Students (top 5% of domestic students in faculty year)

Dean's honour list (2021W, sessional average 93.4%)