

Job Posting:172231 - Position: F25 Co-op Research Assistant (Software Engineering) 172231

Co-op Work Term Posted:	2025 - Fall
App Deadline	09/02/2025 09:00 AM
Application Method:	Through UBC Science Co-op
Posting Goes Live:	08/27/2025 10:52 AM
Job Posting Status:	Approved

ORGANIZATION INFORMATION

Organization	UBC Chemistry
Website	https://groups.chem.ubc.ca/cberling/
Address Line 1	2036 Main Mall
City	Vancouver
Postal Code / Zip Code	V6T1Z1
Province / State	BC
Country	Canada

JOB POSTING INFORMATION

Placement Term	2025 - Fall
 Job Title 	F25 Co-op Research Assistant (Software Engineering) 172231
Position Type	Co-op Position
Job Location	Vancouver, BC
Country	Canada
Duration	8 or 12 months
Work Mode	In-Person
Salary Currency	CAD
Salary	3333.34 per month for 40 Major List
Job Description	

Berlinguette Group Overview

The Berlinguette Group designs and builds advanced electrochemical reactors to accelerate decarbonization. We are a large interdisciplinary team of scientists and engineers that seeks innovative ways to discover and scale disruptive clean energy materials. This position is part of a sub-team within the Berlinguette Group that uses flexible automation to build self-driving laboratories. These self-driving labs are designed to accelerate the deployment of our electrochemical reactors and other clean energy technologies. Learn more here: https://www.youtube.com/embed/JgJlj5_RAhg. This position will also overlap with a sub-team that pioneered and continues to advance electrolyzers that convert CO2 capture solutions into fuels and chemicals used widely by society. Learn more here: <https://youtu.be/-zLzly7OviM>.

Job Summary

We are seeking an ambitious co-op student with experience in software engineering, computer science, or a related field to join the Berlinguette Group's diverse and collaborative team. The successful candidate will gain experience across a variety of technical areas related to self-driving lab (SDL) development and utilization. The Berlinguette Group's SDL, Ada, integrates robotics,

automation, and machine learning to accelerate the development of new materials.

Work will be performed in collaboration with senior team members who will provide ongoing technical training, guidance, and mentorship. The successful candidate will gain valuable experience in Python programming, hardware-software integration, GUI/UI development while also building skills in clearly communicating technical work and challenges within a multidisciplinary team environment.

Work Performed

The primary responsibilities for this role may include:

- Writing, refactoring, and debugging Python code for SDL workflows;
- Using Git for version control and collaborative development;
- Developing and troubleshooting GUIs and user-facing tools for automated laboratory operations;
- Supporting hardware-software integration for laboratory equipment (e.g., robotic arms, sensors, actuators, electrochemical cells);
- Collaborating with scientists and engineers to design, test, and deploy new software features;
- Analyzing and visualizing experimental data using scientific computing libraries (NumPy, SciPy, Pandas, Matplotlib); and
- Preparing clear documentation, reports, and progress updates on project outcomes and challenges.

Job Requirements

Required Qualifications & Skills

- Currently pursuing a Bachelor's degree in Computer Science, Computer Engineering, or a related discipline;
- Hands-on experience with a programming language like C++ or Python;
- Experience with version control systems, particularly GitHub;
- Experience using **PyCharm** (or similar IDEs) for development and debugging;
- Ability to explore and understand complex codebases;
- Familiarity with concurrent programming fundamentals, such as threads, locks, and thread safety;
- Excellent communication skills;
- Capability to work both independently and collaboratively;
- Exceptional problem-solving skills; and
- Demonstrable ability to work to milestones and manage deadlines.

Desired Qualifications & Skills

- Proficiency in Python;
- Understanding of Python type hinting systems;
- Proficiency in software architecture patterns, such as Model-View-Controller for UI development;
- Proficiency with IoT devices, particularly Arduino and Raspberry Pi;
- Familiarity with serial communication systems, such as RS-232 and MODBUS;
- Familiarity with robotics programming and automation workflows (laboratory or industrial experience is an asset);
- Exposure to hardware-software integration (e.g., sensors, actuators, robotic arms, or lab equipment);
- Familiarity with agile workflows and collaborative coding practices; and
- Experience working in an agile work environment.

Citizenship Requirement N/A

APPLICATION INFORMATION

Application Procedure	Through UBC Science Co-op
Cover Letter Required?	Yes
Address Cover Letter to	Hiring Manager