

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

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

## **ORGANIZATION INFORMATION**

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

## **JOB POSTING INFORMATION**

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

### **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](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 CO<sub>2</sub> 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**

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