

[Internship] Canada Polytechnique Montreal 2026 Winter Research Internship Program Report

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0. Introduction

I carried out this internship at Polytechnique Montreal, an engineering school located on the Universite de Montreal campus in Montreal. It shares the campus with UdeM and the business school HEC Montreal. Through this program, you select a research topic and a supervising professor in advance and conduct research for four months. Upon selection, a scholarship of CAD 1,500 per month, about CAD 6,000 in total, is provided to support your stay.

1. Preparation

1) Application Process

I found the recruitment announcement on the International Exchange Program board of the SNU College of Engineering website and decided to apply. Apart from transcripts and language test scores, the two documents that require the most effort are the CV and the Letter of Motivation, both written in English. For the CV, I referred to various templates available online and included my coursework projects and prior experience. The Letter of Motivation is similar to a personal statement. I explained why I wanted to work on the topic I chose and described the experiences and strengths that would allow me to carry out the research. All documents are submitted through the Office of International Affairs of the College of Engineering rather than directly by the applicant. After an internal review, the office guides you through submitting the application to Polytechnique.

2) Visa

This internship falls under the 120 day work permit exemption for researchers, so no separate study or work permit is required. However, the entry requirements differ depending on your nationality. If you are from a country that is exempt from Canadian visa requirements, you only need to obtain a Canadian eTA before departure. If your country is not exempt, you must apply for a Canadian visitor visa before entering Canada. You can check which applies to you here: <https://www.canada.ca/en/immigration-refugees-citizenship/services/visit-canada/check-visa-eta.html>

At the border, make sure to present your internship documents and receive a visitor record covering your stay, as the school will ask for this documentation.

3) Flights

You can search for tickets on price comparison sites such as Skyscanner or Kayak, and the earlier you book, the better the price. In my case, I was on an exchange semester on the West Coast of the United States right before the internship, so I bought a ticket from the US to Canada instead of flying from Korea. When I asked the Office of International Affairs, they confirmed that it is not mandatory to depart from Korea. The office provides flight cost support, but there is a maximum amount they will reimburse, so make sure to check the funding limit in the official announcement before booking.

2. Life in Montreal

1) Housing Contract

The easiest option is definitely the dormitory, ZUM Residences on the UdeM campus. It is only a 4 to 5 minute walk to the school, which is a huge advantage in winter. One downside I heard is that bathrooms are shared with other students, which can be somewhat uncomfortable.

In my case, I arrived in Montreal a few days before the program started and searched for housing in person, visiting around five to six places before making a decision. I ended up living near Plamondon station, about four minutes from the metro on foot. Since Montreal is extremely cold in January and February, staying close to a metro station was my top priority. If you are coming in summer, however, neighborhoods like Mile End or Plateau Mont Royal might be more attractive, as they are full of colorful cafes and parks. In winter, when it is freezing outside, those things matter much less. I paid CAD 800 per month for a place shared with one housemate and with two bathrooms.

I strongly advise signing your housing contract in person. Most deals are made directly with landlords, and there is a real risk of scams if you sign a contract online without seeing the place. Overall, if you are starting your internship in January, I would honestly recommend considering the dormitory. Commuting takes only 4 to 5 minutes on foot from the dorm, whereas from my house it took around 18 to 20 minutes by metro, which is not trivial in the middle of a Montreal winter.

2) Daily Living

The Plamondon area where I lived had a large Asian community, so there were plenty of Asian markets nearby where I could buy vegetables, sauces, and other ingredients, which was very convenient for cooking at home. The house itself was quite spacious, and I had a private bathroom, which I really appreciated compared to the shared facilities in the dormitory.

3) Food

I usually bought lunch from the cafeterias at the university and made my own breakfast and dinner at home. From time to time, I ate out with labmates or other interns, which cost at least CAD 20 to 30 per meal including tax and tip. The sales tax in Quebec is as high as 15%, and a tip of around 15 to 18% is expected on top of that, so eating out regularly is a fairly costly option in Montreal.

4) Weather

I arrived in Montreal in mid January, and coming straight from the West Coast of the US, the cold was a real shock. January through March is true winter. There were snowstorms and days so cold that the university closed its doors. If you are starting in winter, bring every form of winter gear you can.

Once April arrives, it slowly starts to feel like spring, and outdoor activities such as running and visiting parks become possible. That said, the winter months were not just about enduring the cold. In February and March, I went skiing and watched hockey games with other interns and labmates, which was a genuinely interesting part of experiencing Canada in winter.

5) Language

Montreal is in the province of Quebec, where French is the first official language, and I felt that English signage and announcements are much more limited than you might expect. Even the metro announcements are only in French, which was a culture shock when I first arrived in Montreal. That said, many people can speak English, especially those who moved from English speaking parts of Canada, so you will manage fine. Still, daily interactions are generally expected to happen in French, so I would advise learning a few basic French expressions like "Bonjour" and "Comment ca va" before you go.

3. Research Internship

I carried out my internship under Professor Nicolas Saunier in the transportation engineering lab, on the topic "A Maneuver Vocabulary for Vehicle Trajectories at Urban Intersections." The project was centered on data analysis of traffic data collected by drones over urban intersections, using datasets such as inD, and my work was mainly done in Python and managed through GitHub. The goal was to automatically discover patterns, a vocabulary of maneuvers, from vehicle movements over time. Each trajectory was segmented into straight and turning portions, and the turning segments were then clustered to identify recurring maneuver types such as left turns, right turns, and U turns.

One of the most interesting outcomes for me was seeing how much the design of the pipeline matters. Segmenting trajectories before clustering revealed structure that clustering whole trajectories simply missed, and adding speed information turned out to be necessary to

distinguish turns that look similar in shape but are physically different. Debugging the failure cases, such as turns detected too long or tiny spurious wiggles counted as turns, taught me more about the methods than the successful runs did. Over the four months, I went from treating the underlying methods as black boxes to understanding why each parameter was set the way it was, and I completed a full research report at the end of the internship, which I am continuing to build on even after the program ended.

The lab officially ran from 9 am to 5 pm, but since the work was based on data and could be done from home, the hours were not strictly enforced. When it was too cold outside in January and February, I sometimes worked from home, and occasionally I left the university before 5 pm. In exchange, progress was expected to be reported in weekly meetings with the professor, along with biweekly group meetings. Both the personal and group meetings were held in English, since the majority of the graduate students in the lab were international, so there was no language barrier at all in terms of research.

My advice is to feel free to ask questions to the graduate students in the lab, as they are very open to answering questions related to your project. Just be mindful not to bother them outside of working hours.

4. Cultural Life

Through the international office at Polytechnique, I got to meet other international interns, and we traveled and did weekend activities together a lot. We visited the major cities of Eastern Canada, such as Toronto, Ottawa, and Quebec City. Montreal sits right in the middle of everything, so Toronto is about five hours by train and Ottawa even less. Together with friends from Taiwan, Singapore, Australia, and Korea, we also rented a car at the airport and traveled to various places such as Parc Omega, a wildlife park full of animals, which was fascinating. We also went skating and skiing together, which made the winter much more enjoyable.

I also participated in a buddy program through the international office, where I was matched with a local student who had done an exchange at SNU. We did all sorts of activities together, including cycling and visiting local bars. Thanks to all of this, I feel that I truly experienced local Canadian culture, and especially French Canadian culture. If I had gone to English speaking Canada, I think the experience would have felt quite similar to my exchange semester in the US, so I will always cherish the experiences and opportunities I had this year in Quebec.

Last but not least, I would like to express my huge thanks to the Office of International Affairs of the College of Engineering, and especially to Ms. Heesun Kim, who helped me throughout the entire process from application to completion.

If you have any questions after reading this review, please feel free to email me at marcusmunkh26@gmail.com!