

Hello there,

My name is Olivia Zhou and I'm a CS Major at the University of Toronto. I have completed 4 internship roles totalling to 20 months of software development experience. My main areas of experience are in backend development, data management, and machine learning. I'm searching for a new grad role to start after my graduation in 2025.

My most recent internship in summer 2024 was at Amazon where I worked in the Seller Partners Financial Technology sector, on the STARX team, which manages taxes for Amazon sellers. My project was to handle the ongoing issue the team has had with large tax reports overwhelming the production hosts leading to major delays in our service. As part of the project, I've investigated the memory usage and garbage collection of our current processes, designed and implemented a solution end-to-end to solve this issue while incorporating feedback from my team. My solution was effective in preventing regular sev-2 tickets the team would get and sped up the processing time for affected workflows by an average of 2 business days. I also added a stretch goal on top of my project in order to fix an issue that was crucial to the user experience—a way to notify the sellers of the status of the report generation on our webpage. This ended up being a full stack solution to send the status from our backend service to the frontend webpage.

In this role I gained a lot of experience working with large scale systems in a fast paced environment. Amazon emphasizes self-directed fast paced learning and maximal efficiency in development, as well as collaboration with other developers, and I learned a lot about how to pick up new skills and learn new codebases quickly, how to communicate effectively, and how to achieve maximal efficiency while maintaining high standards for testing and accuracy.

Before this, in summer 2023, I worked at the Bank of Montreal on the Fixed Income Technology team where I primarily worked on backend development for our stock and bond trading systems DSTS and TOMS. I worked a lot with the PSQL database and Java, and also worked with C++ and Bash. Among the issues I resolved, I fixed a redundancy issue when updating the security trade data by applying database normalization principles to the schema and making relevant changes in the codebase. I also automated a process to retrieve, augment, and sftp a data file to a given destination specified by the client, and implemented error handling for our MQHandler. Everything was done in Linux, accessed through the command line. This was my first exposure to an enterprise development environment, and I learned a lot about software tools, standard practices, and version control systems to keep such long standing systems functional and readable.

Previous to this, in Summer and Fall 2022, I worked on the Research and Development team at BMO, where I assisted in the development of a deep learning model that predicts the prices of swaptions. I mostly helped with data collection and data cleaning, as well as testing the model with different hyperparameters. While I was not the lead developer in creating the model I got hands on experience and mentorship from the data scientist, and I learned a lot about what goes into building an AI model with real world utility. I later heard that the swaption price prediction system was able to effectively improve the trading potential of the BMO Capital Markets team. In this internship, I was also involved in developing automation scripts to increase efficiency of the team's operations. I made a script that would automatically web scrape to collect data on emerging technologies, write to a dataframe converted to excel file, as well as many functions that would merge, sort, or filter the data according to parameters. The filtering script was able to process roughly 40000 lines of data in 3.2 seconds, with most of that time being security verification from the BMO systems. The web scraping script was able to gather and process dozens of new news articles in around 5 minutes. This saved around 2 hours a day of time for the employees responsible for updating the BMO Emerging Technologies Newsletter.

Before this, I also worked at a local police station, where I helped to revamp the website and add an online store and event booking system. I proposed to also digitize the volunteer/job application process, as I myself found it tedious and confusing to do all the legal paperwork necessary to apply for a position surrounding security, and I suspected it was the limiting factor in our volunteer applications. As I expected, following the digitization of our volunteering process, we received upwards of 50% more volunteer applicants who wanted to work with us. This was my first real experience in working with web development, and while I was inexperienced at the time, I researched and learned to work with a lot of new technologies and did everything to the best of my ability to maximize success for the organization.

I am currently looking for a new grad job in software development where I can utilize my skillset to make the most amount of impact while growing as a developer. I am always excited to implement solutions that make a difference, and I like to work with qualified individuals who I can learn from and rely on. I hope to find such an opportunity in your company.

Best Regards,
Olivia