

Gabriel Peralta

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EXPERIENCE

Software Developer, *Royal Bank of Canada* – Toronto, ON Mar 2024 — Present

- Enhanced a **large-scale integration platform** connecting multiple internal applications to Salesforce, handling approximately 2 million records daily from over 20 million clients using **Java**, **Spring Boot**
- Optimized processing speed by implementing a batching mechanism, increasing **TPS** by 208%, 286%, and 1485%
- Redesigned **SQL Server** database operations, refactoring 5000+ lines of Java code, improving scalability
- Designed **REST** and **GraphQL API** endpoints including cache mechanisms for improved performance
- Actively participated in deployment processes and troubleshooting using **Jenkins**, **OpenShift**, and **GitHub Actions**
- Leveraged **multi-threading** to accelerate completion time of database cleaning jobs by 75% while solving deadlocks
- Streamlined application scalability with **Kubernetes** HPA, achieving a 40% reduction in latency during peak traffic
- Achieved 2nd place out of 200 engineers at RBC Catalyst Hackathon

Research Assistant, *University of Windsor* – Windsor, ON Sep 2022 — Dec 2023

- Skillfully utilized PCA, Kernel PCA, Autoencoders, and Variational Autoencoders in sentiment analysis to enhance the accuracy of predictions derived from LLMs, using **Python**, **SciKit-learn**, and **PyTorch**
- Executed compute-intensive deep learning training using Linux on Canada’s high-performance compute (**HPC**) system
- Implemented a memory mechanism within CNNs that determines the involvement of successive layers in previous computations by applying self-attention utilizing **PyTorch** and **HuggingFace**

Software Developer Intern, *Royal Bank of Canada* – Toronto, ON Jan 2022 — Aug 2022

- Contributed to the implementation of an **integration platform** between CRM systems and Salesforce
- Built **event listeners** to process client system business events using **Java**, **Spring Boot**, **SQL**, and **Apache Kafka**
- Managed and maintained **APIs** using Spring Boot, SQL Server Management Studio, and Postman

Software Developer Intern, *MiTek Canada* – Bradford, ON May 2021 — Aug 2021

- Migrated a monolithic app with over **10,000 users** to cloud-hosted **microservices** using **.NET**, and **C#**
- Designed frontend UI components using **Angular** in **Typescript**, connected to microservices APIs

SKILLS

Languages	Python, Java, C#, C, C++, JavaScript, SQL, Bash
ML & Data	PyTorch, Tensorflow, HuggingFace, NumPy, Pandas, Spark, Matplotlib
Frameworks	Spring Boot, .NET, Django, React, Angular
Tools	Git, Docker, Kubernetes, SQL Server, OpenShift, MongoDB, Apache Kafka, Postman

EDUCATION

Bachelor of Computer Science Honours Co-op, with AI Specialization May 2024
University of Windsor, Windsor, ON **GPA: 94.6%**

- Minors:** Mathematics & Biological Sciences
- Awards:** Co-op Rising Student Star Award, Outstanding Scholars, President’s Honour Roll, Dean’s List, Alumni In-Course Scholarship, Gold LEAD Medallion Scholar
- Activities:** President, Artificial Intelligence Club; Project Lead, Women in Cybersecurity; Contestant, CS Games; Contestant, ICPC Regional Contest; Linear Algebra Tutor, Students Offering Support

PROJECTS

Multi-Repository Updater AI

- Developed an AI-powered tool using LLMs to automate code updates across multiple GitHub repositories, streamlining software maintenance and reducing manual effort

Epileptic Seizure Prediction

- Led development of EpiHealth, a platform for predicting epileptic seizures before their onset from smartwatch data
- Conducted data preprocessing using **Pandas** and **Numpy**, and implemented an LSTM architecture using **Pytorch**

Snake AI

- Trained a reinforcement learning agent to play the Atari game **Snake**, leveraging the **PyTorch** and **Pygame** libraries
- Developed and fine-tuned models using advanced algorithms, including **Deep Q-Network (DQN)**, **Double DQN**, and **Proximal Policy Optimization**, achieving increased performance through experimentation