

EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Honors Computer Science (Minor in Statistics; AI Specialization)

September 2020 - April 2025

- **Relevant Courses:** AI, ML, OS, Algorithms, Data Structures, OOP, Databases, Compilers, Stochastic Processes
- **Organisations:** **Entrepreneurship Society** (Sr. Full Stack Dev.), **Wat Street** (Quant. Dev.), **WARG** (Autonomy Dev.)
- **Awards:** President's Scholarship of Distinction, Mathematics International Experience Scholarship

EXPERIENCE

Royal Bank of Canada

Toronto, ON

Cloud Engineer (Cloud, Data and Analytics Platforms, Technology & Operations)

September 2023 - December 2023

- Led a key initiative to automate Databricks deployments, achieving an estimated **50%** reduction in setup time with a custom **Golang**, **Terraform** integration via **Jenkins**, addressing major security and compliance challenges.
- Automated **Azure Data Factory** migration pipelines with **Jenkins**, cutting projected deployment times by **60+%**.
- Developed **Spring Boot** APIs for dataset management, reducing manual updates by **80%** for **Microsoft Purview**-based data governance tool and streamlining whitelisting for an **Azure Data Factory**-based data movement tool.

Sportiqo Labs Inc.

Oakville, ON

Software Developer (Part-time)

February 2023 - August 2023

- Conceptualized an automated sports article generation tool using **Python**, **LangChain**, and **Apify**.
- Created dynamic and interactive cricket Sporti-score component visualizations using **JavaScript (Chart.js)**, enhancing data understanding and presentation.

BlackBerry Limited

Waterloo, ON

Application Software Developer, Product Engineering (CylanceGATEWAY & BBM Enterprise)

January 2023 - April 2023

- Designed and developed a multithreaded data engine in **C++** to improve packet-capture efficiency, integrated with a **Python** ML model to predict C2 beacons from the captured network traffic, increasing prediction accuracy by **~5%**.
- Implemented 5+ features for core libraries utilized extensively across multiple projects. Resolved OIDC and 2FA issues in Gateway's internal testing tool, improving DX and decreasing login times by **~30%**.

BlackBerry Limited

Waterloo, ON

Software Development Engineer, IVY Intelligent Vehicle Development Platform

May 2022 - August 2022

- Created automated package management tools with **Python** and **AWS** decreasing deployment time by **50+%**.
- Designed and implemented a JSON configuration file semantic validator in **C++** and integrated it into IVY IVDP.
- Led a team of 4 to enhance client engagement with the Camera service by initiating a Permission service callback, and automated build, upload, and testing with **Bash** and **CMake** scripts, resulting in increased process efficiency.

PROJECTS

Latexify Py (Google OSS) | Python, NumPy, L^AT_EX | November 2023



- Added support for converting 7 **NumPy** NDArray single function expressions to **L^AT_EX** and fixed **GitHub** CI issues.

Behavioural Cloning for Autonomous Driving | Python, PyTorch, OpenCV | March 2024



- Trained CNN model to predict steering angles from images of a car's perspective, achieving MSE of 0.04 degrees.

Genetic Algorithm Neural Network Car Simulation | C++, SFML | January 2024



- Designed and implemented neural networks from scratch in **C++** for a SFML-based car simulation, integrating genetic algorithms to markedly enhance autonomy and adaptability.

Music Player App | Next.js, React.js, TypeScript, JavaScript, PostgreSQL | August 2023



- Developed a music player app with user authentication, playlists, and charts; led dark mode and UI improvements, and optimized database design using E/R design principles for enhanced performance and data integrity.

TECHNICAL SKILLS

- **Languages:** C/C++, Python, Java, TypeScript, JavaScript, Golang, R, SQL, Bash, HTML/CSS, MIPS
- **Libraries & Frameworks:** Qt, React, React Native, Spring Boot JPA, TensorFlow, PyTorch, Scikit-learn, OpenCV, Next.js
- **Other:** Linux, AWS, Azure, Terraform, Docker, Jenkins, Git, CMake, PostgreSQL, NoSQL, Node.js, Jupyter, L^AT_EX