

## EDUCATION

### University of Waterloo

Waterloo, ON

Bachelor of Honors Computer Science (Minor in Statistics; AI Specialization; GPA: 3.85/4.0)

September 2020 - April 2025

- **Relevant Courses:** AI, ML, OS, Algorithms, Data Structures, OOP, Databases, Compilers, Stochastic Processes
- **Organisations:** **Formula Electric** (Firmware), **WARG** (Autonomy), **Wat Street** (Quant), **EntSoc** (Sr. Full Stack 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

- Spearheaded 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 interactive cricket score component visualizations with **JavaScript (Chart.js)**, enhancing data 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 OIIC 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+%**.
- Centralized system access and permissions oversight with a **C++** JSON configuration file semantic validator, enabling unified rights management for users and groups.
- Led a team of 4 to enhance client engagement with multiple car services by initiating Permission service callbacks. Streamlined build, upload, and testing with **Bash** and **CMake** scripts, resulting in increased process efficiency.

## PROJECTS

### Latexify Py (Google Open-Source) | Python, NumPy, L<sup>A</sup>T<sub>E</sub>X | November 2023



- Added support for converting 7 **NumPy** NDArray single function expressions to **L<sup>A</sup>T<sub>E</sub>X** 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 an MSE of 0.04 degrees.

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



- Engineered neural networks from scratch in **C++** for an SFML-based car simulation, integrating genetic algorithms to enhance agent autonomy and flexibility markedly.

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



- Built a music player app with 5+ features, including user authentication, playlists, and charts; led dark mode and UI improvements and optimized database design using E/R principles for enhanced performance and data integrity.

## TECHNICAL SKILLS

- **Languages:** C/C++, Python, Java, TypeScript, JavaScript, Golang, R, SQL, Bash, HTML/CSS
- **Libraries & Frameworks:** Qt, React/Native, Spring Boot, Next.js, Flask, TensorFlow, PyTorch, Scikit-learn, OpenCV
- **Other:** Linux, AWS, Azure, Terraform, Docker, Jenkins, Git, CMake, PostgreSQL, NoSQL, Node.js, TCP/IP, Jupyter, L<sup>A</sup>T<sub>E</sub>X, REST APIs