

## SKILLS

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- **Languages:** C/C++, Python, Java, TypeScript, JavaScript, Go, R, SQL, HTML/CSS, Bash, MIPS
- **Libraries:** React, TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib
- **Other:** AWS, Git, PostgreSQL, NoSQL, Docker, Node.js, \*-nix OS, Jupyter, Agile,  $\text{\LaTeX}$  | English, Bengali, Hindi, French

## EXPERIENCE

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### Sportiqo Labs Inc.

Software Developer (Part-time)

Oakville, ON

February 2023 - Present

- Independently spearheading the creation of an automatic sports article generator LLM, employing **Python**, **LangChain**, and **Apify** technologies to streamline content generation.
- Created dynamic and interactive cricket Sporti-score component visualizations using **JavaScript (Chart.js)**, enhancing data understanding and presentation.

### BlackBerry Limited

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

Waterloo, ON

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 without peeking at packet data.
- Implemented new features and resolved issues with OIDC and 2FA authentication flows for multiple environments in Gateway's internal testing tool, resulting in a 50% increase in efficiency.
- Enforced adherence to RFC standards and developed highly resilient code for core libraries utilized extensively across multiple BlackBerry projects. Conducted thorough code reviews and performed comprehensive unit testing.

### BlackBerry Limited

Software Developer

Waterloo, ON

May 2022 - August 2022

- Created automated tools with **Python** and **AWS** for release package management improving efficiency by 30%.
- Designed and implemented a JSON configuration file semantic validator in **C++** and integrated it into IVY IVDP.
- Orchestrated a team of four in improving client interaction with the Camera service by successfully implementing the Permission service callback feature while also creating and publishing Bash scripts to automate building, uploading, and testing, streamlining the software development process.
- Conducted extensive UX research on IVY and code reviews on code written by teammates. Spearheaded documentation effort to improve code readability, productivity, and future intern onboarding experiences.

## PROJECTS

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### DOOM RL Agent | Python (PyTorch, VizDoom, Sample Factory, OpenAI-Gym, Scikit-image)



- Creating intelligent agents using reinforcement learning techniques to navigate and interact within DOOM 1993 game environments utilizing the VizDoom emulator.

### Chess Simulator | C++, X11 libraries



- Built a chess application with 3 modes (human vs computer, etc.), 3 levels of computer difficulty, GUI, CLI, and extra features such as undo move, custom game setup mode, move history, threat map, and hints.
- Designed the simulator according to OOP principles (RAII, encapsulation, inheritance, etc.), including design patterns and MVC architecture.

## EDUCATION

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### University of Waterloo

Bachelor of Computer Science (Minor in Statistics; A.I. Specialization)

Waterloo, ON

September 2020 - April 2025

- **Relevant Coursework:** A.I., OS, Algorithms, Data Structures, OOP, Databases, Compilers
- **Term Distinction:** All academic terms (Fall '20, Winter '21, Fall '21, Winter '22, Fall '22)
- **Organisations:** The Zero Experience, Computer Science Club, Poker Studies Club
- **Awards:** President's Scholarship of Distinction (\$2k), Mathematics International Experience Scholarship (\$5k), Certificate of Distinction in Euclid Mathematics Contest (Top 25% worldwide)