ARITRA KAR

☎ +1 (416) 998-3461 ✉ a8kar@uwaterloo.ca 𝗂𝗇 aritra-kar 🌐 aritrakar.com ⌨ aritrakar

SKILLS

- **Languages**: C/C++, Python, Java, TypeScript, JavaScript, Go, R, SQL, HTML/CSS, Bash, MIPS
- **Libraries & Frameworks**: React, Spring Boot, TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib
- **Other**: AWS, Azure, Git, PostgreSQL, NoSQL, Docker, Jenkins, Terraform, Node.js, *-nix, Agile, LaTeX

EXPERIENCE

Royal Bank of Canada   Toronto, ON
Cloud Engineer (Data and Analytics Platforms, Technology & Operations)   September 2023 - Present
- ○ Collaborating in the development and enhancement of internal ETL and data governance tools by leveraging **Azure Data Factory** and **Microsoft Purview**. Actively introducing new features and efficiently resolving issues raised by various teams, thereby contributing to improved functionality and user experience.
- ○ Developing new microservices using **Java** and **Spring Boot JPA** to enhance backend functionality. Concurrently creating a system to automate infrastructure deployment using **Python**, **Terraform**, and OpenAI models.

Sportiqo Labs Inc.   Oakville, ON
Software Developer (Part-time)   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 Ltd.   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 without peeking at packet data.
- ○ Implemented new features for core libraries utilized extensively across multiple BlackBerry projects. Resolved OIDC and 2FA authentication flow issues in Gateway's internal testing tool, resulting in a **50%** efficiency increase.

BlackBerry Ltd.   Waterloo, ON
Software Developer   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 team of 4 in improving client interaction with the Camera service by successfully implementing the Permission service callback feature while also creating **Bash** scripts to automate building, uploading, and testing.

PROJECTS

StarCraft II RL Agent│*Python (PyTorch, Stable-Baselines3, Python-sc2)*│*August 2023*   🔗
- ○ Developing reinforcement learning agents to autonomously navigate and compete in the complex, real-time strategy environment of StarCraft II, demonstrating proficiency in AI and machine learning principles.

Chess Simulator│*C++, X11 libraries*│*April 2022*   🔗
- ○ 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

University of Waterloo   Waterloo, ON
Bachelor of Computer Science (Minor in Statistics; A.I. Specialization)   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, Spring '23)
- ○ **Organisations**: **Wat Street** (Quantitative Dev.), **Entrepreneurship Club** (Jr. Full Stack Dev.), Poker Studies
- ○ **Awards**: President's Scholarship of Distinction ($2k), Mathematics International Experience Scholarship ($5k), Certificate of Distinction in Euclid Mathematics Contest *(Top 25% worldwide)*