Arsh Tripathi

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Technical Skills

Languages: Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R, Rust, Go, Shell, Racket
Frameworks: React, Node.js
Developer Tools: Git, Docker, Azure Cloud, Azure AI Services, VS Code, Visual Studio, PyCharm
Libraries: Qt, OpenBabel, GLFW, PyTorch, NumPy, Matplotlib, TensorFlow

Education

University of Waterloo Waterloo, ON
Bachelors in Computer Science (Artificial Intelligence Specialization) *Sep. 2022 – May 2027*

- Fourth Year Student, Dean's Honor List, Term distinction for 6 consecutive terms
- Recieved International Scholarship of Excellence and President's Scholarship of Distinction

Experience

Software Developer Intern Sep. 2025 - Dec 2025
Ford *Waterloo*

- Working on a major version catchup on a library dependency, 1.9.x → 1.40.x, and consolidated code and build changes

Assitant Engineer, Intern Jan. 2025 - Apr. 2025
Huawei *Markham*

- Worked in creating GLSL like shader language that can be compiled with clang
- Worked in the frontend to get syntactical recognition for language features
- Wrote LLVM IR passes using the new LLVM Pass Manager to enable transformation
- Targeted SPIR-V to enable cross-platform support

Research Assistant - ArGan's Lab May 2024 - Aug. 2024
University of Waterloo - School of Pharmacy *Waterloo*

- Developed and designed a molecular visualization application capable of high speed rendering of molecules and molecular trajectories from common formats like PDB using frameworks like Qt and OpenGL
- Designed and developed a modern, intuitive UI for the application using Qt, improving user experience
- Created a modular platform architecture along with a refined build system to facilitate the easy integration of additional tools and features

Junior AI Developer (WE Accelerate) May 2023 – Aug. 2023
Microsoft (in partnership with University of Waterloo) *Remote*

- Learned about AI systems and common machine learning algorithms, along with Azure web services, to attain AZ-900 and AI-900 certifications
- Coordinated with group to complete a medical research assistant proposition project utilising AI tools and Azure services

Projects

CourseQuest | *Kotlin, Gradle, Compose*

- Created a course planning app using SOLID principles in Kotlin for Windows, to address degree planning needs for Waterloo students
- Enabled course information fetching utilizing University REST API
- Added features for prerequisite verification to help user ensure their needs
- Added feature to sign up and store data on the cloud, complete with password recovery

Chess Game with AI | *C++*

- Collaborated with two other people to make a Chess Game in C++
- Used Object Oriented Programming(OOP) principles and utilized X11 library for graphics
- Implemented different AI levels, each progressively using a better algorithm, and making use of MinMax and MaxMin algorithms, with alpha beta pruning to improve performance