

First Last

✉ myemail@gmail.com • 📞 +8 (888) 888-8888 • 🌐 gh-username • 🌐 website.url • 🌐 li-username

Skills

- **Languages:** C, C++, Python, Java, Scala, Bash, Rust, JavaScript, TypeScript
- **Tools/Platforms:** Linux, Docker, Nginx, DPDK, Django, Flask, Node, Express, Google Cloud Platform

Experience

- **D. E. Shaw & Co.** June 2024 – Aug 2024
Software Engineering Intern (Incoming)
 - Researching and implementing real-time distributed systems for trading activities
- **NVIDIA** Jan 2024 – Apr 2024
Software Engineering Intern (GeForce NOW Core Streaming) | C++, Python
 - Built a high-performance video snapshotting tool to troubleshoot GeForce NOW issues, a product with 20 million users
 - Developed snapshot tool to capture snapshots of raw frames and encoded bitstream on streaming servers, allowing the client to highlight corruption and other video-related issues
 - Implemented raw frame capture tool that could process 750 MB/s of video (4K 60fps NV12 frames) without performance hits (< 1fps drop)
 - Updated video stream networking protocol to support remote configuration, triggering, and feedback for the snapshot feature directly from the client
- **Huawei** May 2023 – Aug 2023
Software Engineering Intern (Computer Networking R&D) | C, DPDK
 - Engineering protocols and libraries for high-performance, low-latency networks
 - Created library using Dataplane Development Kit (DPDK) to process UDP packets, with up to 18x speed improvement over Linux kernel sockets
 - Collaborated to design a connectionless and reliable transport layer protocol on top of UDP
 - Designed and implemented library for the protocol in C, employing lock-free data structures and message passing to achieve processing of 150+ concurrent connections on a single machine
- **AMD** May 2022 – Aug 2022
Software Engineering Intern | C++, Python
 - Developed and maintained debugger for 200+ Kernel-Mode Driver developers across AMD (C++, Python)
 - Added feature to inspect hardware scheduled queues, enabling debugging of critical launch-gating issues
 - Proposed and implemented improvements across unit test (GTest) and CI pipeline, reducing test code size by up to 50%
 - Automated formatting of tables, nested lists, and dictionaries, ensuring consistent output and deduplication of code

Awards/Competitions

- **ICPC ECNA Regionals:** Represented Waterloo in 2021 and 2022, placing 4th and 6th against 90+ other university teams
- **Putnam 2021:** Placed in the top 500 of the most famous University-level mathematics competition
- **USACO Open 2021 (Platinum):** 32nd of pre-college contestants in the highest division of the USA computing olympiad
- **Google Code Jam 2021:** 3rd of Canadian contestants (top 0.1%) in computing competition with 90,000+ contestants
- **Canadian Computing Olympiad 2021:** Achieved a silver medal, placing top 10 in a national level contest

Projects

- **C++ Game Engine:** Designed and implemented object-oriented (OOP) game engine built around the MVC pattern. The engine supports handling a variety of entities with built in entity movement, collision detection, and a graphics library
- **LACS Compiler:** Scala-based compiler for functional language targeting MIPS. Includes support for closures, nested functions, static typing, garbage collection, and tail-call optimization

Education

- **University of Waterloo** Sep 2021 – Apr 2026
Honours Bachelor of Computer Science; cGPA: 95.10% |
 - **Coursework:** Operating Systems, Algorithms, Data Structures, Databases, Statistics, Linear Algebra
 - **Scholarships:** Faculty of Mathematics Scholarship, President's Scholarship of Distinction