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🌐 website.url
🐙 gh-username

Email: myemail@gmail.com
Phone: +8 (888) 888-8888
🌐 li-username

Skills

- **Languages:** Python, C/C++, Java, Scala, Kotlin, JavaScript, TypeScript, Haskell
- **Tools/Frameworks:** Django, Flask, Make, GDB, DPDK, Valgrind, Docker, Nginx, Git, Node.JS, Express, React, Vue
- **Platforms:** Windows, Linux, Google Cloud Platform

Experience

- **Huawei – Network Engineering Intern** May 2023 – Present
Engineering software for high-throughput, low-latency data transfer in file storage networks (C, DPDK)
 - Creating a UDP socket library on top of DPDK, with potential for 18x speed improvement over Linux kernel sockets
 - Developing a transport protocol to ensure reliable data delivery over UDP while maintaining performance
- **AMD – Software Engineering Intern** May 2022 – Aug 2022
Improved and maintained driver debugger for 200+ KMD developers across AMD (C++, Python)
 - Added feature to inspect hardware scheduled queues, enabling debugging of critical launch-gating issues
 - Proposed and implemented improvements used across unit (GTest, GMock) and CI test infrastructure, reducing code size by over 50% in relevant tests
 - Automated formatting of tables and nested lists, ensuring consistent extension output and deduplication of formatting code
- **WePlate 🍽️ – Backend Engineer** Jan 2022 – June 2022
Designed, developed, and deployed backend system for nutritional insights (Python, Django)
 - Processed and served 10,000+ cafeteria scheduling and nutritional items
 - Implemented Simulated Annealing algorithm to generate optimized portion sizes
 - Deployed project as scalable webservice using GCP AppEngine and CloudSQL

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
- **Google Code Jam 2021:** 3rd of Canadian contestants (165th overall) in third round of international algorithms competition with 90,000+ participants
- **CCC & CCO 2021:** Placed 1st out of 2,900+ participants at Canada's most prestigious high school programming contest (CCC), qualifying for the CCO (top ~40 CCC) and achieving a silver medal

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
- **Competitive Programming Tools 🐍 🐘:** Tools that greatly speed up implementation and debugging during programming contests. Includes automated local testing, stress testing, and browser integration. Available as a Python CLI or VSCode extension (TypeScript and React.JS)
- **LACS Compiler:** Scala-based compiler for functional language targeting MIPS. Includes support for closures, nested functions, static typing, garbage collection, and tail-call optimization
- **Minecraft Server Plugins:** Used Java, Kotlin, and the Spigot API to add features such as KitPVP mechanics, custom bosses, and hats

Education

- **University of Waterloo** Sep 2021 – Present
Honours Bachelor of Computer Science; cGPA: 95.10%
 - **Coursework:** Object Oriented Programming, Foundations of Sequential Programs, Data Structures, Statistics, Linear Algebra, Combinatorics
 - **Scholarships:** Faculty of Mathematics Scholarship, President's Scholarship of Distinction