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Skills

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

Experience

- **Huawei – Data Center Network Engineering Intern** Waterloo, ON
Designing and engineering software for high-throughput, low-latency connections May 2023 – Present
 - Creating a Unix-like library for UDP on top of DPDK, significantly improving performance over existing Kernel solutions
 - Designing a UDP based transport-layer protocol that ensures reliable and high-performance data transfer on file storage networks
- **AMD – Software Engineering Intern** Remote
Worked on debugging tool for 200+ KMD developers across the development cycle (C++, Python) May 2022 – Aug 2022
 - 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 development time and increasing accuracy.
 - Implemented overhaul of extension UI library, creating consistency in the output format and removing the need for manual formatting
- **WePlate 🐙 – Backend Engineer** Remote
Designed, developed, and deployed (Python & Django) backend system for nutritional insights Jan 2022 – June 2022
 - Created a Simulated Annealing algorithm to generate optimized portion sizes
 - Processed and served mass amounts of cafeteria scheduling and nutritional data (10,000+ items)
 - Deployed and updated scalable Django webservice using GCP AppEngine and CloudSQL

Awards/Competitions

- **ICPC ECNA Regionals:** Represented Waterloo at the 2021 and 2022 contests, placing 4th and 6th against 90+ other university teams
- **Putnam Mathematics Competition 2021:** Placed in the top 500 with a score of 19
- **Google Code Jam 2021:** 3rd of Canadian contestants (165th overall) in third round of major 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 🐙 🐙:** A suite of tools that greatly speed up implementation and debugging during programming contests. Includes automated local testing, stress testing tools, and browser integration. Available as a Python CLI tool or a VSCode extension with a convenient UI (TypeScript and React.JS)
- **LACS Compiler:** Scala program that compiles a simple functional programming language for the MIPS architecture. Includes support for closures, nested functions, static typing, automatic garbage collection, and tail-call optimization
- **Minecraft Server Plugins:** Created plugins using Java, Kotlin, and the Spigot API which add new commands and features, such as KitPVP mechanics and UI, custom bosses, and hats.

Education

- **University of Waterloo** Waterloo, ON
Candidate For Honours Bachelor of Computer Science; CGPA: 95.10% Sep 2021 – Present
 - **Coursework:** Object Oriented Programming (Adv) (100%), Foundations of Sequential Programs (Adv) (99%), Data Structures (Adv) (93%), Statistics (Adv) (94%), Combinatorics (Adv) (98%)
 - **Scholarships:** \$8,000 Faculty of Mathematics scholarship, \$2,000 President's Scholarship of Distinction