

Maxwell Cruickshanks

Waterloo, ON, Canada

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Skills

C++, Go, Java, Python, SQL, JavaScript, AWS EC2/S3, \LaTeX , Git, Unix, Scrum, Object-Oriented

Education

University of Waterloo

Sep 2022 – Present

Bachelor of Computer Science, Honours

Waterloo, ON

- Cumulative GPA: 95.66% / 4.0 GPA

Work Experience

Akuna Capital, LLC

Jun 2025 – Aug 2025

Incoming Software Engineer Intern – C++

Chicago, IL

Lisplogics

May 2024 – Aug 2024

Data Scientist Intern – Algorithms and Machine Learning

Montreal, QC

- Optimized car wash routing model with 20% more cars washed using simulated annealing
- Improved accuracy 50% with LightGBM by feature-engineering for bike-rebalancing model
- Technologies: Go, Python, Grafana, Prometheus, AWS, OR-Tools, TypeScript

Untether AI

May 2023 – Aug 2023

Compute Kernel Software Engineering Intern

Toronto, ON

- Created Proof-of-Concept for saturating ports with RISC-V chip for 8x throughput
- Increased throughput >400% for compute kernels for ML layers (like upsample, convolution)
- Technologies: Python, C++, SQL, Git, Unix, Scrum, PostgreSQL

Centre for Education in Mathematics and Computer Science

Dec 2022 – Present

Canadian Computing Competition Committee Member

- Wrote problems for Canadian IOI selection contests (CCC/CCO) and proofread 10+ problems
- Generated test data and >10 solutions for problems using C++ Codeforces-style generators
- Technologies: Python, C++, Java, \LaTeX

DMOJ: Modern Online Judge

May 2021 – Present

Site Moderator

- Added 1000+ problems, ensured consistency across the problem set
- Organized and set 10+ contests, each with 100+ contestants
- Continually updated test data for 200+ problems to prevent unintended solutions from passing
- Technologies: Python, C++, \LaTeX

Contests and Awards

IMC Prosperity 3 – Prize Winner

April 2025

- Placed 16th out of 12 000+ teams (top 0.13%) in IMC Prosperity 3 trading competition

Canadian Computing Olympiad – Bronze Medalist

May 2021

- Placed in the top 40 out of 2920 contestants in the Canadian Computing Competition to qualify

LeetCode – maxcruickshanks

- Top 200 out of 420 000 users (top 0.05%), peak rating of 2800+

Codeforces – maxcruickshanks

- Peak rating of 2000+, top 30 in Canada

Personal Projects


Compiler for Joos 1W (OCaml)

- Built OCaml compiler from Joos 1W (subset of Java) targeting x86 assembly, with custom IRs, register allocation, type-checking, casting, object-oriented features in 9 000+ lines
- Implemented SSA, constant propagation, local value numbering, dead code elimination, and control-flow graph optimizations; validated with 1,190+ tests and full coverage
- Designed dynamic dispatch via class/interface dispatch vectors and subtype tables

ASCII Game Engine (C++)

- Wrote ASCII game engine with C++ in ncurses library, built DOOM-style 3D game, Atari Breakout
- Followed SOLID design principles and MVC for collision mechanics and UI, writing 2 000+ lines

Course Scheduler (C++)

 [maxcruickshanks/Course-Scheduler](https://github.com/maxcruickshanks/Course-Scheduler)

- Course scheduler using C++ for minimizing workload in any study term with heuristics