# 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 Design, Decision Making, Technology, Effective Communication, Creativity, TypeScript, OR-Tools

## Education

**University of Waterloo**                                                      Sep 2022 – Present
Bachelor of Computer Science, Honours                                                 Waterloo, ON
- **Cumulative GPA: 95.41% / 4.0 GPA**

## Work Experience

**Akuna Capital, LLC**                                                             Summer 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**
- **Decreased latency by >100x** for **Go bike-rebalancing simulation**
- **Improved accuracy 50%** with **LightGBM** by feature-engineering for **bike-rebalancing model**
- Deployed **Prometheus** endpoint and **Grafana** dashboard for forecasting 9 accuracy metrics
- Technologies: **Go, Python, Grafana, Prometheus, AWS, OR-Tools, TypeScript**

**Untether AI**                                                                May 2023 – Aug 2023
Compute Kernel Software Engineering Intern                                            Toronto, ON
- **Shrunk database** stored locally by **97.5%** and improved organization with problem solving
- 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

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

**Canadian Computing Olympiad 2021 - Bronze Medalist**
- Placed in the **top 40 out of 2920** contestants in the Canadian Computing Competition to qualify

**Codeforces - maxcruickshanks**
- **Peak rating of 2000+**, top 30 in Canada

## Personal Projects

**ASCII Game Engine (C++)**
- Designed **ASCII art game engine in C++** using **ncurses** library and built games Space Invaders, Atari Breakout, DOOM-style 3D game
- Followed **SOLID design principles** and **MVC** for collision mechanics and UI, writing **2000+ lines**

**Course Scheduler (C++)**                                             maxcruickshanks/Course-Scheduler
- **Course scheduler using C++** for minimizing workload in any study term with heuristics

**Compiler for LACS (Scala)**
- Wrote **Scala compiler** from **LACS** to **MIPS Assembly Language** with garbage collection
- Supports **nested procedures, scopes, type-checking, heap** and **stack, tail-call optimization**