

# SIMON WU

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## SUMMARY

Sophomore computer science student with experience in software development and web design. Seeking internship positions and other opportunities starting January 2024 and beyond.

## EDUCATION

### B.C.S., Honours Computer Science

Graduating May 2027

University of Waterloo, Waterloo, ON

85.8 CGPA

Faculty of Mathematics

Relevant coursework: Designing Functional Programs (Racket, functional programming), Elementary Algorithm Design and Data Abstraction (C, Racket, compilers and interpreters)

### Ontario Secondary School Diploma

Graduated June 2022 (early graduation)

The Woodlands Secondary School, Mississauga, ON

93.6 CGPA

Enhanced Learning Program

Relevant coursework: AP Physics C: Mechanics, AP Physics C: E&M, AP Computer Science A, AP Calculus AB, AP English Language & Composition

## TECHNICAL SKILLS

**Programming:** Python, C, C++, Java, JavaScript, TypeScript, Racket

**Tools:** Git, gdb, PostgreSQL,  $\LaTeX$

**Linguistics:** English (native), Mandarin (native), French (limited proficiency)

## EXPERIENCE

### Huawei, Markham, ON: Engineering Intern, Distributed Data Storage and Management Lab

May – Aug 2023

- Wrote specification and implemented columnar unit compaction with leveling to eliminate B-tree index (C++)
- Benchmarked and analyzed scaling and performance of key-value stores for database product (Python, Shell)
- Patched foreign data wrapper to achieve 56% greater throughput on random writes (C++, PostgreSQL)

### Prospective Medical Professionals, Toronto, ON (remote): Web Developer

June 2021 – Present

- Developed responsive web components for site with 10000+ interactions in first year (TypeScript, Next.js)
- Maintained database and search to serve volunteer and internship opportunities (React, PostgreSQL)
- Collaborated with design team to make changes and improvements to product, from wireframes to final site

### MLCYC, Mississauga, ON: Council Member

June 2020 - May 2022

- Served on constituency youth council to represent electoral district and host events reaching 1000+ people
- Organized collection of 50+ pounds of essential supplies in toiletries drive during COVID-19 pandemic

### MoGo, San Diego, CA (remote): Data Analyst

June 2020 - Jan 2021

- Performed data analytics and development for Community Advocates for Just and Moral Governance
- Automated processing of 20+ years of scanned San Diego Police Department racial arrest data from FOIA request
- Findings contributed to successful lawsuit settlement filed against SDPD and City of San Diego
- Consulted on web design and outreach tactics for online charity campaign

## PROJECTS

### Cozyring

Jul 2023 - Present

Serverless webbing built with FastAPI and hosted on Vercel.

- Wrote backend API and frontend landing and instruction pages for webbing navigation (Python, FastAPI, Jinja2, Vercel)

### Machine Learning Text Generation

Nov 2022

Trained a recurrent neural network to generate text based on the works of William Shakespeare, online technology blogs and cooking recipes.

- Wrote neural network and trained with both online corpuses and scraped data (Python, TensorFlow, Jupyter)

### PuMP website

Jun 2021 - Present

Built and maintained website interface and backend for a non-profit organization.

- Built responsive pages and reusable components to design specifications (Next.js, React, TypeScript)
- Populated and maintained volunteer, internship and conference opportunity database (PostgreSQL, Prisma)
- Collaborated with designers, developers leading to 10000+ online interactions in first year

**Self-hosted services** Nov 2019 - Present

I host a variety of services and utilities for myself with hosting providers as well as bare-metal equipment.

- Hosted and troubleshooted private cloud storage, static sites, personal libraries (Python, Shell)
- Administrated Windows, macOS, Linux systems and Docker containers

**Arduino mechanical projects** Aug 2017 - Present

Built numerous Arduino projects relating to home automation, mechanics, scientific measurement.

- Projects have included ultrasound obstacle-avoidance car, room temperature display and alert system, motion-activated Halloween decorations (C++, Python)

**Highmark** Oct 2020 - Nov 2020

Minimal Markdown text editor and renderer as a static web app.

- Implemented saving to/loading from disk, HTML exports and live rendering (JavaScript, Showdown.js)

## ACHIEVEMENTS

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**IOAA 2022, Kutaisi, Georgia: Honourable Mention** Aug 2022

- Represented Team Canada in 15th International Olympiad on Astronomy and Astrophysics
- Trained and selected for Canadian team as top 5 student nationwide in astrophysics
- Won honourable mention for individual performance

**picoCTF 2022, Remote: 2nd Place Canada-Wide, 14th Globally** Mar 2022

- Competed in online, team-based CTF cybersecurity challenge hosted by Carnegie Mellon University
- Team placed 2nd in Canada, 14th worldwide out of 7500+ teams

**IOAA 2021, Bogotá, Colombia (remote): 2nd Place Canada-Wide, 14th Globally** Nov 2021

- Represented Team Canada in 14th International Olympiad on Astronomy and Astrophysics
- Trained and selected for Canadian team as top 5 student nationwide in astrophysics
- Won bronze medal for individual performance, gold medal (first in world) for team challenge

**picoCTF 2019, Remote: 14nd Place Canada-Wide, 196th Globally** Oct 2019

- Competed in online, team-based CTF cybersecurity challenge hosted by Carnegie Mellon University
- Team placed 14th in Canada, 196th worldwide out of 15000+ teams