

# Simon Wu

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## EDUCATION

### University of Waterloo

*Candidate for Bachelor of Computer Science – Advanced Coursework*

Waterloo, ON

*Sept. 2022 – May 2027*

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, JavaScript, TypeScript, HTML/CSS, Scheme

**Frameworks:** React, Node.js, Gradle, Next.js, Eleventy, Prisma

**Tools:** Git, L<sup>A</sup>T<sub>E</sub>X, pandas, NumPy, PyTorch, einops, TensorFlow

## PROJECTS

### Machine Learning Text Generation | *Python, TensorFlow, Jupyter*

November 2022 – Present

- Trained RNN to generate text based on the works of William Shakespeare, online technology blogs and cooking recipes
- Explored training techniques and their drawbacks, such as teacher-forcing
- Currently experimenting with transformer system based on GPT-2 for improved text generation

### PuMP website | *TypeScript, React, Next.js, CSS, PostgreSQL, Prisma*

June 2021 – Present

- Built responsive pages and components for Next.js site in TypeScript to design specifications
- Populated, maintained and interacted with PostgreSQL database with Prisma ORM
- 10000+ online interactions in first year

### Self-hosted services | *Shell, Python, HTML, CSS, Docker*

November 2019 – Present

- Self-hosted a variety of services and utilities using hosting providers, bare-metal equipment
- Hosted and troubleshooted private cloud storage, static sites, personal libraries
- Administrated Windows, macOS, Linux systems and Docker containers

## EXPERIENCE

### Web Developer

June 2021 – Present

*Prospective Medical Professionals - PuMP*

*Remote - Toronto, ON*

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

### Cancer Biology Research Assistant

September 2021 – August 2022

*STEM&Leaf Corps (Texas Tech University)*

*Remote - Lubbock, TX*

- Explored the effects of amino acids on cancer treatment as path of Introduction to Cancer Biology group
- Performed programmatic literature search using nltk, pandas
- Researched and wrote tryptophan section of meta-analysis on amino acids and cancer immunotherapy treatments

### Data Analyst / Developer

June 2020 – January 2021

*Community Advocates for Just and Moral Governance*

*Remote - San Diego, CA*

- Used Tesseract OCR and Tabula to enhance the processing of SDPD racial arrest data
- Efforts contributed to successful lawsuit filed against SDPD and City of San Diego
- Consulted on web design and outreach tactics for online charity campaign

## ACHIEVEMENTS

### picoCTF 2022 | *2nd Place Canada-Wide, 14th Globally*

March 2022

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

### IOAA 2021 | *Bronze Medal (Individual), Gold Medal (Team)*

November 2021

- Competed in 14th International Olympiad on Astronomy and Astrophysics
- Selected for Team Canada as Top 5 student nationwide
- Earned bronze medal for individual performance, gold medal (first in world) for team challenge portion