

Simon Wu

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TECHNICAL SKILLS

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

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

Tools: Git, \LaTeX , pandas, NumPy, PyTorch, einops, TensorFlow

RESEARCH

Cancer Biology Research Assistant

September 2021 – September 2022

Modulating amino acid levels to enhance cancer immunotherapy

Remote - Lubbock, TX

- Contributed to the research and writing of a 34-page literature review on the role of amino acids in cancer immunotherapy
- Wrote section on the effects of tryptophan on cancer immunotherapy treatments and immune pathways in the body
- Performed programmatic natural-language literature search using nltk, pandas
- Paper has been submitted to **International Journal of Oncology**, pending review

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
- Collaborated with design team, web developers to make changes and improvements

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

Highmark | *JavaScript, HTML/CSS, Jekyll, Showdown*

October 2020 – November 2020

- Developed a static web application in pure JavaScript and HTML/CSS, self-hosted on a VPS
- Rendered automatic previews and exported pages using Showdown.js
- Implemented saving to/loading from disk

EXPERIENCE

Web Developer

June 2021 – Present

Prospective Medical Professionals - PuMP

Remote - Toronto, ON

- Developed responsive web components using TypeScript for Next.js site with **10000+ interactions in first year**
- Maintained database and search using React and PostgreSQL to serve 50+ volunteer and internship opportunities
- Collaborated with design team to make changes and improvements to product, from wireframes to final site

Data Analyst / Developer

June 2020 – January 2021

Community Advocates for Just and Moral Governance

Remote - San Diego, CA

- Processed 20+ years of scanned San Diego Police Department **racial arrest data** from FOIA request with Tesseract OCR
- Findings contributed to **successful lawsuit settlement** filed against SDPD and City of San Diego
- Scraped online video and other content for record-keeping
- 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

- 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**

EDUCATION

University of Waterloo

Waterloo, ON

Candidate for Bachelor of Computer Science – Advanced Coursework

Sept. 2022 – May 2027

The Woodlands School

Mississauga, ON

OSSD - Enhanced Learning Program (Early Graduation)

Sept. 2019 – June 2022