

Preston Tom-Ying

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TECHNICAL SKILLS

Languages: Java, Python, C++, JavaScript, HTML, CSS, SQL, MATLAB

Frameworks: React, Tailwind CSS, Gulp, Node, Firebase

Developer Tools: Git, Jira, Solidworks, VS Code, Unity, GameMaker Studio 2

EDUCATION

University of Waterloo

Bachelor of Applied Science in System Design Engineering

Waterloo, ON

Sept 2023 - Apr 2028

EXPERIENCE

Machine Learning Research Assistant

Jan 2024 – Present

University of Waterloo

Waterloo, ON

- Built and trained convolutional neural networks based on the Inception V3 model for ocular disease recognition using **Tensorflow** and **Keras** with accuracies up to 79%.
- Created Python scripts to web scrape data and references from scientific databases such as PubMed.
- Updated website publications page with new research papers and enforced website security using **Cloudflare**.

Web Developer

Mar 2023 – Present

Electrium Mobility

Waterloo, ON

- Developed the project pages and the sponsor page for the design team in collaboration with other developers using **Tailwind CSS**, **Gulp.js**, and **Git** for project management.
- Developed scripts that automatically send emails and GitHub organization invites with the GitHub API using **JavaScript** and **Python** to save a couple of hours per recruitment cycle.

Quality Assurance Tester

Feb 2022 – Jun 2022

Edsby

Richmond Hill, ON

- Tested and reported software regressions for each sprint, finalizing the prototype websites for production.
- Investigated possible causes of bugs through detailed issues on **Jira** to work towards the solution.
- Automated the creation of fake students, classes, and clubs on prototype websites presented to potential clients using **Excel**, **reducing setup time by 40%**.

PROJECTS

Bliss | *Taipy, Python, Cohere AI*

Nov 2023

- Winner for **best use of Taipy** at Hack Western X, Western University's annual hackathon.
- Acquired proficiency in a new framework within a 48-hour time frame to develop a mental health website featuring real-time graphs that fetched and retrieved data from a CSV file.
- Engineered a chatbot, leveraging Cohere, to respond to user queries through artificial intelligence.

PokeGuesser | *React.js, Tailwind CSS, Firebase, Python*

Sep 2023 – Nov 2023

- Implemented a web scraper script using **Python** to obtain over 600 sprites to be stored into a **Realtime Firebase Database** and displayed utilizing lazy image loading for increased efficiency.
- Create a quiz-formatted website using hooks from **React.js** to display sprites from the database and manipulate the user's score.
- Implemented a responsive and dynamic design by basing element sizes on the screen size, allowing for compatibility with mobile displays using **Tailwind CSS**.

History of Gaming | *HTML, CSS, Javascript*

Aug 2023 – Sep 2023

- Incorporated web animations for visual appeal and a responsive navigation bar using CSS
- Experimented with colour theory, font styles, and formatting for a better **UX design**.

Portal Traveller | *Java*

Dec 2022 – Jan 2023

- Developed a puzzle platformer where the user escapes a lab by shooting a set of portals around.
- Developed a system to conserve momentum and manipulated velocity vectors when traveling through portals.
- Programmed the portal gun to follow the cursor for precise 360° aim.