

Serena Xu

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TECHNICAL SKILLS

Languages: JavaScript, Python, C++, C, TypeScript, SQL, HTML, CSS, Bash

Technologies: Git, React.js, MongoDB, Firebase, Node.js, Express.js, Linux, Jenkins, Figma

EXPERIENCE

Tools Developer

Sep. 2023 – Dec. 2023

Core Avionics & Industrial Inc.

Waterloo, ON

- Developed a **Python** tool that automates the scraping and organization of ROM estimates into Excel sheets utilizing **openpyxl**, **xlwings**, and **Tkinter**, saving 100+ hours of manual work
- Debugged testing frameworks written in **C** by refactoring existing code and fixing memory-management issues
- Wrote Jenkins pipelines to build drivers by fetching and cloning Git repositories

Frontend Developer

Aug. 2023 – Present

WATonomous

Waterloo, ON

- Helped migrate team website to **Next.js** with **TypeScript**, creating an appealing brand for potential members and sponsors
- Built dynamic and scalable components with **TailwindCSS** from scratch

Summer Camp Counsellor

Jul. 2021 – Aug. 2021

Hidden Acres Mennonite Camp

New Hamburg, ON

- Oversaw a cohort of 10 campers and led various of activities including archery, crafts, and campfire sing-alongs
- Planned **Safari Adventure** themed initiatives with co-workers which increased camper engagement by over **30%**

PROJECTS

Biquadris ☞ | C++

- Developed a **C++** tetris-inspired game employing **OOP** principles like **polymorphism** and **RAII**, while utilizing Decorator and Observer design patterns
- Designed and implemented core game mechanics, including block generation, rotation, and line clearing

Sunny Side Diaries ☞ | React.js, Express.js, MongoDB, Flask

- Created a smart digital journal that responds with prompts and guidance to foster reflection and personal growth
- Incorporated sentiment analysis by constructing a **Flask API** with the EmoRoBERTa NLP Model and integrating it with **OpenAI's GPT-3.5**

bliss ☞ | Python, Taipy, HTML, CSS

- Created a web app that allows users to track and categorize the types of breaks taken in a day to promote mental well-being
- Used **Pandas** to create and process data from CSV files and generated them into real-time graph visualizations
- Won Best Use of Taipy at *HackWestern 2023*

Pinpoint ☞ | React.js, Express.js, MongoDB

- Created an app where users can pin, update, and delete destinations from a travel board
- Implemented REST APIs with **Express.js** and **MongoDB** and added user authentication with **JWT**

Where's The Pokemon? ☞ | JavaScript, HTML, CSS

- Built a clone of the game "Where's Waldo" with timer functionality and a leaderboard to track user's performance

EDUCATION

University of Waterloo

Bachelor of Computer Science

Waterloo, ON

Sep. 2022 – Apr. 2027