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
- 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, increasing overall camper engagement

PROJECTS

Biquadris ↗ | *C++*

- Developed a **C++** Tetris-inspired game employing **OOP** principles like **encapsulation** and **inheritance**, while utilizing Decorator and Observer design patterns
- Designed and implemented core game mechanics, including block generation and line clearing, along with multi-player abilities and unique levels

Sunny Side Diaries ↗ | *React.js, Express.js, MongoDB, Flask, OpenAI*

- 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 an NLP Model and integrating it with **OpenAI's GPT-3.5**

bliss ↗ | *Python, Taipy, Pandas*

- Created a web app that allows users to track and categorize the types of breaks 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 *Hack Western 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? ↗ | *React.js, Firebase*

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

EDUCATION

University of Waterloo   Waterloo, ON
Bachelor of Computer Science   *Sep. 2022 – Apr. 2027*

- Relevant Coursework: Object-Oriented Programming (C++), Foundation of Sequential Programs (Compilers), Data Structures and Data Management