

# Serena Xu

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## TECHNICAL SKILLS

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

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

## EXPERIENCE

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### 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

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### 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

### SunnySide 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**

### 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 integrated user authentication through **Passport.js** and **JWT**

### Weather App | *JavaScript, HTML, CSS*

- Built a weather app that provides up-to-date information through the **OpenWeatherMap API**

## EDUCATION

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### University of Waterloo

*Bachelor of Computer Science*

Waterloo, ON

*Sep. 2022 – Apr. 2027*