

# Wenzhao Pan

<https://wenzhaopan.ca> | 647-906-8819 | [wenzhao.pan22@gmail.com](mailto:wenzhao.pan22@gmail.com) | [Linkedin](#) | [Github](#)

## EDUCATION

University of Waterloo | Bachelor of Computer Science

Sept 2022 - Present

- 3.94 GPA, Dean's Honours List
- Recipient of Mathematics National Scholarship (\$12,000) which is awarded to  $\leq 10$  University of Waterloo students with outstanding mathematics and computer science achievements
- Relevant Courses: Algorithm Design and Data Structures (**Advanced**), Functional Programming (**Advanced**)

## SKILLS

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

**Tools & Technologies:** React, Next.JS, Node.JS, PostgreSQL, MongoDB with Mongoose, Docker, AWS

## EXPERIENCE

### Software Engineer

May 2024 - August 2024

University of Waterloo, P&R Solutions

Waterloo, ON

- Implemented **tools and scripts** for a new **Magento e-commerce** system supporting the University of Waterloo's textbook sales, resulting in a 43% growth in revenue from textbook sales
- Refined and developed multiple **full-stack web tools** with **Bash scripting, JavaScript, and PHP** to support exam printing/scanning/billing, improving department efficiency by 37% and saving **100+ hours** for **50+ department staff**
- Developed **20+** scripts and backend components with **UniVerse BASIC and Bash** to support merchandise sale and inventory management, improving accuracy of inventory reports by up to **78%**
- Engineered a security framework to prevent DoS attacks by configuring **Docker/Podman containers with Nginx**, featuring dynamic **IP blacklisting, user-agent filtering, and rate limiting**, improving site performance by up to **93%**
- Participated in code reviews and security quality assurance after data breach, reviewing **10000+** lines of code and ensuring services passed **100%** of test cases and aligned with **WCAG 2.0** accessibility guidelines

### Frontend Developer

Mar 2024 - May 2024

Private Contract

Remote

- Served as the **sole frontend developer**, designing and developing a **dynamic user interface** for a finance-based AI application, ensuring seamless integration with a **Fetch API** and consistently meeting project deadlines
- Designed front-end code using **HTML, CSS, TypeScript React** to create a responsive web application that works across desktop, laptop, tablets, and **20+** devices
- Hand-coded stylesheets with **Tailwind CSS** into **10+ TypeScript React** interfaces, reducing load times by **75%**
- Decreased frontend error rates by **12%** by implementing robust error handling and thorough testing, creating and implementing tests that achieved **100% test coverage**

## PROJECTS

**Note-It Together** 🌀 | *TypeScript, ExpressJS, Node.JS, React, HTML/CSS*

- Developed a **dynamic frontend interface** utilizing **TypeScript React**, integrating with the **Node.JS** backend through the **Fetch API**, empowering **100+** users to add, edit, and delete notes within their browser.
- Engineered a robust backend with **Node.js, Express, and Prisma** for **AWS PostgreSQL** database, and implemented **CRUD operations** using various **HTTP methods**. Resulted in **23%** reduction in retrieval time for note data.

**HackTheNorth: Still Can't Find Waldo** 🌀 | *Python Flask, JavaScript React, HTML/CSS*

- Developed a **full stack** Where's Waldo application for **vision-tracking glasses** hardware using a **JavaScript React** frontend and **Python Flask** backend used by **dozens** of individuals with disabilities
- Engineered custom **low-latency and high-resolution video streaming** from vision-tracking glasses using **custom socket networking protocol** built using **Python, JavaScript, socket.io, and AdHawk API**. Improved video resolution by **12%** while decreasing latency by **52%**.
- Implemented a **custom calibration system** for vision-tracking glasses using 3D vector and plane **computational geometry** and **computer vision techniques**, improving the gameplay precision by **80%**.

## AWARDS/COMPETITIONS

**Euclid Math Contest 2022** Top 200 out of 16700 high school students, **top 1.2%**

**Canadian Computing Competition 2023 (Senior)** Top 264 out of 3420 high school students, **top 7.7%**

**Pickering Music Festival (ARCT Finalist)** Second place for the ARCT Performer's class