

# MAGGIE CHEN

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## EDUCATION

### University of Waterloo

Waterloo, Canada

Bachelor of Software Engineering, Joint Honours in Combinatorics and Optimization; GPA: 3.7/4.0

2022 – 2027

Courses: Algorithms, Data Structures, Database Management, User Interfaces, Operating Systems, Software Testing

- UW Blueprint (Developer): First Blueprint chapter outside of UC Berkely, focused on software solutions for non-profits.
- Blueprint Software Foundation (Liason): NGO focused on free software maintenance for completed Blueprint projects.

## TECHNICAL SKILLS

**Languages:** Python, C/C++/C#, Java/Kotlin, JavaScript/Typescript, SQL

**Frameworks/Libraries:** React, Vue, Node, Express, Next, Vite, Redux, Pinia, Jest, Vitest, Junit, Cypress, Playwright, Selenium

**Tools:** PostgreSQL, MongoDB, Docker, Firebase, AWS Lambda, DynamoDB, Datadog, Android Studio, Unity, Git, Jira, Figma

## EXPERIENCE

### MASV

Ottawa, Canada

Software Engineer Intern

Sep 2024 – Dec 2024

Leading cloud software company and file sharing service provider with the fastest data transfer technology on the market.

- Owned the development of the industry's first web downloader, enabling multi-file browser downloads without zipping.
- Independently architected the entire web downloader object class using OOP principles and Node EventEmitter.
- Engineered a concurrent download algorithm using the Web Workers API, increasing download speed by 90%.
- Implemented advanced download features such as pause/resume, retry with exponential back-off, and partial file downloads.
- Designed and developed the company download page in Vue with a selectable folder file tree using Quasar and Pinia.
- Contributed to building a CI/CD pipeline with 100+ tests in Vitest for the web downloader repo, achieving 95% coverage.

### Relay Financial Technologies

Toronto, Canada

Full-Stack Engineer Intern

Jan 2024 – Apr 2024

Series B financial technology scale-up ventured by world-class investors with a focus on banking services for small businesses.

- Built an AWS Lambda-based email system to notify customers of cheque statuses, integrating Iterable for email campaigns.
- Launched a new cheque feature for 1,000+ beta customers, using Datadog and DynamoDB to resolve production issues.
- Implemented account status chips and targeted promotions in React/Redux, reducing related customer complaints by 80%.
- Eliminated 30% of identified IDOR and CSRF vulnerabilities in REST API endpoints by addressing ethical hacker reports.
- Contributed to designing the company's first customer event tracking npm package, adopted by 6 engineering teams to monitor 20+ user events, leveraging the Singleton Design Pattern and Segment HTTP Track API.

### SnapPea Design

Kitchener, Canada

Software Engineer Intern

May 2023 – Aug 2023

Product design start-up trusted by 130+ enterprises, specializing in building IoT prototypes.

- First intern to independently build an IoT prototype with accompanying mobile app, using an ESP32 with multi-threading.
- Configured and trained a neural network to classify scents and test air quality through gas sensors with over 95% accuracy.
- Designed and developed an Android application to visualize sensor data, secured with Firebase authentication and data storage.
- Developed Bluetooth and HTTP communication protocols between client apps and multiple server microcontrollers.
- Solely developed and completed a PERN stack Shopify app with webhooks for processing orders for 10,000+ products.

## PROJECTS

**Extend a Family** | MongoDB, Mongoose, Firebase, Express, React, Node

- Accessibility-friendly learning web app that enables educators to create interactive activities and upload content modules.
- Built for a local non-profit that serves 2000+ adults and children with developmental and physical disabilities.

**ClubConnect** | Github | PostgreSQL, Prisma, Next, React

- First UWaterloo community board web-app where clubs can upload announcements and information about student events.

**Zone** | Github | Python

- Tkinter application that predicts user's fatigue level using eye tracking technology and provides SMS updates through Twilio.

**Personal Portfolio** | Github | React, Figma

- Creative personal portfolio page inspired by the VS Code interface.