Marco Chen

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EDUCATION

University of Waterloo   Waterloo, ON
Bachelor of Computer Science, Co-op   Sep. 2023 – Aug. 2028

- **CGPA:** 3.7/4.0
- **Coursework:** Object-Oriented Programming, Data Structures and Algorithms, Computer Organization

EXPERIENCE

Open Source Developer/Reviewer   Dec. 2025 – Current
Shipd (by Datacurve YC W24) | TypeScript, Python, LLM Training, OSS   Remote, San Francisco, California

- Safeguarded the **AI training pipeline** against data contamination by **auditing** peer code submissions to ensure high-quality data ingestion
- Engineered **Ground Truth** datasets by reproducing bugs in high-traffic OSS repositories, authoring **distinguishing test suites** to capture edge cases, and implementing production-grade patches

Software Engineer Intern   Sep. 2025 – Dec. 2025
Geotab | C#, TypeScript, React, .NET, Jest, xUnit   Kitchener, ON, Canada

- Built an automated **end-to-end testing framework** for regulatory compliance certifications, which reduced test execution time by **98%** (from 2 weeks to 4 hours)
- Designed a declarative, data-driven testing pattern using **xUnit Theory** that decreased redundant code by **75%**
- Optimized Redux integration by refactoring blind event listeners to granular data store observers and enforcing **cache immutability** via cloning, cutting redundant re-renders and unintentional side effects by **40%**

Software Engineer Intern   Jan. 2025 – April 2025
Octopodi Technologies | Typescript, React, Tailwind CSS, Next.js, Jest   Waterloo, ON, Canada

- Built the UI for the product from scratch using **TypeScript** and **React**, delivering a **reusable** component library
- Practiced **Test-Driven Development** and reduced review time and post-release bug count by **50%** and **40%**
- Developed and automated 200+ unit tests using **Jest** and achieved over **90% code coverage** in all components

Software QA Intern   May 2024 – July 2024
Shanghai Renhe Network Technology Co.,Ltd | Unity, MS Office   Pudong, Shanghai, China

- Executed and analyzed test cases, delivering actionable insights that informed product improvements, contributing to a **30% decrease in bug resolution time**, eliminating 15 hours of work

PROJECTS

High-Concurrency Cache System | C++   May 2025

- Designed and implemented a **thread-safe**, **sharded cache library** supporting cache eviction algorithms
- Sharded **LRU/LFU** and minimizing lock contention to enable high-concurrency performance
- Built an adaptive **ARC algorithm** that re-balances recency vs. frequency on the fly for complex workloads

Biquadris (Multiplayer Tetris) | C++   Dec 2024

- Developed a **C++** multiplayer Tetris game featuring both terminal-based and X11 graphical interfaces
- Strictly followed **Object-Oriented Design principles** and design patterns (Observer, Decorator, MVC)
- Ensured **memory safety** by adhering to **RAII**, using **smart pointers** for all dynamic resource management

TECHNICAL SKILLS

Languages: Python, TypeScript/JavaScript, C#, C++, HTML, CSS, SQL
Frameworks: FastAPI, Next.js, React, Tailwind CSS, shadcn/ui, Jest, Django, Node.js, Flask
Tools & Platforms: Git, Linux, Docker, Kubernetes, Postman, ngrok
Databases/Cloud: AWS, S3, Lambdas, ChromaDB, PostgreSQL, MySQL, MongoDB, Supabase, Redis, Kafka
Libraries: PyTorch, TensorFlow, Keras, OpenCV, NumPy, Matplotlib, pandas, PyAudio