

Marco Chen

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EDUCATION

University of Waterloo

Bachelor of Computer Science, Co-op

Waterloo, ON

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

SnapNote AI | FastAPI, Next.js, PostgreSQL, pgvector, LangGraph, Google Cloud Vision, RAG

- Built **FastAPI/Next.js** platform using **OCR** with **Google Cloud Vision API** to digitize any lecture notes
- Architected **multi-agent workflow** to automate document structuring and complex **LaTeX** formula extraction
- Engineered a **RAG pipeline** utilizing **pgvector** and **multilingual MiniLM** embeddings to facilitate high-performance semantic search across hundreds of digitized documents stored in a **PostgreSQL** database

Supervised Chess Neural Network | PyTorch, python-chess, Hugging Face Datasets, NumPy, Matplotlib

- Architected an **AlphaZero-style ResNet** in **PyTorch** to automate move selection and position evaluation
- Implemented legal move masking and multi-worker data loading to optimize **GPU-accelerated** model training
- Integrated **Batchnorm**, **Dropout**, and **Early Stopping** to minimize overfitting and accelerate model convergence

TECHNICAL SKILLS

Languages: Python, TypeScript/JavaScript, C#, C++, HTML, CSS, SQL

Frameworks: FastAPI, LangGraph, 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, pgvector, MySQL, MongoDB, Redis, Kafka

Libraries: PyTorch, TensorFlow, Keras, OpenCV, NumPy, Matplotlib, pandas, PyAudio