

MARTIN WONG

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WORK EXPERIENCE

Electronic Arts

May 2025 – Aug 2025

Software Engineer Intern

Vancouver, BC

- Engineered and deployed an intelligent internal tooling system with **LLM RAG pipeline** using **Python**, cutting onboarding time by 40% and helping 30+ engineers quickly resolve codebase and documentation questions
- Built a scalable vector embedding pipeline indexing **millions of lines** of production codebases and **300+ pages of docs** using token-based chunking strategies, **AWS Bedrock**, and **PostgreSQL/pgvector**
- Designed a custom **MCP server** with a scoring system to dynamically rank and retrieve from docs, code, chat history, and user feedback, boosting positive user feedback from **29% to 85%**
- Deployed RAG system with pgvector on **AWS Aurora**, and **FastAPI** on **AWS EKS**, powered by AWS Bedrock, reducing infrastructure spend by 35%

Rivian & Volkswagen Group Technologies

Sep 2024 – Apr 2025

Software Engineer Intern

Vancouver, BC

- Led mobile development of a 2FA-secured driving feature on iOS and Android using **Swift** and **Kotlin**, enabling secure remote commands across all Rivian vehicles directly affecting **10,000+ customers**
- Implemented secure command delivery via **APNS** and **Firestore Messaging** with Bluetooth byte/Protobuf fallback, and built time-based one-time passcodes using **HMAC encryption** and **GraphQL** for all notification failure scenarios
- Prototyped and deployed a native iOS screen recorder to **900+ App Center users** for automated bug reporting, capturing pixel buffer screenshots at 30-second intervals

Avena Tech Corporation

Jul 2023 – Sep 2024

Software Developer (Part-Time)

Vancouver, BC

- Redesigned and deployed full-stack websites for digital marketing clients using TypeScript, **React**, Tailwind CSS, and Figma, reducing load times from **5 seconds to 1 second** to improve SEO
- Streamlined deployment by utilizing BASH, Github Actions, and **Docker** to create a **CI/CD** pipeline for testing, building, and deploying containers, reducing development time by 50%
- Developed a new blogging platform with containerized REST API endpoints using **Express.js**, **AWS S3**, and PostgreSQL, migrating 60+ WordPress blogs to a new efficient system

Simon Fraser University iXLab

Apr 2023 – Sep 2023

Undergraduate Research Assistant

Vancouver, BC

- Enabled machine learning model validation by developing IMU sensor data simulations utilizing Python
- Collected XYZ and rotational data generated from training data generated by the T2M-GPT model in order for researchers to identify joints of motion to increase accuracy to real human motion

PROJECTS

Encrypted P2P Chat App | React, TypeScript, WebRTC, PeerJS, Node.js | 🔄

- Architected a serverless P2P chat application with end-to-end **AES-256-GCM** encryption using **WebRTC**, implementing NAT traversal with STUN/TURN servers for 95%+ connectivity
- Designed distributed file transfer protocol with chunked streaming, automatic retry logic, and congestion control for reliable large file transfers over unreliable networks

Personalized AI Discord Bot | Python, Node.js, FastAPI, AWS Bedrock | 🔄

- Fine-tuned Meta's Llama2 LLM on **120,000** Discord messages to create a personalized chatbot to respond in the style of the user
- Trained and deployed the fine-tuned model on Replicate accessed by a FastAPI endpoint, containerized on Docker and hosted on an **AWS EC2 instance**, and deployed via PM2 on a personal home Ubuntu server for continuous uptime

Custom Blog Editor | React, Express.js, Node.js, PostgreSQL, Typescript

- Developed a full-stack blog editor which allows users to create, update, and delete blogs to migrate away from Wordpress
- Implemented robust client and server-side form validation using Zod and react-hook-form with email notifications to validate if an email was sent, validating every step of blog creation

EDUCATION

Simon Fraser University

Expected Graduation May 2027

Bachelor of Science, Computer Science

Burnaby, BC

Courses: Data Structures and Algorithms, Database Systems, Software Engineering, Computer Systems, Networking

TECHNICAL SKILLS

Languages: Python, Java, Kotlin, Swift, JavaScript, TypeScript C, C++, HTML, CSS, SQL, BASH

Frameworks/Libraries: React, SwiftUI, Jetpack Compose, Next.js, Express.js, Node.js, Mongoose, GraphQL, Tailwind CSS, Jest

Developer Tools: Git, Docker, Postman, AWS, NGINX, Linux, PostgreSQL, MongoDB, Kubernetes