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, improving query performance while reducing infrastructure spend by 35%

Rivian & Volkswagen Group Technologies
Sep 2024 - Apr 2025

Software Engineer Intern
Vancouver, BC

- Led the 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 **Firebase 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 **4 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 Application | *React, TypeScript, WebRTC, PeerJS, Node.js*
- Built a serverless peer-to-peer chat application with end-to-end **AES-256-GCM encryption**, enabling secure real-time messaging and data exchange without storing user data on servers
- Implemented **WebRTC** with STUN/TURN for 95%+ cross-network connectivity and designed encrypted chunked file transfers with automatic retry queuing for large files over unreliable channels

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, Web Development

TECHNICAL SKILLS

Languages: Swift, Kotlin, Java, Python, 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