# Martin Wong

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## Work Experience

**Electronic Arts** — May 2025 - Aug 2025
*Incoming Software Engineer Intern* — *Vancouver, BC*

**Rivian** — Sep 2024 - Apr 2025
*Software Engineer Intern* — *Vancouver, BC*
- Lead mobile development of a new 2FA-secured driving feature on both **iOS** and **Android** platforms using **Kotlin** and **Swift**
- Implemented cloud push notifications via **APNS** and **Firebase Messaging** with a backup Bluetooth path through byte format or **Protobuf** for enabling 2FA-secured drive remote commands across all Rivian vehicles
- Developed a time-based one-time passcode enabling 2FA-secured driving with a local using **HMAC encryption** for paired phone keys and cloud fetched through **GraphQL** for non-paired phone keys, covering all edge cases where push notifications fail
- Prototyped a native iOS screen recorder that records using screenshots and a pixel buffer when app in foreground in 30 second intervals, utilizing Swift to automate bug reporting and testing available for over **900+** App Center users in Swift

**Avena Tech Corporation** — Jul 2023 - Present
*Web Developer* — *Vancouver, BC*
- Redesigned, developed and deployed full-stack websites utilizing Figma, **React**, and Tailwind optimizing load times by **75%**
- Streamlined deployment by utilizing BASH, Github actions, and Docker Compose to create a **CI/CD** pipeline for testing, building, and deploying Docker containers, reducing development time by 50%
- Developed and deployed a new blogging platform with containerized REST API endpoints using **Express.js**, **AWS S3**, and **PostgreSQL**, migrating over 60 WordPress blogs to a new, efficient platform for future blogs

**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
- Collaborated with graduate students from SFU and Dartmouth College under the supervision of Dr. Xing-Dong Yang

## Projects

**Personalized AI Discord Bot** | *Python, Node.js, FastAPI, AWS EC2*
- 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 on via PM2 on a personal home Ubuntu server for continuous uptime
- Wrote Python scripts to convert and pre-process Discord message data from JSON to JSONL, filtering sensitive information from **3,000** messages and ensuring seamless integration to Llama2 model and user privacy

**BWS 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 Wordpress blogs
- Implemented robust client and server-sided form validation using Zod and react-hook-form with email notifications to validate if an email was sent, validating every step of blog creation

**Command-line Document Handler** | *Java*
- Developed a document handler GUI simulated in a command-line interface using Java, featuring document creation, opening, closing, resizing, reading, and writing
- Designed a UML diagram showcasing 6 key classes, abstract classes, inheritance, and polymorphism reducing development time with reduced complexity

## 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, JavaScript, TypeSript, C, C++, Python, Go, x86, HTML, CSS, SQL, BASH
**Frameworks/Libraries**: React, SwiftUI, Jetpack Compose, Next.js, Express.js, Node.js, Mongoose, GraphQL, Tailwind, Jest
**Developer Tools/Technologies**: Git, Docker, AWS, Linux, MSSQL, PostgreSQL, NGINX, Postman