Anne Sun

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Skills

Languages: Kotlin, TypeScript, JavaScript, Python, SQL, Java, C++, C#, C, R, Bash
Frameworks and Libraries: React Native, React, FastAPI, Express.js, Node.js, Next.js, TailwindCSS, Flask, Vue, PyTorch
Developer Tools: AWS, PostgreSQL, Cursor, XCode, Android Studio, Docker, GCP, Git, Linux, Redis, SQL Server

Education

University of Waterloo   **Sep 2023 – Present**
Bachelor of Computer Science   *3.9/4.0 Cumulative GPA*
Courses: Data Structures and Algorithms (C++), Object Oriented Programming (C++), Statistics, Numerical Computation
Activities: GeeseHacks (Developer), UW Blueprint (Developer), Women in Computer Science (Publicity Director)

Experience

Software Engineer   **May 2025 – Aug 2025**
Nova Vacation Homes   *React, React Native, FastAPI, TypeScript, Redux, PostgreSQL, AWS*

- Led the development of a **React Native mobile** property operations platform, collaborating with stakeholders and product managers to design and implement core features from scratch
- Designed and prototyped **UI/UX** flows, integrating **Redux** for state management and leveraging **React Native UI libraries** (e.g., Nativewind, Gluestack) to build responsive, intuitive interfaces and streamline user workflows
- Optimized property management **Python + FastAPI** services by **800+ ms** across **7+ endpoints** through refactoring **SQLAlchemy ORM queries**, enhancing model relationship loading, and implementing **PostgreSQL** query indexing
- **Reduced** frontend data fetching by **48%** through a server-side data filtering and sorting system that supports pagination, dynamic table joins and column selection, optimizing data retrieval and frontend performance
- Enabled photo attachments as completion proof for maintenance tasks via presigned **S3** uploads with **KMS encryption**
- Managed **iOS CI/CD** with **Expo EAS** and **Apple Developer**, automating code signing, provisioning, and **TestFlight** releases with over-the-air (OTA) updates

Software Engineer   **Sep 2024 – Dec 2024**
University of Toronto - EASI   *TypeScript, Express.js, Node.js, SQL, SQL Server, Azure*

- Developed **6 backend microservices** to replace an on-premises data service that manages **60,000+** student records, optimizing query performance and reducing codebase size using **Express.js, SQL** and **TypeScript**
- **Enhanced** data retrieval performance by **15%** for downstream applications by optimizing application logic and translating **TypeScript** into **SQL** queries, enabling efficient database-side calculations
- Eliminated **65% of manual labour** by automating **YAML creation workflows** in API documentation and infrastructure management, ensuring consistency, reducing errors, and streamlining deployment processes across environments

Projects

Trapezoid | *Kotlin, Jetpack Compose, Ktor, PostgresSQL, JUnit, MinIO/S3*

- Built an **E2E** goal-tracking **Android app** with **Kotlin/Jetpack Compose**, integrating **Ktor + PostgreSQL** backend APIs and **JUnit tests**, enabling users to set and track personal goals with photo-based progress
- Streamlined authentication and authorization flows with **OAuth**, enabling seamless user login and session handling

Shape AI | *TypeScript, FastAPI, Next.js, Supabase, LangChain, TailwindCSS*

- Engineering a **Retrieval-Augmented Generation (RAG) pipeline** that transforms raw course materials into interactive study guides, leveraging **pgvector** search and **LLM** orchestration frameworks **LangChain**

SqWiTs Game (3rd Place & Best use of Databricks @ SheHacks) | *Python, Flask, OpenCV, OpenAI, React, TypeScript*

- Developed a fullstack timer that uses **OpenCV** and **YOLOv5** to track and discourage phone use during studying
- Implemented **WebSocket** to relay phone detections from an OpenCV subprocess to a **React** frontend in real-time
- Leveraged **Databricks**, **Scikit-Learn** and **1100+ rows** of data to train a **Machine Learning (ML)** model for user game survival rate prediction

Estia | *React, TypeScript, Express.js, Supabase, Redux, CSS*

- Launched a **SaaS platform** with **270+ registered users**, offering a centralized hub for discovering coding projects
- Engineered an **AI-powered recommendation engine** with **Groq AI** to deliver semantic search, personalized learning roadmaps, and multi-dimensional filtering by tech stack, difficulty, and theme