

Anson Chan

📞 (604) 889-2211 | ✉️ ananryry180@gmail.com | 🌐 in/ansonnchan | 🌐 ansonnchan | 🌐 ansonnchan.dev

Education

University of British Columbia

Expected May 2029

Bachelor of Applied Science, Computer Engineering

Relevant Coursework: Data Structures & Algorithms, Object-oriented Programming (Java), Applied Machine Learning, Software Construction, Computer Architecture, Operating Systems

Experience

Borrow'd

January 2026 – April 2026

Software Engineering Intern

Vancouver, BC

- Reduced manual operational analysis from **15 to 5 hrs/week** by building a search analytics pipeline in **Django** and optimizing **PostgreSQL** reporting queries through indexing and query rewrites
- Engineered moderator approval workflows for marketplace groups, preventing unauthorized access to group content
- Reduced backend database load by **38%** by introducing **Redis** caching for high-traffic marketplace APIs
- Improved deployment reliability by integrating backend testing into **CI/CD** pipelines supporting **Kubernetes** deployments

University of South Australia

June 2025 – August 2025

Undergraduate Research Assistant

Adelaide, Australia

- Cut **retrieval-augmented generation (RAG)** experiment iteration time from **5 days to 2 days** by architecting modular **LangGraph** pipelines that automated document retrieval benchmarking across chunking, embedding, and reranking configurations
- Improved retrieval **recall@5** from **0.72 to 0.81** across 10k+ documents through multi-stage reranking and semantic similarity tuning
- Lowered end-to-end query latency by **~25%** through asynchronous retrieval and **Redis caching** for concurrent LLM workloads
- Standardized **RAG** evaluation by building **Python** benchmarking scripts to measure retrieval accuracy against labeled datasets

Projects

Pear Programming: Real-Time Collaborative IDE

Java, TypeScript, Spring Boot, Redis, Yjs

- Built a collaborative IDE supporting concurrent editing, chat, and shared workspaces across distributed sessions by integrating **Monaco Editor** with **Yjs CRDTs** for conflict-free state synchronization
- Achieved **~40ms p95** latency for edit, cursor, and room-event synchronization by coordinating distributed **Spring Boot WebSocket** services through **Redis Pub/Sub** and **STOMP/SockJS** messaging
- Integrated a context-aware **Llama 3** assistant that analyzed edit history and workspace state to generate inline coding suggestions
- Eliminated workspace inconsistency during reconnects through **Redis**-backed snapshots and automated stale-room cleanup

vent.ai: Privacy-First AI Conversational Platform

Next.js, TypeScript, Zustand, Redis, Groq

- Built a low-latency AI-powered conversational platform supporting **40+ users** across **1,000+ streamed interactions** through anonymous multi-persona conversations with ephemeral session state and zero persistent user data managed in Zustand
- Achieved **~450ms time-to-first-token** by streaming **Groq** inference through Next.js routes with incremental client-side rendering
- Implemented semantic prompt routing using embedding similarity search to match AI personas to conversational context
- Sustained long-running sessions by combining progressive context compression with **Redis** rate-limiting pipelines to control token growth and prevent API overuse

Project Wallfacer: Hidden-State Strategy Simulator

Python, React, TypeScript, PostgreSQL, FastAPI, Groq

- Built a deduction game where players identified a hidden existential threat through evolving interactions and conflicting claims
- Architected a server-authoritative **FastAPI** simulation engine with hidden-state isolation and server-side action validation
- Improved simulation reliability by separating deterministic backend state transitions from **Groq**-generated narrative dialogue
- Built an event-sourced persistence layer using **PostgreSQL** and **SQLAlchemy** to record turn histories, player actions, and accusation logs, enabling full post-game replay and cross-session behavioral analysis

Skills

Languages: Python, Java, TypeScript, JavaScript, C++, SQL

Frameworks: React, Next.js, FastAPI, Spring Boot, Node.js, Django, Yjs, LangGraph

Databases: PostgreSQL, Redis, MongoDB

Cloud & Devops: AWS, Docker, Kubernetes, Jenkins, Git