

Jonathan Ung

Canadian Citizen | US J-1 Eligible
Email: jonathank.ung@icloud.com

Phone: +1 (778)-798-0415
Website: jonathanung.ca

LinkedIn: jonathankeithung
GitHub: jonathanung

EDUCATION

Simon Fraser University - Bachelor of Science in Computer Science

EXPECTED APR 2028

Relevant Coursework: Systems Programming, Distributed Systems, Artificial Intelligence, Networking, Data Science

EXPERIENCE

Amazon | Vancouver, BC, Canada

SEP 2026 – DEC 2026

Software Development Engineer Intern

Typescript, Java, AWS, React

- Joining the Gift Cards team, Fall 2026

Qualcomm | Markham, ON, Canada

MAY 2026 – AUG 2026

AI Infrastructure Software Engineering Intern

C/C++, Python, ONNX, GenAI, QNN, Hexagon

- Enabled GenAI models exceeding device RAM to run on-device through the **Genie SDK** while minimizing inference latency by designing an **MRU-based graph eviction strategy** which dynamically pages KV-cache graph partitions
- Built and distributed an **internal agentic dev harness** used by **~20 engineers** across AISW Markham after an **80+ engineer** rollout, decomposing epics into linked **JIRAs** and dispatching **worktree** agents that open draft PRs
- Built automated model validation tool for the **Hexagon NPU** graph pipeline, detecting **8+ categories** of ONNX-to-QNN graph compilation defects including quantization mismatches, redundant data movers, and broken connectivity
- Integrated the graph validator into **Jenkins CI** for model-zoo submissions, created an on-demand validation agent for pre-submission models, and exposed an API to the **QAIRT SDK**, enabling model diagnostics across internal/vendor workflows
- Unified **70+ HexNN math and approximation functions** into an accessible library backed by rigorous unit and on-device testing integrated into **Jenkins CI** for automated regression coverage

Rivian and Volkswagen Group Technologies | Vancouver, BC, Canada

MAY 2025 – DEC 2025

Infotainment Software Engineering Intern

Kotlin, Java, Android, Protobuf, QNX

- Owned **12+ user-facing features** across Rivian R2 Media App (browsing, search, playback, shuffle, podcasts), delivering an audio visualizer and vendor integrations for Spotify, Apple Music, and Tidal to production builds
- Migrated Media App from fragment-based architecture to MVVM with view controllers consuming data models, cutting RAM usage **40%** and accelerating feature velocity **30%**
- Resolved critical vehicle safety defects including cold-boot launch crashes, unsafe service data handling, and a radio refactor regression that escaped QA, collaborating across platform and QA teams
- Fixed Bluetooth AVRCP metadata errors via caching and content-hash validation, raising accuracy **from 66% to 99%**

SFU Robot Soccer | Burnaby, BC, Canada

FEB 2024 – DEC 2026

Software Team Lead

C++, Python, Qt6, Protobuf, Docker

- Led **30-member C++** team; redesigned onboarding workflows reducing new developer ramp-up time **40%**
- Engineered Behavior Tree DSL reducing node boilerplate **10:1** and Play Graph state machine with 12-play transitions evaluating **50+ metrics/tick**, coordinating 6 robots at **180Hz**
- Designed Protobuf networking protocol routing commands to **6 robots** with hot-swappable simulator/hardware modes

PROJECTS

Strike - Agentic Coding TUI

Go, Bubble Tea, WebSocket/SSE, Docker, Nix, GitHub Actions

- Architected an **event-sourced** Go engine emitting protocol events to decoupled TUI and web clients over JSONL session logs, shipping **14+ releases** across **660+ commits** with **4 external contributors**
- Designed a **multi-agent** coordination protocol with **compare-and-swap** task claims and boundary-checked message passing

Peasant Labs - OSS Contributor to Agent Observability

Go, Docker, PostgreSQL, AWS EC2, Nix

- Architected the local runtime and sync layer connecting **Peasant** (on-device agent) to **Village** (backend): **9-stage** transcript ingest pipeline, cross-repo GitHub **OAuth**, and a SQLite-to-PostgreSQL sync daemon with redaction on **AWS EC2**
- Developed **Zone**, an LLM coding agent workspace manager with network sandboxing for safe autonomous code execution

Finesse - Claude Code Orchestration Workflow Plugin

Python, Bash, Claude Code Plugin API

- Created a **wave-based task decomposition** with dependency-aware scheduling, automatically splitting large tasks into parallel sub-workflows across isolated git worktrees with tmux orchestration and merge reconciliation

TECHNICAL SKILLS

Languages: Python, C/C++, CUDA, C#, Java, Kotlin, JavaScript, TypeScript, Go, SQL, Bash

Frameworks: React, Next.js, .NET, FastAPI, Node.js, Express.js, Spring Boot, Electron, SignalR, GraphQL

Tools & Infrastructure: Docker, AWS (EC2, S3, Lambda), PostgreSQL, MongoDB, Redis, Git, GitHub & GitLab CI/CD, Linux

Concepts: API Design, Distributed Systems, Developer Tooling, Real-Time Systems, LLMs, Applied Machine Learning, Robotics