

Daniel Nguyen

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EDUCATION

University of Ottawa

Ottawa, ON

BASc, Computer Engineering — CO-OP (Third Year)

September 2024 – (Expected) April 2029

CGPA: 6.95 / 10

Relevant Coursework: Computer Architecture I & II, Digital Systems II, Data Structures and Algorithms, Introduction to Software Engineering, Signal and System Analysis, Differential Equations and Numerical Methods

TECHNICAL SKILLS

Languages: Python, Go, Kotlin, Java, C, MicroPython, Bash, PowerShell, SQL, MATLAB

Software & Tools: REST APIs, .NET SDK Interop, Node-RED, Jetpack Compose, Room/SQLite, Git, GitHub Actions (CI), Jira, TestRail, JUnit, Android Studio

Protocols & Integration: MQTT 3.1.1, Modbus, MOTOTRBO radio, TLS, HTTP/REST, GNSS, event-driven middleware, protocol capture & replay

Systems & Infrastructure: Linux (systemd, firewall), Docker Compose, Proxmox, VMware, Caddy, Let's Encrypt/TLS, DNS, Tailscale/WireGuard, SSH, Windows

Hardware & Diagnostics: Microcontrollers (Arduino/ESP), soldering, circuit design, PCB assembly, sensor integration; MemTest86, Acronis True Image, Windows OS recovery

EXPERIENCE

Intern Solutions Engineer (CO-OP) — Teldio Corporation

May 2026 – August 2026

Integration engineering for Teldio Fabric, an event-driven middleware platform

Ottawa, ON

- Built "Project Echo," an internal tool that captures live protocol traffic from integration modules and replays it as automated test input, removing a physical-hardware bottleneck from the QA cycle; still in use after the term.
- Extended Echo's capture and decoding to MOTOTRBO radio and Modbus, wired it into the automated test suite, and integrated output with TestRail and Jira.
- Took the C•CURE 9000 access-control integration from investigation to a working PoC over REST and a CrossFire .NET SDK bridge into Go modules, both paths emitting byte-identical events; validated on v2.90/v3.20 and handed to R&D.
- Shipped the Avigilon Unity Access module (10 actions, 14 event types, 4 transports, 121 tests) with an MQTT/JSON/TLS event relay; found an MQTT 3.1.1 conformance defect reported upstream to Motorola.
- Delivered DSC PowerSeries Neo and Bosch B4512 intrusion integrations, debugging an IIS session leak and a silent cross-timezone journal failure that appeared only against live systems.
- Authored 8+ technical artifacts (feasibility reports, an SRS section, a 93-item test checklist, a QA handoff package), stood up a LenelS2 OnGuard 8.4 lab on Proxmox, and led a QA/SE enablement session.

Computer Technician (CO-OP) — XPC, Toronto, ON

March 2023 – June 2023

- Diagnosed and repaired 50+ desktops, laptops, and servers, resolving OS and hardware faults with a ~90% recovery rate using structured diagnostics.
- Built and optimized 20+ custom PCs and delivered SSD/RAM upgrade recommendations that measurably improved reliability.

PROJECTS

MacTrack — Offline-First Android Nutrition Tracker

January 2026 – Present

Kotlin, Jetpack Compose, Room/SQLite, CameraX, ML Kit

Solo project, ~95 source files

- Built an offline-first Android calorie and macro tracker in Kotlin and Jetpack Compose on a Room (SQLite) database evolved to schema v8 through eight non-destructive migrations with zero data loss.
- Implemented a three-source food search (bundled Canadian Nutrient File asset, user foods, Open Food Facts REST) plus offline barcode scanning with CameraX and ML Kit.
- Added an opt-in AI assistant on a bring-your-own-key streaming client, with the key encrypted by a hardware-backed Android Keystore AES-GCM key — no secret committed or embedded.
- Wrote a unit-tested TDEE/macro engine verified against a reference calculator, with GitHub Actions running the suite on every push.

Self-Hosted Linux Server & Homelab

July 2026 – Present

- Run 11 Docker containers across 7 Compose stacks on an immutable Fedora host, with a pinned known-good deployment for rollback.
- Built a custom Caddy image with xcaddy for a wildcard Let's Encrypt certificate over DNS-01; Tailscale subnet routing serves the same HTTPS hostnames on and off the LAN with no open ports.
- Raised local inference throughput ~10x by proving the container could not see the GPU and adding the NVIDIA runtime; maintain an incident log and a tested recovery runbook.

Activities: uOttawa intramural volleyball; camp counsellor 2021–2024 • **Languages:** English (fluent), Vietnamese, Japanese (basic)