

VINCE ONG

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Technical Skills

Programming Languages: C++, Python

Software & Tools: LTspice, EAGLE, Git, Github, Arduino IDE, Supabase, Vercel, Experimental Data Analysis

Hardware: Soldering, Function Generators, Oscilloscopes, DMM, 3D Printing, Microcontrollers, PCB Assembly

Projects

Engram | *TypeScript, Python*

April 2026 – Present

Althra x TechTO Hacks Finalist; Best use of backboard.io

- Co-founded and deployed Engram, a B2B AI SaaS leveraging LLM-powered persistent memory to unify workflow data across various enterprise systems, accelerating employee onboarding and centralizing organizational knowledge retrieval.
- Engineered a semantic data pipeline using Supabase and backboard.io to construct queryable knowledge graphs from different data sources, supporting both text and voice-based querying across integrated workspaces.
- Architected a RAG-driven search interface in TypeScript, delivering context-aware LLM responses across multi-source knowledge bases, streamlining complex dataset navigation into a responsive, user-centric UI.

Automatic Spice Dispenser | *C++, Arduino IDE*

Sept – Dec 2025

Engineering, Science and Society (ENSC 100), SFU

- Engineered an embedded dispensing system driven by stepper motors, achieving sub-degree rotational precision through loop calibration routines programmed in C++.
- Programmed low-level C++ firmware for microcontroller-based stepper motor control, performing I/O mapping and static memory allocation to operate within the strict resource constraints of embedded hardware.
- Executed CAD-driven prototyping to design and 3D print custom mechanical assemblies, including dispensing mechanisms and wire management structures, accelerating design-to-prototype cycle time across multiple revisions.
- Implemented GANTT-based project management to coordinate cross-functional deliverables across firmware, mechanical, and integration workstreams, driving on-time delivery of all milestones within a 3-month development cycle.

Digital Dice | *Boolean Logic, PCB Assembly, SMD Soldering*

Sept – Dec 2025

Intro to electronics instruments and techniques (ENSC 120), SFU

- Assembled a mixed-technology PCB integrating both SMD and through-hole components, developing precision hand-soldering techniques under lab-grade inspection standards.
- Implemented combinational logic circuits using Boolean algebra and truth tables to decode binary states into 7-segment LED output patterns representing all 6 die faces.
- Validated circuit functionality using bench-top instrumentation including oscilloscopes and DMMs to verify signal integrity, voltage levels, and correct logic gate switching behavior across the full output range.

Experience

Pacific National Exhibition

Aug – Sept 2025

Games Attendant

Vancouver, B.C.

- Demonstrated strong communication and interpersonal skills by actively engaging with a high volume of guests, ensuring a welcoming and entertaining environment to support daily revenue targets.
- Collaborated effectively with team members and supervisors to seamlessly manage booth operations, track prize inventory with zero discrepancies, and resolve customer inquiries during a high-traffic, 3-week event.

MECH (Medical Envoys for Community Health)

August 2023 – July 2025

Finance & Development Lead

Langley, B.C.

- Spearheaded end-to-end financial operations across multiple fundraising campaigns, including budget allocation, operating margin analysis, and stakeholder reporting, ensuring full fiscal accountability.
- Architected and maintained a custom expenditure tracking database, enforcing data standards that reduced reporting discrepancies and improved financial visibility for the entire team.
- Drove revenue growth through coordinated digital and door-to-door marketing campaigns, scaling organizational net assets by over 250% across 2-years.

Education

Simon Fraser University

Sept. 2025 – Present

Bachelor of Applied Science in Mechatronic Systems Engineering – Cumulative GPA: 3.7/4.3

Burnaby, B.C.

- International Baccalaureate Diploma | *Graduated with an IB 35/45*
- BC Achievement Scholarship | *Awarded to the top 3% of BC Graduates*

July 2025

October 2025