Ryan Vu

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Education

California State Polytechnic University, Pomona (Cal Poly Pomona), *B.S. Computer Science* — Pomona, United States

- GPA: 3.97
- Leadership & Activities: Vietnamese Student Association Intern (2024-2025) → VCN Director (2025–2026); Data Science & AI Club; Competitive Club Tennis Team

Engineering Experience

Fire Detection and Suppression Team (Ground Control Systems), — 02/2025 – present
Sponsored by Lockheed Martin — Pomona, United States

- Building a **Qt/QML** + **C++ ground control system** supporting **multi-UAV command** with a **scalable**, **operator-focused UI** and resilient **real-time telemetry**.
- **Collaborated** with the machine-learning team to integrate **live fire-detection video feeds**, aligning **interfaces** and **data contracts** for seamless ingest.
- Drove **multi-UAV state awareness** and **robust telemetry display** to maintain situational awareness over unreliable links

Health Information Technician / Intern, *Bach Diagnostics* — 08/2020 – 08/2024
Irvine, California

- **Automated billing workflows** with **macros**; cut per-claim handling from ~2 minutes to 30 seconds (**≈400% faster**), saving ~15-20 staff hours/week across a 4-person team.
- Assisted T-cell/PBMC separation method development on the **Hamilton STAR**; **doubled** daily sample throughput (**~24→~48**), and improved pipetting precision (**~30%**) by optimizing deck layout and liquid classes.
- Contributed to **"Automation for the Isolation of PBMCs with Hamilton Robotics for T-Spot Testing" (ADLM 2024)**.

Software Lead, *FIRST Robotics Competition Team 4322* — 08/2020 – 05/2024
Orange, United States

- **Led** software subteam of **~5-8 developers**; trained **~6 new members** each offseason with **~70% retention into build season**.
- Created **telemetry/logging** for **match analysis**; cut fault diagnosis from **hours to <30 minutes**.
- Team won **Aerospace Valley Regional (2024)** and advanced to **FIRST World Championships**; fielded software with **zero match-blocking bugs** in eliminations.

Additional Experience

Circulation Desk Student Assistant, *California State Polytechnic University, Pomona* — 08/2025 – Present
Pomona, California

- **Front-line customer service** in a **fast-paced** academic library; checked materials in/out using the **ALMA system** and supported **student & faculty account inquiries**.

Skills

Languages — C++, C, Java, JavaScript

Frameworks & Tools — Qt/QML, Git, WPILib

Relevant Coursework — Systems Programming, Data Structures and Advanced Programming, Computer Organization and Assembly Programming

Awards & Publications

Winner - FIRST Robotics Competition, Aerospace Valley Regional (2024) — 2024
Top placement among ~40+ teams.

Automation for the Isolation of Peripheral Blood Mononuclear cells (PBMCs) with Hamilton Robotics for T-Spot Testing, *Association for Diagnostics & Laboratory Medicine* — 2024