Jason Ly

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Education

California State Polytechnic University-Pomona   Pomona, CA
B.S. Computer Science   *August 2021 – May 2025*
- GPA: 3.97
- Honors: Summa Cum Laude, Dean's List (Fall 2021 – Spring 2024)
- Relevant Coursework: Software Engineering, Algorithms, Data Structures, Object-Oriented Programming, Machine Learning, Operating Systems, Computer Architecture

San Gabriel High School *High School Diploma* (August 2017 – May 2021; GPA: 3.90; Honors: Cum Laude)   San Gabriel, CA

Technical Skills

Programming Languages: TypeScript, JavaScript, C++, Rust
Frameworks and Tools: Docker, PostgreSQL, Fastify, React, TailwindCSS, CMake, Google Test

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Projects

Twitch Chat Tier List Voting App – *TypeScript, React, Node, Fastify, PostgreSQL*   Summer 2025
- Developed a web app for live streamers to create customizable, audience-interactable tier lists to gauge their viewers' preferences and encourage community discussion of topics at hand.
- Enabled tier list editing actions by using Fastify to build a REST API backend server with OpenAPI compliant routes.
- Implemented a write-behind caching strategy with Redis and PostgreSQL to mitigate stress from real-time votes parsed from Twitch's WebSocket message stream.

Sale Tracking Discord Bot – *Rust, MongoDB*   Summer 2025
- Engineered a Discord bot to track Steam apps and send automated chat notifications on app release or price discount.
- Deployed in over 270 Discord servers, supporting a wide user base with consistent performance.
- Designed a scalable rate-limit-aware scheduling process with API backoff protection to efficiently poll the status of Steam applications and deliver timely updates to users.

Co-op WebSocket Browser Game – *TypeScript, React, C++, CMake*   Spring 2025
- Built and launched a real-time cooperative browser game with low-latency multiplayer communication.
- Developed client-server architecture to enable game event synchronization and chat.
- Optimized the web game to be fully responsive with first-class accessibility for both desktop and mobile users.
- Containerized the server streamlining deployment and management on cloud infrastructure for reliable, efficient, and maintainable production delivery.

Video Downloader GUI – *C++, Qt Quick, CMake*   Fall 2024
- Developed a cross-platform GUI for *yt-dlp* to provide a user-friendly interface for downloading YouTube videos.
- Ensured code quality with unit and integration tests and continuous integration via GitHub Actions.
- Enhanced user experience with stateful features such as download history, theme support, and settings.
- Prebuilt and packaged the application for Windows and macOS to streamline user installation and deployment.

Work Experience

Instructional Assistant, California State Polytechnic University-Pomona   Fall 2023 – Spring 2025
- Supported over 200 students in programming courses, verifying code quality and providing technical feedback.
- Identified learning gaps from student feedback and relayed insights to professor to enhance instructional delivery.
- Verified code submissions to ensure successful compilation and alignment with grading rubric and assignment requirements.