

TYLER CHARVAT

Computer Engineering · Cal Poly San Luis Obispo, Class of 2030

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EDUCATION

California Polytechnic State University, San Luis Obispo *Expected 2030*

B.S. Computer Engineering

EXPERIENCE

Internal Systems Developer — The Outlet by ELS 2025 – 2026

- Designed and built a full-stack price and inventory management system for shipment manifest analysis and UPC lookup, deployed as a 5-service Dockerized application (Flask, PostgreSQL, Redis, Celery, Svelte).
- Built an asynchronous processing pipeline for large CSV/Excel manifest uploads, with real-time progress delivered to the client over WebSockets.
- Implemented a UPC validation and lookup system with local Postgres caching in front of an external API, cutting redundant external calls.
- Shipped a production-ready deployment: Gunicorn + Nginx, health checks, resource limits, and log rotation across all services.
- Built Department Analyzer, a browser-based CSV tool giving department-level counts, totals, and percentage breakdowns with CSV/JSON export — fully client-side, no backend required.
- Built MergeFiles, a lightweight in-browser tool to merge and reconcile multiple Excel spreadsheets into one.

Member — Operational Security Club, Cal Poly SLO 2026

PROJECTS

Pomodo — Hackathon Project 2026

- Built an adaptive study timer as a cross-platform Electron app that adjusts session length and study prompts in real time using OpenCV-based facial focus detection.
- Integrated the Claude API to generate a personalized "Pomodo Wrapped" summary from a user's study data, paired with Fish Audio for text-to-speech narration.
- Built an achievements system and used HTML5 Canvas to dynamically render shareable images from user study data; frontend built in Svelte.
- Pivoted mid-hackathon from a planned EEG-based focus detection approach to computer vision after hardware fell through.

SKILLS

Languages: Python, JavaScript, HTML/CSS

Frameworks: Flask, Svelte/SvelteKit, SQLAlchemy, Celery, OpenCV, Electron

Infrastructure: Docker, Docker Compose, PostgreSQL, Redis, Nginx, Gunicorn, WebSockets

Tools & APIs: Git, Claude API / LLM prompt engineering, Fish Audio TTS