

Andrew Dover

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EDUCATION

San Jose State University

San Jose, CA

Bachelor of Science in Software Engineering

Dec. 2027

- **Organizations:** Software and Computer Engineering Society; Responsible Computing Club
- **Relevant Coursework:** Data Structures & Algorithms; Computer Organization & Architecture; Object-Oriented Design; Linear Algebra; Multivariable Calculus

EXPERIENCE

SJSU College of Engineering

San Jose, CA

Software Engineering Intern

Dec. 2025 – Jan. 2026

- Built a monitoring service ingesting Prometheus metrics to detect missing time-series data and backfill gaps, restoring dashboard accuracy during outages
- Improved CI/CD reliability by implementing thread-safe deployment coordination with locks to prevent race conditions between concurrent deploys
- Modeled Prometheus responses with dataclasses to enforce schema consistency and simplify metric processing

Software and Computer Engineering Society

San Jose, CA

Software Engineer - Development Team Member

Jan. 2026 – Present

- Contributed multiple PR's to core club repositories and optimized feature deployment serving 100+ active members
- Diagnose and resolved high-priority bugs in internal infrastructure to ensure high system reliability
- Architected scalable full-stack features for upcoming club projects, collaborating with cross-functional teams to modernize digital tools used by members.

PROJECTS

Treat Your-shelf | *Langchain, Actian Vector DB, FastAPI, Gemini 2.5, React, Tailwind*

- Developed an AI pantry assistant to combat food waste at SJSU by transforming "messy" pantries into meals.
- Implemented persistent user profiles using Firebase Auth and Firestore, allowing for recipe filtering.
- Integrated Gemini 2.5 Flash-Lite (Vision) for multimodal ingredient extraction and Actian VectorAI for semantic Retrieval-Augmented Generation (RAG).

Liturgical.Display | *Python, FastAPI, Tailwind, Vosk STT Model, Docker Compose, Redis*

- Built a liturgical scripture display system for a local church with offline speech recognition, real-time web control, and WebSocket-based client synchronization
- Architected a multi-threaded runtime separating speech recognition and web serving to prevent latency spikes
- Implemented a concurrent audio processing pipeline using a bounded queue to handle real-time microphone input

Spartan LMS | *Python, Flask, SQLite, OpenAI SDK*

- Built a lightweight Learning Management System modeled after Canvas using Flask and SQLAlchemy
- Developed an agentic scheduler using Retrieval-Augmented Generation to plan coursework tasks based on deadlines, assignment weights, and user preference
- Implemented authentication, grade management, and intuitive navigation with session-based access controls

APRS Hiking Tracker | *Python, PostgreSQL, Mapbox, APRS TCP Stream*

- Built a self-tracking system for hiking routes by ingesting APRS radio packets and mapping the position data
- Parsed APRS TCP streams and executed geospatial queries using PostgreSQL with PostGIS extensions
- Integrated Mapbox to visualize live route data on an interactive web-based map

Rust+ IoT Bridge | *Python, FCM, Docker*

- Built an event-driven IoT gateway that listens to the Rust+ companion API and triggers LAN-based devices
- Designed a YAML-based rule system mapping in-game events to physical device actions like ESP32-controlled outputs
- Added debouncing and retries to ensure reliable event delivery across LAN devices

TECHNICAL SKILLS

Languages: Python, Java, Lua, JavaScript/TypeScript, SQL, HTML

Frameworks: FastAPI, Flask, React, Next.js, Tailwind

Tools: Git/GitHub, Linux, Docker, Docker Compose, Redis, PostgreSQL