Andrew Dover

andrew.dover@sjsu.edu | linkedin.com/in/adover06 | github.com/adover06 | andrewdover.com

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

FiveM Development — San Jose, CA
Software Engineer — *Sept. 2025 – Dec. 2025*

- Engineered 10+ custom gameplay systems integrating Lua client-server logic with external APIs
- Designed scalable JSON-based communication between game servers and a MySQL database, supporting 30+ concurrent users in real time
- Collaborated with server administrators to deploy modular features across 50+ live production resources

Projects

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

Real-Time ISS Doppler Tracking | *Python, SGP4, Orbital Mechanics*

- Built a real-time system to compute Doppler-shifted frequencies for ISS communications using IP geolocation
- Parsed and propagated ISS orbital elements with the SGP4 model to compute position, velocity, and observer-relative radial velocity

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