# 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*                              *Expected Dec. 2028*
**Organizations:** Software and Computer Engineering Society, Responsible Computing Club
**Relevant Coursework:** Data Structures and Algorithms, Computer Organization and Architecture, Multi-variable Calculus

## EXPERIENCE

**FiveM Developer**                                                                      San Jose, CA
*Software Engineer (Lua, REST APIs)*                                        *Sept. 2025 – Dec. 2025*
- Engineered 10+ custom gameplay systems integrating Lua client logic with REST APIs, improving data sync speed by 30%.
- Designed scalable JSON communication between game servers and external databases, supporting over 100 users in real time.
- Collaborated with designers and server admins to deploy modular features across 50+ live resources.

## PROJECTS

**Liturgical.Display** | *Python, FastAPI, Tailwind, Vosk STT Model*
- Developed a voice-controlled presentation system with FastAPI and WebSockets for real-time slide and text updates (<200ms latency).
- Integrated offline speech recognition using Vosk STT for responsive, network-independent operation.
- Designed modular architecture supporting concurrent users and low-latency broadcasting.

**Spartan LMS** | *Python, Flask, SQLite, SQLAlchemy*
- Built a lightweight Learning Management System (LMS) modeled after Canvas with Flask and SQLAlchemy.
- Implemented user authentication, grade management, and file handling features with secure session logic.
- Developed role-based dashboards improving course interaction efficiency.

**APRS Hiking Tracker** | *Python, PostgreSQL, Mapbox, APRS TCP Stream*
- Created a self-tracking system for hiking routes using APRS radio packets to map personal call signs in real time.
- Implemented APRS TCP data parsing and geospatial queries using PostgreSQL/PostGIS.
- Integrated Mapbox API to visualize live route tracking on an interactive frontend.

**Rust+ IoT Bridge** | *Python, FCM, Docker*                                              2025
- Built an event-driven IoT gateway that listens directly to the Rust+ companion API and triggers LAN-based devices in real time.
- Designed a config-driven rule system (YAML) to map game events to physical device actions (ESP32 siren/LED).
- Added debouncing, retries, and concurrency controls to ensure reliable event forwarding.

**Real-Time ISS Doppler Tracking** | *Python, SGP4, Orbital Mechanics*
- Built a real-time system to calculate Doppler-shifted frequencies of the International Space Station using ground-station IP geolocation.
- Parsed and propagated ISS orbital elements via the SGP4 model to compute precise position and velocity vectors.
- Applied multivariable calculus to determine radial velocity between observer and ISS, enabling accurate Doppler shift prediction for communication signals.

## TECHNICAL SKILLS

**Languages:** Python, Java, HTML, CSS, Lua, JavaScript/TypeScript
**Frameworks:** FastAPI, Flask, Next.js, Tailwind
**Tools:** Git/GitHub, Linux, Docker, VS Code