Joshua Ko

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EDUCATION

San Jose State University, Expected Graduation: Dec 2026

B.S. in Computer Science

- *Relevant Coursework:* Intro to Programming, Intro to Data Structures, Intro to Computer Systems, Data Structures and Algorithms
  Fall 2024: Object-Oriented Design, Computer Architecture

EXPERIENCE

Software Engineering Intern ***Jun 2024 - Aug 2024***

San Jose State University - Software & Computer Engineering Society

- Optimized video caching for Dockerized streaming server in Python, implementing preemptive cache downsizing to prevent cache overflow and ensure efficient cache management before streaming to RTMP media server.
- Added custom Prometheus metrics to monitor API data rate, cache performance, and HTTP requests for remote streaming server; utilized PromQL for metric queries and added Grafana panels for real-time data visualization.
- Refactored and secured PDF printing requests, moving user print count updates from the frontend to a secure Node.js peripheral API server, preventing potential unauthorized or unlimited print requests from members.

Undergraduate Research Assistant ***Jun 2024 - Aug 2024***

San Jose State University - Professor Robert Chun

- Mentoring high school students in research project on potentials of a multimodal Career Assessment Chatbot using OpenAI API's chat completion models along with eye tracking metrics compared to traditional questionnaire interest profilers.

Undergraduate Research Assistant ***Sep 2023 - May 2024***

San Jose State University - Project Engineering Success Program

- Participated in a collaborative research project investigating current application and limitations of AR/VR/XR technology in university education through the Meta Quest 3.
- Attended graduate student oral defenses and lab sessions introducing VR app development in Unity and C++.
- Prepared and presented findings at the end-of-year symposium.

PROJECTS

Novel Reader | *Python, Flask, SQLite, Javascript*

- Developed a web application for reading light novels without ads, using Flask for the backend and SQLite for the database
- Implemented user authentication using Google OAuth to provide personalized features for library management and display preferences (light/dark mode, font adjustments)
- Utilized Selenium WebDrivers to extract simplified novel content from websites using Firefox's internal reader viewer, and optimized chapter navigation for users by preloading adjacent chapter content asynchronously.

SKILLS

- *Languages:* Python, Java, JavaScript, MIPS Assembly
- *Frameworks:* React.js, Node.js, Bootstrap, Flask, FastAPI
- *Tools:* Git, Docker, SQLite, Prometheus, Grafana, Selenium