

# SHANG-CHEN HSIEH

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## Education

### San Jose State University

San Jose, CA

*Bachelor of Science in Computer Science*

*May 2025*

- GPA: 3.8/4.0
- Relevant Coursework: Database & Database Management System, Data Structure & Algorithm, Object Oriented Design, Operating System, Computer Architecture, Software Engineering, Information Security, AI/ML

## Experience

### DTEN

Dec. 2024 – Present

*Software Engineer Intern*

*San Jose, CA*

- Designed and implemented a multi-agent **Retrieval-Augmented Generation** (RAG) system enabling natural language interactions with a device license relational database, eliminating the need for SQL expertise.
- Led the end-to-end development of an internal service that automated the DTEN license reservation process, reducing processing time to 15 seconds on average and saving **53 man-hours monthly**.

### Developers Guild

Aug. 2021 – May 2022

*Backend Developer*

*Cupertino, CA*

- Designed a blog posting system with REST apis, ensuring the scalability and efficient resource utilization using **Springboot** framework.
- Optimized **SQL** queries in **MySQL** for efficient data management and query execution, resulting in a **13%** improvement in query performance and response times.
- Utilized **Docker** and **GitHub Actions** to conduct **Continuous Integration & Continuous Delivery** (CI/CD), enhanced the efficiency of testing and version releases.
- Deployed the dockerized application on Digital Ocean, ensuring reliable performance and scalability, with **93%** uptime and the elasticity to handle high-traffic loads.

## Projects

### Preview Your Professor

Jan. 2025 – Apr. 2025

- Engineered a full-stack web application integrating a third-party professor review site, optimizing the class search pipeline for San Jose State University students, reducing information retrieval time from 5 minutes to 10 seconds.
- Enhanced accessibility by developing model-based text-to-speech and AI-driven summarization services.

### NexGen - easy cover letter generation

Dec. 2024 – Jan. 2025

- Engineered a web-based application to automate cover letter generation using **Flask** framework, **OpenAI** API, and **Puppeteer/PDFKit** for seamless LLM-based content creation and PDF export
- Implemented instant PDF generation and download functionality, streamlining the job application process for users.

### Nimbus Cloud Banking Solution

Aug. 2024 – Dec. 2024

- Hosted **MySQL** database using Amazon Web Service **RDS**, leveraging automated snapshots and manual backups to ensure robust crash recovery and secure database backup management.
- Collaboratively adapted **Agile Methodologies** and **DevOps** Model with **Google Cloud Platform** to streamline the development process, allowing the delivery of the project within a 4-month timeline.
- Developed and executed comprehensive unit tests for backend API using **Pytest**, integrating a **Test-Driven Development** and adherence to expected behaviors.

## Certification

AWS Cloud Practitioner (verification code: a498774ff43e47b083ded31bf49d1bd0)

## Technical Skills

**Languages:** Python, SQL, Java, JavaScript, TypeScript, C/C++, HTML/CSS  
**Frameworks:** Django, Flask, FastAPI, Springboot, Vite, React JS, React TS, ReactNative  
**DB & DBMS:** MySQL, MySQL Workbench, Postgres, pgAdmin4, Alembic  
**Data & Tools:** Git, Postman, Docker, Kubernetes, Node, Jupyter Notebooks, Linux, Unix, Bash, XML, JSON