Mingyuan (Vincent) Ren

Sunnyvale, CA | vincentren@cmu.edu | 949-838-7958 | www.linkedin.com/in/vren

Education

Carnegie Mellon University, MS in Software Engineering, GPA 3.92/4.0 January 2025 – December 2025

- Coursework: Foundation of Software Engineering, Decision Analysis for Engineering in Economics, Information Security, Software Testing and Operations, Functional Programming, Code Optimization, Cloud Infrastructure

University of California, San Diego, BS in Computer Science, GPA 3.77/4.0 September 2022 – December 2024

- Coursework: Algorithm, Software Engineering, Operating Systems, Database Implementation, Machine Learning, Computer Vision, AI, Cryptography, Computer Security, ML Optimization, Computer Network.

Professional Skills

Programming Languages:	Python, Java, C++, F#, JavaScript, TypeScript, SQL, HTML, CSS, C, Haskell
Databases:	PostgreSQL, MongoDB, GCS, Mongoose, Supabase, Timescale SQL
Frameworks and Tools:	Git, Node, React, React Native, GCP, Swagger, FastAPI, Docker, RabbitMQ, Ollama, LLM, VLM, PubSub, DBeaver, Azure, NVIDIA AIQ, Expo, Balsamiq, Figma, Render

Work Experience

Teaching Assistant, Foundation of Software Engineering (18-652), CMU August 2025 - December 2025

- Hosted recitations to present and guide 60+ students on Git version control, PostgreSQL and MongoDB, CI/CD.
- Assisted lecture activities on UML feature Analysis. Hosted weekly meeting with 2 project teams in Agile manner.

Full-Stack & AI Engineer Internship, Bosch (University Collaboration) May 2025 - July 2025

- Full-stack developed a React website with FastAPI backend that renders HDF5 time-series and video data by uPlot and Annotorious seamlessly. Supported bounding-box drawing tool for *Sherlock* forensic system.
- Assisted Bosch deployment team to resolve issues like CORS when deploying on Bosch Microsoft Azure instance.
- Integrated LLM summarization API endpoint in cloud instance to describe user annotations and traffic scene.
- Experimented and proposed VLMs like *SAMWISE* to identify and track traffic objects dynamically in videos.

Software & Hardware Engineer, San Diego Zoo (University Collaboration) September 2023 - July 2024

Web: https://github.com/vren-cmu-S25/I4X-Web-Project.git. App: https://github.com/GiantDwarfRen/Zoo.git

- Configured ESP32 server network to wireless connect the auto feeding machine instances for San Diego Zoo.
- Full-stack developed an app using JavaFX and a website using HTML, CSS, and JavaScript to remotely control and monitor machines with features like access-control. Assisted teammates on the machine architecture design.
- Visited the San Diego Zoo twice to demo the prototype. Hosted a table to present on UC San Diego Innovation & Design Lab Demo Day and gave a presentation to 300+ visitors in the event. Won the College Innovation Prize.

Research Experience

Research Assistant, GradiatorX: Agentic AI for code evaluation, CMU May 2025 - July 2025

Project Wiki: https://cmusv-gradiatorx.github.io/wiki/docs/

- Designed a cluster microservice that groups 40+ students with similar code issues to help assign final grades. Dockerized and deployed clustering service FastAPI endpoints on GCP and managed traffic using RabbitMQ.
- Implemented a FAISS vector DB storing course materials and historical code with RAG interface for future model integration. Prompt-engineered Gemini LLM to generate code feedback on submission code based on rubrics.
- Developed an IntelliJ plugin for students to submit code and review feedback for future reinforcement learning.

Project Experience

Full-Stack Engineer, Emergency Social Network, CMU Course Project January 2025 - May 2025

Website: https://fses25b3-1231.onrender.com/. API Document: https://fses25b3-1231.onrender.com/api-docs/

- Practiced Scrumban Agile based software method. Designed MVC architecture styles system and RESTFul API.
- Analyzed using UML diagrams. Applied common design patterns. CI/CD in GitHub Action and Render.