

Yuheng Li

✉ +1 323 998 3656 | 📩 liyuheng0830@gmail.com | 💬 LinkedIn | 🐾 GitHub

Education

University of California, San Diego

Master of Science in Computer Science

La Jolla, CA

Expected Dec. 2026

University of California, Los Angeles

Bachelor of Science in Mathematics of Computation

Los Angeles, CA

Jun. 2025

Skills

Programming Languages: Python, C/C++, Java, MATLAB, Bash

Frameworks & Tools: PyTorch, HuggingFace, LangGraph, scikit-learn, Git, FastAPI, Docker, AWS

Data & Storage: MySQL, PostgreSQL, MongoDB, Faiss

Other: Large Language Models, Natural Language Processing, AI Agents, Recommender Systems

Experience

Advance.AI

Singapore

Machine Learning Engineer Intern

Jun. 2025 – Sep. 2025

- Developed an end-to-end **OCR-LLM** system integrating text detection, recognition, and classification for large-scale automated annotation of **50k+** complex ID documents, achieving labeling accuracy exceeding **98%**.
- Fine-tuned a **multimodal** LayoutLM in **PyTorch** by integrating visual patch embeddings with textual signals; leveraged image context to resolve OCR ambiguities, increasing field-level **F1-score** by **11%**.
- Designed a scalable labeling pipeline to synthesize training samples from unlabeled data, extending model capabilities to diverse document layouts by **~50%** while reducing annotation time by **~95%**.
- Containerized the optimal model as a **FastAPI** service using **Docker**; conducted comprehensive integration testing to validate model robustness and system stability for real-time identity verification.

Goldstate Securities Co., Ltd.

Shenzhen, China

Data Scientist Intern

Jul. 2024 – Sep. 2024

- Developed a **LSTM** model to predict market trends, synthesizing features from pricing and fundamental indicators to achieve a **13%** reduction in RMSE compared to previous baselines.
- Designed a walk-forward **validation** workflow to validate algorithm performance across 2 years of data, implementing automated evaluation scripts to verify model stability and robustness before production deployment.
- Built an LLM-driven automated reporting pipeline to analyze portfolio holdings, integrating market data with static company profiles to generate daily strategy reports, reducing manual effort by **~90%** in pilot testing.

Research

LLM-Driven Generative Engine Optimization | Prof. Yiyi Zhang

Oct. 2025 – Jan. 2026

- Co-authored **SourceBench**: Can AI Answer Reference Quality Web Sources? First benchmark to evaluate the reliability and safety of web sources referenced by **LLM** and other AI search systems (**ICML 2026 Under Review**).
- Implemented a workflow using Gemini and **LangChain** to iteratively refine web content, enhancing visibility and citation likelihood in Generative Engine responses.
- Designed an evaluation framework using **LLM-as-a-judge** to track optimization effects, achieving a **~12%** uplift in ranking metrics while maintaining **>0.95** content integrity.

Projects

Two-Stage Sequential Recommender System | PyTorch, SASRec, DSSM

Oct. 2025 – Dec. 2025

- Designed and implemented a two-stage recommendation framework using the KuaiSAR dataset, integrating a **DSSM-based** recall stage with a **Transformer** ranking stage to balance system efficiency and precision.
- Developed and benchmarked a **SASRec** ranking model to capture long-range sequential dependencies in user behavior, achieving a **2x** improvement in **Hit Rate@50** compared to ItemCF and NeuMF baselines.

RAG-powered Real Estate Search Assistant | LangGraph, RAG, SQL, Vector Search

Jun. 2025 – Sep. 2025

- Developed a **RAG**-powered real estate assistant with **LangGraph** that reduced search effort by implementing a **two-stage** retrieval process, ensuring users receive relevant recommendations even without exact matches.
- Implemented robust **tool-use** capabilities that convert natural language queries into **SQL** filters and **vector** search queries for property retrieval, leveraging prompt engineering to identify user intent and invoke tools.