Alan Liang

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Professional Summary

A computer science graduate (UC Riverside) and incoming M.S. student (USC) specializing in AI and machine learning. I have hands-on experience building and evaluating LLM-powered applications, from safety research to full-stack translation platforms. I am driven to apply my skills in software engineering and AI to solve complex technical challenges.

Education

University of Southern California Los Angeles, CA

M.S. in Computer Science *Admitted Fall 2025*

University of California, Riverside Riverside, CA

B.S. in Computer Science *Sep 2021 – March 2025*

Relevant Coursework: Artificial Intelligence, Machine Learning, Natural Language Processing, Algorithm Engineering, Database Management

Technical Skills

Languages: Python, Java, C++, JavaScript, SQL (Postgres), HTML/CSS

Frameworks & Tools: React, Node.js, Express.js, Flask, FastAPI, Docker, GCP

Libraries: PyTorch, Transformers (Hugging Face), scikit-learn, BLEURT, pandas, NumPy

Developer Tools: Git, VS Code, IntelliJ, Atlassian JIRA

Cloud & APIs: OpenAI, Gemini, LangChain (learning), REST, CI/CD (basic familiarity)

Experience

Undergraduate Research Assistant - LLM Safety and Optimization Research Jan. 2024 – Jun. 2024

University of California, Riverside *Riverside, CA*

- Investigated advanced LLM unlearning techniques to mitigate hallucinations and defend against adversarial attacks.
- Developed evaluation programs to measure LLM performance on diversity, fluency, and utility preservation post-unlearning.
- LUsed the BLEURT model to assess semantic preservation and identify meaning degradation in unlearned LLM outputs.
- Analyzed academic literature to identify state-of-the-art methods in LLM safety.

Projects

Verdant - Translation Verifier | *React, Node.js, Typescript, OpenAI, Multer, Google Gemini* Apr. 2025 – Present

- Built an AI-powered localization platform using GPT-4 for translation and Google Gemini for verification.
- Implemented a RAG system using text-embedding-3-large and MongoDB Vector Search across 1,080+ translation pairs in 9 languages.
- Developed a responsive React frontend with granular controls, real-time previews, and persistent state for nested JSON.
- Architected a scalable Node.js/Express.js backend with JWT authentication, Multer file uploads, and batch processing pipelines.

Broke Brokers - Stock Forecasting Platform | *Python, React.js, Node.js, PyTorch* Jan. 2025 – Mar. 2025

- Developed a time-series forecasting LSTM model with PyTorch to predict stock price movements in a team of 5.
- Built a dynamic React dashboard for real-time stock data visualization.
- Designed a Node.js/Flask backend with a RESTful API to fetch data from external stock APIs.

Team PORT - Container Logistics Optimizer | *Python, Numpy, Pandas, FastAPI* Sept 2024 – Dec 2024

- Led a team of 5 in an Agile environment to build a container logistics optimizer for ship loading and weight balancing.
- Reduced solution search time by over 50% by implementing an A* search algorithm with custom heuristics.
- Architected the core logic for optimal container placement and ship weight distribution.
- Exposed a RESTful API using FastAPI to connect the optimization engine with a web-based UI.