Sragvi Vadali

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Education

University of Southern California - Masters of Computer Science   **Class of 2027**
University of California, Los Angeles - Bachelors in Computer Science & Linguistics   **2022 – 2025**

Technological Skills

Languages/Frameworks: Java, C++, Python, JavaScript, TypeScript, Rust (academic), Flask, React, PyTorch
Tools/Tech: Docker, Kubernetes, Apache Kafka, Apache Flink, GraphQL, AWS (RDS, EC2, Lambda), Azure, PostgreSQL, Linux, REST APIs, Microservices Architecture

Experience

USC Game "All Good Things" - Engineer   Aug 2025 – Present
Built a real-time pipeline integrating TouchDesigner and Unity for player movement tracking using computer vision, supporting interactive story progression for a team-based Master's thesis game.
Led development of pose tracking algorithms for 20+ unique ballet movements, enabling challenging multilevel gameplay that adapts to user actions in real time.
Collaborated with a cross-functional team of 5; currently preparing for commercial Steam release (target: May 2025)

UCLA NESL Lab - Research Assistant   Mar 2024 – Dec 2024
Worked under Professor Mani Srivastava

Fine-tuned Llama 2 LLM on 42GB of time series data with A6000 GPU, exploring transfer learning for prediction tasks.

Analyzed and documented 75% accuracy for predicting up to 10 numbers and 30% accuracy for longer sequences, contributing to manuscript drafting and team presentations.

Collaborated directly with PhD candidates for experiment design, model evaluation, and technical writing.

Hyperlink - Fullstack Intern   Jan 2024 – Jun 2024
Developed an AI playground platform integrating multiple Hugging Face transformer models to enable investors to experiment with NLP and generative AI tools.

Engineered backend algorithms to streamline and optimize query routing between users and models, reducing average response latency by 50%.

Collaborated with frontend and design teams, using Figma to create interactive mockups and UI flows, ensuring seamless user experience and intuitive model interaction.

Worked closely with stakeholders to prototype new AI features, improving models and performance monitoring.

Magic8 - Backend Developer Intern   Jun 2023 – Dec 2023
Built scalable microservices for product search and store data, deployed via Kubernetes.

Created a Puppeteer-based scraper with CAPTCHA bypass, aggregating 10K+ Shopify API links. Streamlined backend ingestion into Typesense for real-time product lookup.

Projects

Dynamic VectorDB (Apache Flink + Kafka)   Jan 2025 – Mar 2025
Developed and load-tested real-time dynamic vectorDB system combining Apache Kafka, Flink, Pinecone, OpenAI GPT-3.5 for financial data processing. Performed comprehensive stress testing with 10,000+ simultaneous data inputs to evaluate system performance under heavy load conditions. Implemented performance monitoring and achieved sub-100ms latency with 3x faster query times compared to static database solutions. Documented system benchmarks, load testing results, and scalability optimization strategies.

Cataract Detection - AI&Eye   Sep 2023 – Jun 2024
Designed and trained a PyTorch CNN to classify cataract severity (none, mild/moderate, severe). Focused on clinical accuracy and explainability. Deployed in Chennai for 1,000+ patients