

Samanyu Parvathaneni

San Diego, CA • 6308531841 • psamanyu@gmail.com • linkedin.com/in/saparvathaneni

Applied ML Architect

Applied ML Architect with a background in computer science, mathematics, and cognitive science, focused on designing intelligent systems that connect data, learning, and infrastructure. Experienced in building end-to-end ML applications across cloud, distributed, and hardware-aware environments, with an emphasis on efficiency, scalability, and human interpretability. Passionate about bridging software architecture, MLOps, and human-centered design to create systems where intelligence and usability co-evolve.

WORK EXPERIENCE

University of California, San Diego09/2022 - 09/2025

Desktop Services Unit Programmer • La Jolla, CA • Part-time

- Built AI chatbot with Forge SDK to answer users' queries about the organizational structure of 100+ library employees
- Extracted and reformatted structured and unstructured data from 100 Powerpoint Slides for contextual prompting to LLM via OpenAI API
- Designed system prompt with few-shot prompts to ensure generation of consistently structured responses for user comprehension
- Collaborate with a team to provide university staff with hardware and software solutions for 500+ assets

Thorben Consulting LLC07/2025 - 08/2025

Project Lead • Arlington, VA • Internship

- Led a team of 10+ developers to build a GenAI tool for internal training documentation using AWS architecture
- Engineered S3-triggered preprocessing pipeline using Lambda, EventBridge, and Step Functions
- Designed structured context ingestion and RAG indexing workflows into Bedrock Knowledge Base
- Built prompt evaluation strategy using BLEU/ROUGE to assess LLM response quality

Salk Institute for Biological Studies08/2024 - 02/2025

AI Engineer • La Jolla, CA • Internship

- Designed an AI-assistant with LangChain to provide 250+ users of MyCircadianClock with lifestyle changes to improve their circadian health
- Developed preprocessing pipeline for 100+ circadian rhythm publications using OCR to convert text to machine-readable format to ingest into knowledge base

PROJECTS

Basketball Film Analytics Application04/2025 - Present

- **Led full-stack development** of a sports analytics web application for a Division I basketball program using **React (frontend)** and **FastAPI with SQLAlchemy and Pydantic (backend)** to track, tag, and analyze practice film
- **Designed and implemented a normalized PostgreSQL schema** to manage complex relationships between players, sessions, actions, tags, and statistics, enabling structured and efficient retrieval of performance data
- **Integrated advanced video tagging and stat-tracking interface**, allowing coaches to label key actions, assign player roles, and generate per-player and per-session analytics
- **Containerized backend and frontend services with Docker** and established a development workflow with feature branching, CI/CD pipelines, and eventual deployment architecture on **AWS (EC2, S3, RDS)**
- **Managed junior developer onboarding and task delegation**, authored internal documentation (database diagrams, Git workflow, onboarding README), and coordinated iterative sprints

EDUCATION

Mathematics – Computer Science B.S.

University of California, San Diego
La Jolla, CA
GPA: 3.6
09/2021 - 06/2025

- Minor in Cognitive Science
- Provost Honors (3.5+ GPA)- 7 Terms
- Relevant Coursework: Statistics & Probability, Data Structures & Algorithms, Theory of Computation, Computer Organization, Data Science

CERTIFICATIONS

AWS Certified Machine Learning Engineer - Associate

08/2025 - 08/2028

AWS Certified Developer – Associate

08/2024 - 08/2027

AWS Certified AI Practitioner

06/2025 - 08/2028

AWS Certified Cloud Practitioner

06/2024 - 08/2027

Principles of Machine Learning Engineering Bootcamp

07/2024 - 01/2025

SAP Certified Associate - SAP Generative AI Developer

08/2025 - 08/2026

SKILLS

AI/ML: LLM APIs, Prompt Engineering, RAG

Cloud: AWS, Docker, Git, PostgreSQL, RESTful API

Frameworks: FastAPI, LangChain, Numpy, Pandas, React, scikit-learn

Programming Language: Bash, C/C++, Java, JavaScript/TypeScript, Python, SQL

aligned with real-world team use cases

Basketball Analytics Dashboard

11/2024 - 11/2024

- **Designed and implemented a normalized PostgreSQL schema** to ingest and store complex player performance datasets, including box score stats, shooting coordinates, and game metadata. Ensured relational integrity and query efficiency across multiple normalized tables (Players, Games, Teams, Stats)
- **Built a robust data ingestion pipeline** in Python/Django that loads raw JSON datasets into the database. Leveraged Django ORM and migration tooling to streamline schema evolution
- **Developed a RESTful API endpoint** (/api/v1/playerSummary/{playerID}) to compute and return structured game summaries matching a provided JSON contract. This included aggregation of player stats, parsing of shot coordinates, and formatting game-by-game breakdowns for frontend rendering
- **Built a fully interactive frontend component in Angular** that visualizes player performance over multiple games. Implemented dynamic shot charts using SVG overlays and color-coded markers for made/missed attempts. Integrated game navigation, player metadata, and statistical summaries into a cohesive UI

Soft Skills: Cross-functional Collaboration, Rapid Prototyping, Research & Experimentation, Strategic Thinking, Technical Leadership