

MANASA GANESH

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EXPERIENCE

Innovapath.Inc, TalentScreen *Machine Learning Engineer*

Dublin, CA
June 2023 - Present

- Designed and deployed AI assistants leveraging Retrieval-Augmented Generation (RAG) with LangChain integrating vector databases, embedding models, and multiple knowledge sources for precise information retrieval.
- Developed a multi-agent system using Agentic AI with LangGraph, enabling collaborative interactions among models to automate complex tasks and optimize workflows.
- Utilized LangChain for advanced prompt engineering, memory management, and task chaining, enhancing LLM-driven processes.
- Built dynamic web interfaces with Streamlit and React, coupled with FastAPI for seamless back-end API integration and real-time interaction.
- Enhanced information retrieval performance by leveraging VectorDB and integrating Hugging Face models for accurate embedding generation and faster responses.
- Conducted rigorous evaluation of retrieval and response accuracy using metrics such as BLEU, ROUGE, and precision, ensuring optimal AI system performance.
- Applied NLP techniques, including summarization, text classification, and sentiment analysis, using frameworks like NLTK, spaCy, and LangChain, for automating and chaining workflows effectively.
- Deployed monitoring and logging solutions for AI systems, enabling real-time performance tracking, troubleshooting, and efficient updates.
- Fine-tuned LLMs using domain-specific datasets to deliver contextually relevant and accurate AI-driven interactions.
- Optimized generative AI applications using AWS Bedrock for scalable and efficient deployment.
- Designed scalable containerized solutions on Kubernetes (EKS) and managed CI/CD pipelines using Git, enhancing the deployment process.
- Developed robust applications leveraging Python libraries such as Pydantic for data validation, FastAPI for API development, and Pytest for testing automation.
- Designed and automated end-to-end data pipelines for preprocessing and integrating knowledge sources into vector databases, ensuring seamless data ingestion for AI workflows.
- Implemented advanced ranking algorithms for retrieval systems to prioritize the most relevant information in response to user queries.

Outlier, Remote *AI Prompt Engineer*

July 2021 - May 2023

- Contributed to enhancing AI models by providing detailed feedback on performance and accuracy, supporting the development of innovative solutions.
- Leveraged domain knowledge to support the creation of more accurate and effective AI solutions.
- Collaborated with a community of experts to share insights and drive innovation in AI technologies.
- Participated in the Model Playground, engaging with and evaluating leading AI models to enhance their performance and capabilities.
- Provided feedback and data that informed the development and refinement of cutting-edge AI models.

VOLUNTEERING EXPERIENCE *Programming Language Educator*

Palo Alto, CA
Sep 2020 - Jun 2021

- Volunteered to teach Scratch programming to a 4th grade class at an underprivileged school in East Palo Alto, introducing them to basic coding concepts.
- Developed and delivered an engaging curriculum for 4th-grade students, guiding them in coding projects and fostering a strong understanding of programming basics.
- Managed a lively classroom environment as a high school student, demonstrating adaptability and perseverance to ensure all students successfully completed the course.

TECHNICAL SKILLS

Programming Languages:	Python, SQL
ML Frameworks/Libraries:	Pytorch, Huggingface, Pytorch, MLFlow
Cloud Platforms:	AWS Bedrock, AWS Sagemaker, EKS
Data Processing and Analysis:	Numpy, Pandas, Spark, Pyspark, Databricks
Natural Language Processing (NLP):	Huggingface, Pytorch, NLP, Open AI/LLAMA/Anthropic
Web Development and Deployment:	Streamlit, FASTAPI, Docker, Kubernetes
Other Tools and Technologies:	LLM, Gen AI, RAG, Vector DB, Langchain, Pydantic, Pytest