

Gopalakrishna Maddipalli

GENERATIVE AI ENGINEER | DATA SCIENTIST

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PROFILE

Production-minded AI engineer with seven years of construction-domain and data experience. Focused on prompt engineering, advanced retrieval-augmented generation, autonomous multi-agent workflows, and reliable AI services that convert complex documents and repetitive operations into measurable outcomes.

CORE CAPABILITIES

AI Frameworks	LangChain · LlamaIndex · CrewAI · Autogen · LangGraph
Retrieval	Pinecone · Milvus · Qdrant · Chroma · FAISS · embeddings · reranking
Models & Platform	GPT-4 · Claude 3 · Llama 3 · AWS Bedrock · FastAPI · Docker · Redis
Data & ML	Python · SQL · XGBoost · SHAP · OCR · spaCy · PySpark · Power BI

EXPERIENCE

Data Scientist — Sunray Construction Solutions

Oct 2021 – Present

- Design and ship machine-learning and OCR systems for document-heavy legal workflows.
- Build operational dashboards tracking work-order volume, processing time, and team performance.
- Partner with product teams to identify and prototype data-driven features.

Research Analyst — Sunray Construction Solutions

2019 – 2021

- Analyzed operational and customer data to support business and product decisions.
- Developed the domain and process knowledge that now informs applied AI system design.

SELECTED GENERATIVE AI PORTFOLIO

Multi-Agent Construction AI	LangGraph · CrewAI · Bedrock · Redis Coordinates compliance, risk, notice, and communication agents to automate repetitive legal operations.
AI Legal Assistant (RAG)	LangChain · Bedrock · FAISS · FastAPI Grounds document conversations in retrieved construction and legal context for faster research and self-service.
Construction Payment Risk Prediction	Python · SQL · XGBoost · SHAP · AWS Predicts delayed payments and lien probability, enabling proactive prioritization and explainable action.
Document AI	Textract / PaddleOCR · spaCy · PostgreSQL Extracts structured information from legal PDFs to reduce manual processing and improve accuracy.

EDUCATION & CREDENTIALS

Post Graduate Program in Artificial Intelligence and Machine Learning — McCombs School of Business, The University of Texas at Austin (via Great Learning), Jan 2021

Machine Learning Engineering for Production (MLOps) · Practical Data Science · Neural Networks and Deep Learning · Advanced SQL for Data Scientists