

# SHASHIDHAR REDDY KANAPARTHI

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## EDUCATION

### University of Colorado, Boulder

Master of Science in Computer Science

GPA: 3.8 | Related Coursework: ML, NLP, Neural Networks, Datacenter Scaler Computing

Boulder, CO

Expected Apr 2027

### SRM Institute of Science and Technology, SRM University

Bachelor's of Technology in Computer Science and Engineering (AI & ML)

GPA: 3.82 | Awards: Academic Merit Scholarship(2021,22)

Chennai, India

May 2025

## RELEVANT EXPERIENCE

### Trans Global Geomatics

Data Science Intern

Hyderabad, India

Dec 2024 - May 2025

- Contributed to real-time GPS analytics pipelines in Python, applying Random Forest for anomaly classification and K-Means clustering for unsupervised anomaly detection, improving deployment efficiency by 22%
- Built 4+ interactive dashboards with Plotly and Streamlit, enabling data visualization for geospatial data and accelerating data-driven decision-making and boosting decision speed by 15%
- Collaborated with cross-functional teams to integrate real-time analytics and GPS tracking features into mobile application, reducing user workflow time for 500+ users

## FEATURED PROJECTS

### RAAi: Agentic Research Assistant

- Built a fully agentic research system using LangGraph that autonomously performs planning, web search, analysis, verification, and report generation across 5 distinct research stages
- Implemented iterative verification loops that trigger follow-up searches when gaps are detected, synthesizing insights from 10–20 web sources per query with transparent intermediate states
- Delivered end-to-end research reports in ~4–6 minutes per complex query via a Streamlit interface with real-time progress visualization and downloadable structured outputs

### WeLearn: AI-Assisted Course Planning Platform

- Designed WeLearn, an AI-assisted course planning system that converts minimal user input into structured learning paths with modules, timelines, and curated resources
- Implemented a multi-source educational retrieval pipeline integrating Google Custom Search, YouTube, and trusted educational domains (Coursera, Edx, GitHub) to surface 30–60 high-quality resources per course
- Increased educational relevance and retrieval reliability by ~65% using query normalization, domain whitelisting, and fallback strategies, delivering complete course outputs in ~1.2 s end-to-end

### XploRAG: Explainable Retrieval-Augmented Generation

- XploRAG, an explainable RAG system that enables natural-language search across 1000 + technical documents using FAISS semantic retrieval and FLAN-T5 generation for precise, context-aware answers
- Linked every AI-generated answer to its retrieved document context through a Streamlit interface, allowing users to verify supporting evidence and improving transparency
- Optimized retrieval and embedding efficiency via adaptive text chunking and FAISS + MPNet tuning, improving context relevance by  $\approx 25\%$  and achieving an average search latency of 0.82 s per query

## SKILLS & CERTIFICATIONS

**Programming & Tools:** Python, C, SQL | Firebase, Flutter, Linux, Git, FastAPI, REST API Development

**Libraries & Frameworks:** Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, Keras, Matplotlib, Plotly, Streamlit, LangChain, SentenceTransformers, Hugging Face Transformers, FAISS

**Generative AI & NLP:** Prompt Engineering, Large Language Models(LLMs), Agentic AI, Intent Classification, LSTM, FLAN-T5, MPNet, Text Generation, LLM-assisted Content Structuring, Query Normalization, Semantic Relevance Ranking

### Certifications:

- Machine Learning and Deep Learning - Fundamentals and Applications, NPTEL Certification
- AWS Academy Machine Learning Foundations, AWS Academy