SUMANTH CS

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SUMMARY

Data Science graduate with hands-on MLOps and Deep Learning expertise. Built production-ready ML systems including a fine-tuned Llama 2 RAG application and end-to-end ML pipelines. Proficient in Docker, FastAPI, PyTorch, and cloud deployment with proven ability to deliver scalable AI solutions.

EDUCATION

Master of Science in Data Science and Analytics, Jain University, Bengaluru 2023 - 2025
Coursework: Machine Learning Operations (MLOps), Deep Learning, Big Data Analytics, and Advanced Data Visualization.

Bachelor of Computer applications, SJES College Of Management Studies, Bengaluru 2019 - 2022
Coursework: Python, DBMS, Data Structure, Software Engineering, Operating Systems.

TECHNICAL SKILLS

Programming Languages	Python, SQL, MongoDB
ML/DL Frameworks	PyTorch, Scikit-learn, Hugging Face Transformers, PEFT/LoRA
Data & Visualization	Pandas, NumPy, Matplotlib, Seaborn
MLOps & Deployment	Docker, FastAPI, Streamlit, MLflow, GitHub, DVC, Git LFS
Vector & Retrieval	FAISS, RAG (Retrieval-Augmented Generation)
Machine Learning Techniques	Fine-tuning LLMs, Neural Networks, Regression, Classification, Clustering, Ensemble Methods (Bagging, Boosting)

PROJECTS

Medical Question-Answering System with RAG & Fine-Tuned with Llama 2. **(Link)**

- Engineered a RAG system to provide factually grounded answers to complex medical questions, reducing AI hallucination.
- Fine-tuned Llama 2 7B model on specialized medical Q&A dataset using PEFT/LoRA, achieving BERT Score of 0.798 and superior semantic understanding over base model.
- Built complete data pipeline: processed 25+ medical PDFs, generated vector embeddings with all-MiniLM-L6-v2 and created FAISS index enabling sub-second query response time.
- Deployed application as Streamlit web app on Hugging Face Spaces, managing large model assets with Git LFS and ensuring reproducible builds.

End-to-End Crop Yield Prediction Using Machine Learning. **(Link)**

- Designed and implemented modular ML pipeline for crop yield forecasting covering data ingestion from MongoDB, schema validation, feature engineering, and model training.
- Achieved 85% R^2 score on 10,000+ agricultural records using XGBoost regression, processing 15+ environmental and soil features for accurate yield prediction.
- Built and deployed application with Docker on Render, leveraging CI/CD for seamless updates and zero-downtime deployments.
- Integrated MLflow for experiment tracking and model versioning; developed FastAPI-based REST service supporting real-time and batch predictions with <200ms response time.

CERTIFICATIONS

- **Python for Data Science, AI & Development** | COURSERA | **(Link)**
- **Machine Learning Specialization** (Andrew Ng) | COURSERA | **(Link)**
- **The Complete SQL Bootcamp: Go from Zero to Hero** | UDEMY |**(Link)**