N Tulasi Reddy

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Professional Summary

Visionary AI enthusiast with experience in building full-stack LLM-based systems, specializing in Generative AI, RAG architecture, and real-world NLP solutions. Skilled in deploying scalable AI models using Python, optimizing embeddings, and integrating semantic search in production-grade applications. Passionate about solving complex AI challenges and innovating enterprise solutions through continuous learning and experimentation.

Key Competencies

Generative AI, RAG Architecture, LLMs, Sentence-BERT, Prompt Engineering, Semantic Search, Python, Deep Learning, AI Strategy, Technical Writing, Cloud Deployment, Streamlit, Supabase, NLP Pipelines, Data Structures, REST APIs, Team Collaboration

Education

Woxsen University — Hyderabad, Telangana
B.Tech in Artificial Intelligence and Machine Learning — *Aug 2022 – May 2026*

Narayana Junior College — Hyderabad, Telangana
Higher Secondary Certificate (TSBIE) — *Jul 2020 – Mar 2022*

Internships and Experience

Machine Learning Intern — Feb 2025 – July 2025
Ransh Innovations Pvt. Ltd — *Remote*

- Built an LLM-powered news aggregation engine using embeddings and prompt-tuned subtopic detection.
- Integrated KeyBERT and Sentence-BERT for content clustering and semantic similarity search.
- Developed Supabase-backed backend for scalable news ingestion and querying in real-time.
- Visualized regional content trends using heatmaps and dashboards, optimizing user insight delivery.
- Wrote technical documentation outlining AI architecture, data flows, and deployment strategy.

Space Research Intern — Dec 2024 – Jan 2025
Agnirva Space — *Remote*

- Conducted technical research on satellite telemetry and onboard decision algorithms.
- Certificate Link

Academic Personal Projects

Movie Recommendation System — *May 2025 – July 2025*

- **Technologies:** Python, Streamlit, Sentence-BERT, Pandas, TMDB API
- Built a content-based movie recommender using Sentence-BERT (all-MiniLM-L6-v2) for semantic similarity of plot summaries.
- Developed an interactive UI using Streamlit with filters for genre, language, and release year.
- Processed and cleaned a custom 10K+ movie dataset from TMDB, integrating poster images, cast, and metadata.
- Enhanced recommendation relevance by leveraging NLP embeddings instead of traditional keyword matching.

Agri-Drone for Disease Detection and Pesticide Spraying

- **Technologies:** Python, ArduPilot, QGroundControl, Obstacle Detection, Embedded Systems
- Developed a drone system for automated pesticide spraying with image-based crop disease detection.
- Integrated GPS and ultrasonic sensors for safe and autonomous navigation in farms.

Heart Disease Prediction Using Machine Learning

- **Technologies:** Python, Scikit-learn, TensorFlow, Keras
- Built logistic regression and random forest models to predict heart disease from clinical data.
- Performed EDA, preprocessing, and model evaluation using ROC-AUC and precision-recall analysis.

Technical Skills

- **Languages:** Python, Java, SQL, JavaScript
- **AI/ML Frameworks:** TensorFlow, Keras, Scikit-learn, Sentence-BERT, KeyBERT
- **Web Technologies:** Streamlit, Flask, HTML, CSS, JavaScript
- **Databases:** Supabase, SQLite, MySQL
- **Tools:** Git, Postman, Google Colab, VSCode
- **Concepts:** Generative AI, LLMs, RAG Architecture, NLP Pipelines, Prompt Engineering, Embedding Search

Certifications

Coursera: Introduction to Deep Learning with Keras

Coursera: Introduction to Artificial Intelligence (AI)

Coursera: Core Java