

Thirupathi Burra

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PROFILE SUMMARY

AI/ML Engineer specializing in **Generative AI, RAG pipelines, LLM integration, and multi-agent systems** with production-grade experience in fintech and compliance AI. Published IJESAT researcher; expert in **LangChain, CrewAI, FastAPI, Docker, and vector databases**. Grand Finale Finalist – Google Cloud Agentic Premier League 2025; National Finalist – Google Agentathon; Top Learner – Google Cloud GenAI Exchange Program.

TECHNICAL SKILLS

Languages: Python, SQL

Generative AI & LLMs: LLM Integration, Prompt Engineering, LangChain, CrewAI, RAG, Agentic AI, Semantic Search, Ollama, Hugging Face Transformers

Vector Databases: FAISS, Pinecone, ChromaDB, AstraDB

ML & Deep Learning: TensorFlow, PyTorch, Scikit-learn, NLP, Computer Vision, OpenCV, Model Evaluation

Data Science: Pandas, NumPy, EDA, Feature Engineering, Statistical Modeling, ETL Pipelines, Data Visualization

Backend & MLOps: FastAPI, Flask, REST APIs, Docker, Git, Streamlit, Model Deployment, Model Monitoring

Databases: MySQL, MongoDB **Core:** Data Structures & Algorithms, OOP, DBMS, System Design

WORK EXPERIENCE

AI/ML Engineer Intern

Jun 2025 – Aug 2025

Infosys Springboard, Hyderabad, India

- Architected an **end-to-end KYC verification and fraud detection pipeline** using OCR, feature engineering, and ensemble ML classifiers, **improving automated accuracy by ~35%** and reducing manual review time significantly.
- Engineered **real-time Flask REST APIs** for low-latency model inference, handling concurrent document verification requests with **sub-second response times**.
- Containerized the inference service with **Docker**, reducing deployment time by ~40%; implemented **model monitoring and continuous validation pipelines** ensuring >99% uptime on high-stakes financial data.

PROJECTS

FinSmartAI – AI Personal Finance & Investment Assistant

GitHub

Python, FastAPI, LLMs, RAG, AstraDB, LangChain, NLP, React

- Designed a **full-stack GenAI fintech platform** for document Q&A, expense intelligence, market sentiment analysis, and stock insights with **citation-backed, hallucination-reduced responses**.
- Built a **RAG pipeline with AstraDB vector search** achieving **BERTScore F1 0.8605** and **Semantic Similarity 0.834**, significantly reducing LLM hallucinations in financial queries.
- Developed a **scalable FastAPI backend** ingesting and categorizing unstructured bank statements for predictive bud-getting insights, processing multi-format financial documents end-to-end.
- Published peer-reviewed research in **IJESAT (Vol. 26, Issue 4, Apr 2026)** – Paper PDF | Journal Page

Audit IQ – Autonomous AI Compliance Auditor

GitHub

Python, FastAPI, LangChain, CrewAI, Multi-Agent AI, RAG, Vector DBs

- Developed a **multi-agent AI system** using CrewAI for automated compliance validation, anomaly detection, and dynamic risk scoring; **reduced compliance audit time by ~60%**.
- Implemented **RAG-based regulatory reasoning workflows** delivering explainable, citation-backed audit decisions with fully **traceable decision chains** across financial rule validation tasks.
- Orchestrated **agent collaboration pipelines** for complex multi-step financial rule validation, enabling autonomous end-to-end compliance coverage without manual intervention.

AI-Powered Identity Verification & Fraud Detection

GitHub

Python, OCR, Computer Vision, ML, Flask, Docker

- Built a **multimodal OCR + ML pipeline** for identity document verification and fraud anomaly detection, achieving **high-precision classification** across multi-class document types.
- Containerized with **Docker** and integrated **real-time monitoring dashboards** for API logging and audit traceability, enabling production-ready observability from day one.

ACHIEVEMENTS

- Grand Finale Finalist – Google Cloud Agentic Premier League 2026:** Recognized as a **Top Performer from Hyderabad** in Google Cloud's multi-city AI innovation competition (Build with AI: Agentic Premier League) and selected for the **Grand Finale at Google Ananta, Bengaluru**, for rapid prototyping and deploying AI-powered applications using **Gemini and Google Cloud** technologies.
- National Finalist – Google Agentathon:** Engineered production-grade multi-agent AI systems competing at national level; recognized for applied GenAI innovation.
- Top Learner – Google Cloud GenAI Exchange Program:** Ranked among top performers nationwide in Generative AI concepts, implementation, and hands-on cloud AI tasks.
- Certifications:** Google Cloud AI/ML & Generative AI Skill Badges | Infosys Springboard AI/ML Program

EDUCATION

Matrusri Engineering College (MECS)

Hyderabad, India

Bachelor of Engineering - Computer Engineering | CGPA:8.00

2022-2026