Harish R

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Education

Sri Eshwar College of Engineering   Coimbatore, India
B.Tech in Artificial Intelligence and Data Science; CGPA: 8.34   *2023 – 2027 (Expected)*
 – **Relevant Coursework:** Data Structures & Algorithms, Operating Systems, AI, CN, DBMS, OOP, Big Data, ML

Technical Skills

Languages: C++ (C++17, STL, Multi-threading), Python, Java, SQL, C.
Systems & Low-Level: Memory Management, Distributed Systems, System Design (HLD/LLD), Operating Systems.
AI & GenAI: LLM Fine-tuning (QLoRA, Unsloth), LangGraph, AI Agents, RAG, LangChain, MCP, Vector DBs.
Core Subject: DSA, OOPs, OS, Computer Networks,Database management, Machine learning.
Big Data Engineering: Apache Kafka, Spark (PySpark), Hadoop, Airflow, NiFi, Microservices.
DevOps & Tools: Docker, Git/GitHub, FastAPI (Async), MongoDB, MySQL, Postman, n8n, LangSmith.

Experience

INEUDATA
Data Engineering Intern   *2025*
 – Designed and implemented scalable ETL pipelines leveraging **Apache Kafka**, **PySpark**, **Hadoop**, and **Airflow**.
 – Successfully automated **40%** of manual data workflows and visualized large-scale datasets for actionable insights.
 – Integrated processed data streams with SQL-based storage to power real-time analytics dashboards.

Key Projects

Sketch Mentor: AI-Powered Mathematical Reasoning Engine | *Python, QLoRA, Unsloth, langGraph*
 – **Model Optimization:** Fine-tuned Qwen2.5-Coder-7B using **QLoRA** and 4-bit quantization, boosting Manim code accuracy from <30% to **95%** while significantly reducing training time and memory usage.
 – **Orchestration:** Architected a multi-agent pipeline with adaptive retry logic to interpret, solve, and verify complex problems.**Visuals:** Developed a verified stepwise visual solution generator using the Manim engine.

Real-Time Streaming Analytics Platform | *Kafka, Spark, Hadoop, Airflow, MCP*
 – **Distributed Architecture:** Deployed a Kafka streaming pipeline with 4 multi-producers and 2 topic-based consumers.**Hybrid Processing:** Integrated batch (Hadoop/Spark) and stream processing for scalable analytics on OTT datasets.**AI Interface:** Developed an agentic dashboard with **LangChain** and **MCP**, enabling NL-to-SQL queries for real-time visualization.

HorixYt: AI Agentic Video Automation | *Python, FastAPI (Async), LLM, Ai agents, langGraph*
 – **High Throughput:** Scaled throughput **3–5x** using a FastAPI-based async architecture and parallel processing.
 – **Automation:** Built a multi-agent system converting prompts to videos, automating 7 production stages and reducing manual effort by ∼**95%.Resilience:** Integrated Gemini LLM, SQLite, and Docker for a fault-tolerant generation pipeline.

Horix AI: Autonomous Tooling Infrastructure | *Ai Agents, Python, Asyncio, MCP, langGraph*
 – Built a platform for the autonomous discovery and configuration of MCP tools, enabling dynamic capability expansion.
 – Designed resilient orchestration with automated GitHub discovery and AI-assisted run-config generation.

Achievements & Coding Metrics

LeetCode: Max Rating **1,755** (Top 9% Global) | **700+** Problems Solved (Strong DSA foundation).
CodeChef: Max Rating 1,464 (2 Star) | Global Rank: 23,461.
Hackathons: **Winner (1st Place)** - Creatathon (Solo Hackathon) & Python Project Expo.
Competitions: **Winner (1st Place)** - Electra Code Debugging Challenge & Code Fiesta Coding Contest.

Certifications

Advanced Machine Learning Algorithms (Stanford) | Data Structures & Algorithms Mastery (Udemy)
Programming in C (NPTEL - Focus on Pointers) | Programming in Python for Data Science (IBM)