HARSHAVARDHAN REDDY

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Professional Summary

Innovative AI Engineer with 1.8 years of hands-on experience in Machine Learning, Deep Learning, Generative AI, and Computer Vision. Skilled in building scalable AI-powered applications, fine-tuning LLMs, and deploying production-grade solutions. Adept at RAG pipelines, prompt engineering, and real-time computer vision systems, with a strong focus on delivering impactful business outcomes.

Tools & Technologies

- **AI & ML :** Machine Learning, Deep Learning, Generative AI, Agentic AI, NLP, Computer Vision, RAG, Prompt Engineering, LangChain, LangGraph, Context Engineering, Fine-tuning AI Models
- **Languages**: Python, JavaScript
- **Frameworks & APIs**: FastAPI, Flask, Django
- **Databases**: MySQL, PostgreSQL, MongoDB
- **Tools & Platforms**: Git, Docker, Postman, CI/CD
- **Soft Skills:** Collaboration, Communication, Problem-solving, Leadership Skills

Education

AI Engineering, MisogiAI by Masai   Jun 2025 – Sept 2025

AP IIIT RGUKT, RK VALLEY, Bachelor of Technology in Computer Science   Dec 2020 – Apr 2024
- GPA: 8.02/10.0

Projects

Asset Detection on Roads (Computer Vision System)
- Built a YOLOv5-based detection + DeepSORT tracking system to identify road assets (traffic signs, milestones, streetlights) with 97% mAP, improving asset-tracking reliability by 30%.
- Optimized tracking classification pipeline, improving detection speed for real-time highway monitoring.
- Tools: Python, YOLOv5, OpenCV, TensorFlow/PyTorch, Node.js

Pavement Crack Identification (YOLOv5 Segmentation)
- Implemented a segmentation-based system achieving 88% IoU for real-time road crack detection, reducing manual inspection effort by 50%.
- Enabled condition-based prioritization of road maintenance tasks.
- Tools: Python, YOLOv5, OpenCV, TensorFlow/PyTorch

QueryBot AI – Intelligent SQL Assistant
- Developed an AI chatbot (Gemini + LangChain + FastAPI) that converts natural language to SQL queries with 95% accuracy, cutting query generation time by 70%.
- Integrated FastAPI backend with Streamlit UI for interactive query generation optimization.
- Enhanced developer productivity by automating query troubleshooting recommendations.

Experience

ML Engineer, Cube Highways – Hyderabad   Apr 2024 – May 2025
- Designed and deployed a YOLOv5 + DeepSORT computer vision system for road asset detection, improving object tracking accuracy by 30% .
- Built a real-time pavement crack detection pipeline using YOLOv5 segmentation, enabling automated road condition assessment and reducing manual inspection effort by 50%.
- Developed an AI-powered SQL chatbot using Gemini, LangChain, and FastAPI, helping users generate and optimize SQL queries.

ML Engineer Intern, Cube Highways – Hyderabad   Oct 2023 – Apr 2024
- Assisted in scaling ML workflows and optimized model inference time by 20%.
- Supported deployment of computer vision models in edge devices for real-world use cases.
- Streamlined model packaging and testing workflows, improving reliability and scalability of edge AI deployments.