

Harsha Vardhan Nandineni

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SUMMARY

Motivated and enthusiastic **Trainee / Associate Software Engineer (AI & ML/Data Science)** with hands-on experience in Python, machine learning, deep learning, and backend systems. Experienced in assisting with data collection, data cleaning, data manipulation, visualization, and model evaluation. Skilled in building AI-powered applications using FastAPI, LLMs, and vector databases, with a strong research-driven approach and ability to collaborate in cross-functional team environments.

TECHNICAL SKILLS

Programming Languages: Python, C, JavaScript (basic)

Machine Learning & Deep Learning: Regression, Classification, Clustering, Neural Networks, Deep Learning, AIML

Frameworks & Libraries: PyTorch, TensorFlow (basic), Hugging Face Transformers, Sentence Transformers

Data Analysis & Visualisation: Pandas, NumPy, Matplotlib, Seaborn, Data Cleaning, Data Transformation

Databases & Querying: SQL (basic), MongoDB, SQLite, NoSQL

Backend & Development Tools: FastAPI, REST APIs, JWT Authentication, Git, Version Control

AI Extras: NLP, LLMs, RAG, Vector Databases (ChromaDB), AI Agents, OCR (OpenCV), Automation

PROJECTS

AI-Powered HR Chatbot with Retrieval-Augmented Generation (RAG)

Full-Stack AI Application

Built a full-stack RAG chatbot using FastAPI and Streamlit to answer queries from a private PDF knowledge base.

Implemented semantic search using Sentence Transformers and FAISS with LLM-based answer generation.

Assisted in data preprocessing, embedding generation, and documentation of the end-to-end pipeline.

JARVIS – Multimodal Desktop Assistant

Python, FastAPI, OCR, LLMs

Developed a multimodal assistant combining voice, text, and screen-text extraction.

Designed an OCR → LLM reasoning → action execution pipeline for intelligent desktop automation.

Integrated vector-based long-term memory using ChromaDB for context-aware responses.

Optimized data workflows to reduce response latency by approximately 30%.

QuickDeliver Lite – Delivery Tracking System

Internship Project – FastAPI, MongoDB, React

Developed secure backend APIs with role-based authentication and automated data workflows.

Collaborated with cross-functional teams to support order tracking, delivery updates, and complaint management.

AI Grammar Correction Bot – Linga Bot

Fine-Tuning & Deployment

Fine-tuned a T5-small model using the WikiAuto dataset for grammar correction.

Evaluated model performance and deployed the solution via FastAPI with JWT security.

RESEARCH WORK

Traffic Signal Optimization – Exploratory Research

Queueing Theory, Statistical Analysis

Conducted research and development focused on real-world traffic systems used by engineers and scientists.

Analyzed traffic datasets to study queue dynamics, arrival-service rates, and system efficiency.

Proposed a data-driven, AI-assisted signal timing approach using real-time traffic density.

OPEN SOURCE CONTRIBUTIONS

Active contributor to open-source projects on GitHub in a distributed team environment.

Contributed to feature development, bug fixes, and documentation via pull requests and code reviews.

Followed clean code practices and version control methodologies while collaborating with other developers.

EDUCATION

Rajiv Gandhi University of Knowledge Technologies – Idupulapaya

B.Tech – Computer Science & Engineering

CGPA: 9.25

Rajiv Gandhi University of Knowledge Technologies – Idupulapaya

Pre-University Course (PUC)

CGPA: 9.9

SPCS Municipal Boys High School – Dharmavaram

Secondary School Certificate (SSC)

GPA: 10.0

CERTIFICATIONS & ACTIVITIES

Generative AI and ChatGPT – GeeksforGeeks (LLMs, Prompt Engineering, Real-World GenAI Applications)

IBM Machine Learning Specialization – Coursera

Member – SRC Club, RGUKT RK Valley

Football Enthusiast – 3x Intercollegiate Tournament Winner