

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 <i>B.Tech – Computer Science & Engineering</i>	CGPA: 9.25
Rajiv Gandhi University of Knowledge Technologies – Idupulapaya <i>Pre-University Course (PUC)</i>	CGPA: 9.9
SPCS Municipal Boys High School – Dharmavaram <i>Secondary School Certificate (SSC)</i>	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 – 3× Intercollegiate Tournament Winner