

M Dhanush | AI & Data Science Student | AI Applications | Machine Learning | Agentic AI |

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I am an aspiring data analyst and AI & ML engineer with hands-on experience in building end-to-end data and AI systems. Strong focus on practical problem-solving, AI-assisted analytics, and system design. Interested in internship roles where I can work on real world data, automation, and AI-driven workflows.

Education: IIT Madras — B.S. in Data Science and Engineering, Relevant Coursework: Data Structures, Machine Learning, Database Systems, Probability & Statistics

Projects

AI Recruitment Agent — Hermes-Driven Autonomous Application Pipeline |

- Built an AI recruitment agent using Hermes that automates resume analysis, job requirement extraction, ATS scoring, and application assistance through reusable agent tools.
- Integrated local LLMs with tool calling to enable the agent to analyze job descriptions, compare skills with resumes, generate tailored cover letters, and answer application questions.
- Designed a modular FastAPI backend with browser automation and structured APIs, allowing the agent to execute multi-step recruitment workflows from a single user request.
- Tools: Python, Hermes Agent, FastAPI, Ollama, Browser Automation, REST APIs, SQLite, Git, Prompt Engineering

Multi-Modal RAG & Agentic AI System — FastAPI, Hugging Face, FAISS, Docker |

- Built a production-grade Multi-Modal RAG (Retrieval-Augmented Generation) system with agent-based workflows for contextual document querying and AI-assisted reasoning.
- Implemented hybrid retrieval using FAISS, BM25, re-ranking, and Hugging Face Transformers to improve retrieval accuracy and grounded response generation.
- Containerized and deployed the system using Docker with persistent vector storage, environment-based configuration, and production-focused system design.
- Tools: Python, FastAPI, Hugging Face Transformers, FAISS, BM25, Docker, PyTorch, REST APIs, Vector Databases, RAG Pipelines, AI Agents

Predictive Modeling Pipeline — End-to-End Machine Learning Solution | Kaggle Competition (college project)

- Built an end-to-end machine learning pipeline for predictive modeling using real-world structured datasets
 - Performed EDA, feature engineering, and preprocessing to handle missing values, noisy data, and overfitting
 - Trained and compared multiple ML models using cross-validation, evaluation metrics, and hyperparameter tuning
 - Improved model generalization and prediction performance through data-driven optimization and scalable workflows.
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TECHNICAL SKILLS

Programming: Python, SQL, Java

AI & Machine Learning: Scikit-learn, Pandas, NumPy, Feature Engineering, Model Evaluation, PyTorch

LLMs & AI Agents: Hermes Agent, Ollama, Hugging Face, OpenAI API, Prompt Engineering, RAG, AI Agents

Backend: FastAPI, Flask, REST APIs

Databases: SQLite, PostgreSQL, MySQL, FAISS, BM25

Tools: Git, GitHub, Docker, Linux, VS Code

Languages

- English, Hindi, Tamil -read, write and speak(fluent)