ANKIT MANDUSIA

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SUMMARY

Data & AI professional with hands-on experience in fine-tuning and deploying LLMs, RAG pipelines, and scalable ML/AI solutions. Skilled in building production-ready AI applications, optimizing model performance, and processing large datasets using Python, PyTorch, TensorFlow, Pandas, and NumPy. Experienced in cloud platforms, model deployment, and inference pipelines, with a track record of delivering AI solutions in voice, NLP, and multimodal systems to drive real-world impact.

EXPERIENCE

Project Associate I │ Malaviya National Institute of Technology

November 2024 - Present, Jaipur, Rajasthan

- Applied machine learning techniques and statistics for analyzing battery performance datasets, identifying patterns in charging/discharging cycles, and improving predictive modeling of cell behavior.
- Developed ETL pipelines for DOBOT CR3 and MG400 test benches, producing clean datasets for analytics.
- Coordinated cross-functional integration of battery hardware with automation scripts, enabling synchronized experiments and consistent data acquisition.
- Video Demonstration – Robotics Automation Setup - https://youtu.be/4Aygwmuk-TU.

Freelance Al Training Expert │ Outlier

October 2024 - March 2025, Remote, India

- Contributed to RLHF and SRT projects (Hopper, Cypher Evals, Matcha Stem, Pref Ranking, Extensions V2 Log), enhancing generative AI training through code evaluation and task curation.
- Evaluated AI model outputs and engineered comprehensive feedback reports to advance large language model accuracy and reliability across diverse task sets.

PROJECT

SEC Filing Q&A with GraphRAG

github.com/AnkitMandusia/Sec-Form-Filling

- Architected and developed a state-of-the-art multi-agent RAG system using LangChain and a Mistral-7B model to enable advanced, context-aware Q&A and analysis of dense financial documents (SEC 10-K filings).
- Engineered a "Natural Language to Query" feature, enabling an AI agent to translate user requests into reliable, on-the-fly data visualizations with Plotly.
- Developed a full-stack analysis tool with an interactive Streamlit UI, leveraging Qdrant for vector search and Pandas for robust data ingestion.
- **Technologies**: LangChain, LlamaIndex, Hugging Face, Qdrant, Transformers, Streamlit, PyTorch.

Multimodal AI Fact-Verification System

huggingface.co/spaces/ankit005man/fact

- Built a voice-interactive AI assistant using Gemini API to deliver fact-based responses from audio/text queries with real-time web search and evidence-backed explanations.
- Implemented low-latency speech-to-text and text-to-speech pipelines (Transformers TTS, Pydub), reducing response time to <1.5s and improving interaction efficiency by 30%.
- **Technologies:** Python, Hugging Face Transformers, LangChain, FAISS, Tavily API, Ragas, Pydub, Gradio, BeautifulSoup.

Knowledge Assistant with Multimodal RAG

github.com/AnkitMandusia/Spe-Knowledge-Assistant

- Designed and implemented a retrieval-augmented generation system to answer queries from PDFs and images by integrating OCR, vector embeddings, and LLM-based response generation.
- Designed session-isolated context retrieval with source citation, improving precision and transparency of responses..
- **Technologies:** FastAPI, Pinecone, OCR (Tesseract), Meta-Llama-13b, Scalable inference & deployment pipelines.

Automatidata - ML for Taxi Revenue Optimization

github.com/AnkitMandusia/Automatidata-Taxi-Trips-

- Developed and deployed a multiple linear regression model achieving an R^2 of 0.84, improving fare estimation accuracy by 28% compared to baseline methods.
- Conducted detailed inspection, EDA, A/B Testing(hypothesis testing), and feature engineering on 100K+ trip records.
- **Technologies**: Numpy, Pandas, stats models, Tensorflow, Data Analysis, Fine-tuning, Data Wrangling, Scikit-Learn.

EDUCATION

Master of Technology Computer Science │ Dayalbagh Educational Institute, Agra

7.36, Agra, Aug 2022 - Jun 2024

Bachelor of Technology Information Technology │ BK Birla Institute of Engineering and Technology, Pilani

7.20, Pilani, Aug 2017 - Oct 2021

INVOLVEMENT

Volunteer │ **Dayalbagh Educational Institute** │ **DEI**

August 2022 - June 2024

• Empathy, Patient Care, Attention to Detail, Data Accuracy, Critical Thinking, Adaptability, Problem-Solving.

HR │ **BK Birla Institute of Engineering and Technology** │ **NIRMAAN**

January 2019 - January 2021

• Leadership, Organization, Collaboration, Mentorship, Teamwork, Effective Communication, Strategic thinking.

SKILLS

Python, R, C, SQL, C++, Core Java

Regression analysis, Excel/Spreadsheet, Quantitative Analysis ,Statistical Analysis

GCP, Azure, Power BI, AWS, LLMs, RAG, Langchain, Vector Databases

Deep learning, NLP, Predictive Models

CERTIFICATIONS

Qiskit Global Summer School 2025 - Quantum Excellence │ **IBM**

2025

Advanced Data Analytics Professional Certificate │ **Google**

2024

AzureML Model for Data Scientist │ **Microsoft**

2023

Data Analytics Professional Certificate │ **Google**

2023

PUBLICATIONS

Brain Tumor Segmentation using Deep Learning-Based MRI Analysis

Journal , International Journal of Engineering Research Technology (IJERT), Aug 2024