Deepanshu Dubey
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Education

Year	Degree/Exam	Institute	CGPA/Percentage
2025	M.Tech in Data Science	Defence Institute Of Advanced Technology	8/10
2021	B.Tech in Mechanical Engineering	Ujjain Engineering College	7.51/10
2016	Class XII, HSC	C.B.S.E	79.6%
2014	Class X,SSC	C.B.S.E	9/10

Awards and Achievements

- Secured All India Rank **1339** in **GATE** 2023

Experience

Data Science Intern |Deepneural Technologies |Remote[Jan'2025-Present]

- Developed AI agents for US-based clients using Flowise, LangChain, and LangGraph. Built LLM-powered workflows, RAG pipelines, and integrated AI with external APIs to enhance business processes. Gained expertise in LLM orchestration, AI automation, and prompt engineering.

System Engineer |Infosys |Pune [June'22-August'23]

- During the initial tenure, I underwent comprehensive training at the Infosys Global Education Center in Mysore, specializing in Frontend Development and Testing. Upon successfully completing the training, I transitioned to the Pune Data Center, where I actively gained valuable experience and made meaningful contributions.

Projects

Underwater Image Enhancement

- Developed an underwater image enhancement model using a U-shaped Transformer architecture to improve image clarity, color restoration, and visibility in underwater environments.
- Incorporated advanced deep learning techniques, leveraging attention mechanisms and structural similarity (SSIM) loss to enhance underwater images effectively.
- Successfully improved underwater image quality for marine exploration and object detection, with results validated against benchmark datasets. Achieved a **PSNR of 24.617** and an **SSIM of 0.845**, ensuring high-quality image enhancement.

E-Commerce Recommendation System

- Hybrid Recommendation System: Combines content-based filtering (using TF-IDF and cosine similarity) and collaborative filtering (user-product interactions) to provide robust and relevant product recommendations.
- User Authentication: Supports user signup and login functionality to enable personalized recommendation access.
- Dynamic & Personalized Product Display: Displays trending products with randomized details and offers tailored recommendations based on user activity and preferences.

Voice-Assistant

- Convert and Clean Audio: Convert MP3 to WAV, apply VAD to filter non-speech segments.
- Transcribe and Generate: Transcribe Audio to text with whisper and generate a response using Llama model.
- Text-to-speech: Convert the generated text to speech with Customizable parameter and save it.

Natural Language Query Agent

- Generate Responses: Use meta-llama/Llama-2-7b-chat-hf for conversational answers, handle data from URLs, and index with Pinecone.
- Citations and Memory: Include source URLs and use a memory buffer for context-aware follow-ups.
- Summaries and Flashcards: Create session summaries and Q&A flashcards with facebook/bart-large-cnn.

Movie Recommendation System

- Developed a movie recommendation system using Python, Pandas, and Streamlit.
- Processed movie data and utilized text processing techniques for normalization and vectorization.
- Calculated cosine similarity between movies and created a user-friendly web interface for recommendations.

Spam SMS Classifier

- Developed a spam classifier using Python libraries like NumPy, pandas, nltk, and scikit-learn.
- Utilized Naive Bayes and Decision Trees for classification with preprocessing and TF-IDF vectorization.
- Achieved 97.10% accuracy and 100% precision with Naive Bayes

Skills

- **Programming Language:** Python | SQL
- **Technical Knowledge:** Statistics|Machine Learning|Deep Learning|Natural Language Processing|LLM |RAG | Generative AI
- **Python Libraries:** NumPy|Pandas| Matplotlib| Scikit-Learn| TensorFlow| Flask| NLTK| PyTorch | PySpark
- **Big Data Tools:** Hadoop| Hive| Hbase| Cassandra | MongoDB |Apache Spark |Apache Airflow | AWS | Git
- **Courses:** Data Science Tools and Techniques | Data Analysis and Visualization| Data Structures and Algorithms | Advanced Statistical Techniques| Optimization Techniques| Linear Algebra| Big Data | Deep Learning with Computer Vision | Machine Learning | Image Video and Analysis| Virtual Reality | Energy Modelling and Simulation