

# Deep Usdadiya

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- Experienced Data Scientist with 4+ years of experience in **AI, ML, and GenAI product development** across domains. Proven expertise in **building and deploying LLM-powered solutions** including fine-tuned **chatbots, prompt-engineered RAG pipelines, and SQL assistants using LangChain and PGVector**. Designed AI agents to automate enterprise workflows, enabling smart retrieval, contextual reasoning, and task execution across teams like AJIO and JioMart. Delivered time-series forecasting, recommendation engines, and NLP systems for operational insights. Proficient in **Python, TensorFlow, FastAPI, PostgreSQL, and cloud-native AI deployments**.

## Work Experience:

- Data Scientist, Reliance Jio Infocomm Limited** **Aug'23 – Present**
  - Designed and deployed a domain-specific LLM chatbot** by fine-tuning the DeepSeek-R1 (8B) model on proprietary enterprise data, enabling accurate and contextual interactions for internal stakeholders. Integrated prompt engineering techniques to enhance response relevance and performance.
  - Developed a Retrieval-Augmented Generation (RAG) based document assistant** that utilizes PGVector embeddings and LangChain pipelines to extract contextual insights from internal PDF documents. Enabled semantic enterprise search and knowledge retrieval across operations and analytics teams.
  - Built an LLM-powered SQL generation assistant** capable of converting natural language questions into executable SQL queries for PostgreSQL and Oracle. Combined prompt chaining, query classification, and vector-based context retrieval to support both structured data exploration and admin-level database tasks.
  - Implemented an AI-driven alert scoring and prioritization model** to classify operational alerts based on severity, impact, and recurrence. Leveraged machine learning to reduce alert noise and automate triage, significantly improving incident response time for infrastructure units like AJIO and JioMart.
- Assistant Manager, Reliance Jio Infocomm Limited** **Aug'20 – July'22**
  - Built a time-series forecasting model using sensor and behavioural data** to predict cattle heat cycles for Jio GauSamridhi's livestock health platform. Applied signal processing and supervised learning techniques to improve early detection and achieve a 35% boost in first-attempt fertility rates.
  - Developed a region-wise demand forecasting system** for IoT-enabled cattle health tags using time-series modelling, K-means clustering, and optimization. Enabled a 2-month automated supply planning framework, reducing emergency procurement by 40% and improving tag availability by 28% across rural operations.

## Education:

Course	University/Board	Institute	Passing Year
AI & Data Science	Jio Institute	Jio Institute, Navi Mumbai	2023
MBA/ABM	Anand Agricultural University	International Agri-Business Management Institute, Anand	2020
B. Tech. (Agril. Engg.)	Junagadh Agricultural University	College of Agricultural Engg. & Technology, Junagadh	2018

## Projects:

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- **Machine Learning:**

- Built a supervised learning pipeline to predict Sepsis onset from clinical time-series data using models like Random Forest, XGBoost, and Logistic Regression. Focused on early detection to assist in ICU prioritization and reduce mortality risk.

- **Responsible AI:**

- Designed a fair and privacy-preserving credit risk model using the UCI credit card default dataset. Applied differential privacy techniques and removed PII fields, ensuring model fairness across demographic groups in line with Responsible AI principles.

- **Generative AI & Deep Learning:**

- Developed 'Recallme-AI', a memory assistant that uses OpenAI LLMs to generate natural language answers from user-uploaded content (PDFs, images, text). Combined summarization and semantic search to enable memory recall from unstructured data.
- Built a DBA assistant to convert natural language to SQL queries using Ollama-hosted LLMs and RAG architecture. Integrated vector search, prompt chaining, and database metadata extraction for accurate query generation and execution.

- **Data Visualization:**

- Created an interactive Tableau dashboard for YouTube trending data, enabling dynamic analysis by category, region, and engagement metrics. Helped identify content trends and optimize publishing strategies.

- **Big Data Engineering:**

- Performed large-scale sales data analysis using PySpark, including data cleaning, aggregation, and time-based trend analysis. Generated actionable insights for product performance and seasonal sales

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## Area of Interest:

Statistics | Machine Learning | Generative AI | Natural Language Processing (NLP) | Autonomous Systems | Time-Series Forecasting | Retrieval-Augmented Generation (RAG) | LLM Fine-tuning | Recommendation Systems

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## Skills:

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### Technical Skills:

Python | SQL | Pandas | Numpy | Transformers | PGVector | Langchain | FastAPI | Git & GitHub | Tableau | PySpark | MLOps | AWS

### Management Skills:

Leadership | Problem Solving | Time Management | Analytical Thinking | Project Ownership