# Sandhya Sri Damarla

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Verypassionate and enthusiastic about finding trends in data sets, creating generative AI chatbots that can help organizations better organize, strategize, and make better decisions.

## Big Data and AI Engineer, Experience- 2.5 years

## Professional Summary :

- Having 2.5 years of experience in Data Engineering and Generative AI
- Expertise in Python, SQL, PySpark, Databricks, and distributed data frameworks like Apache Spark
- Strong knowledge of LLMs, Retrieval-Augmented Generation (RAG), LangChain with hands-on experience in Agentic Frameworks (LangGraph, AutoGen, PhiData, Crew AI)
- Experience in cloud platforms AWS, Azure including AWS Bedrock, Lex, SageMaker, Athena, Redshift, and EBS
- Proficient in vector databases (FAISS, ChromaDB, Pinecone, Milvus) and fine-tuning LLMs using Unsloth, Gemini, LoRA, QLoRA, and PEFT
- Proficient in designing and implementing scalable data pipelines, creating Databricks notebooks, and automating workflows for extracting transforming, and loading data from various sources to target storage.
- Developed AI-powered chatbots leveraging Multimodal RAG to enhance real-time, data-driven user interactions
- Passionate about AI integration into data engineering solutions, predictive analytics, and high performance AI/ML model deployment.
- Strong collaboration with AI engineers, data scientists, and cross-functional teams to ensure seamless AI model deployment.

## Technical Skills

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| **Big Data** | : Databricks, Pyspark, Spark SQL, Gen AI |
| **Generative AI and LLMs** | : Open Source Models, Model API's, Vector Databases, Retrieval Augmented Generation(RAG), Agents, Prompt Engineering, Fine-Tuning |
| **Scheduling Tools** | : Apache Airflow |
| **Cloud and computing** | : AWS cloud, Azure |
| **Languages** | : SQL, Python, Java |
| **Data Libraries** | : Pandas, Numpy, Matplotlib, FastAPI |
| **NLP Libraries** | : NLTK, Spacy |
| **Operating System** | : Windows Family, Linux. |

## Domain Summary

1. Working as Big Data-AI Engineer in Nagarro from Feb 2024 – Present
2. Worked as Data Engineer in Nagarro from March 2023 – Jan 2024

## Education

- Graduated from St.Ann's College of Engineering and Technology in the year 2023 with Bachelor of Technology in Computer Science and Engineering with 8.4 CGPA.

# Recent Projects

| Project name | **FactoryGPT** |
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| Duration | Sep 2024 – Present |
| Description | FactoryGPT is a conversational AI-based analytical chatbot that will enable factory operators, engineers, and managers to interact with production data using natural language. Built specifically on AWS, the chatbot will take in real-time and historical factory data, such as counters, downtime, and machine state information, to provide insights and recommendations. |
| Technology Stack | Gen AI, Prompt Engineering, LangChain, LLMs, RAG, Vector database, AWS Bedrock, Sagemaker, Databricks, Python, Agents(Autogen), FastAPI, EBS |
| Responsibilities | • Implemented RAG-based table schema selection for dynamic SQL query generation<br>• Collaborated with business team to gather, analyze, and segregate sample SQL queries for LLM training.<br>• Integrated real-time data for insights on counters, downtime, and machine states.<br>• Deployed the solution on AWS Elastic Beanstalk (EBS).<br>• Analyzing frontend requirements and provide backend endpoint accordingly. |

| Project name | **AI Chat Assistant** |
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| Duration | Feb 2024 – Sep 2024 |
| Description | Project involved developing a modern AI-powered document chat assistant with text2sql, web search, document extraction, document querying. Implemented RAG (Retrieval-Augmented Generation) architecture, leveraging vector databases and LLMs for efficient document querying and response generation. |
| Technology Stack | Python, NLP, Prompt engineering, Agents, RAG, Vector Database(FAISS), LLM's(Gemini), FastAPI |
| Responsibilities | Worked on features such as:<br>• Document ingestion and processing: developed a system to ingest various document types, process them into chunks, and store in a vector database for efficient retrieval<br>• Contextual querying: implemented a RAG (Retrieval-Augmented Generation) system that allows users to ask questions about the ingested documents and receive relevant answers<br>• Answer generation: utilized LLMs to generate human-like responses based on the retrieved document chunks, ensuring accuracy and coherence<br>• Relevance filtering: engineered a mechanism to determine if a user's question is relevant to the ingested documents, preventing off-topic responses<br>• Real-time processing: leveraged FastAPI to handle real-time document querying and response generation, ensuring a smooth user experience |

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| **Project name** | **Lpd_kinaxis** |
| Duration | March 2023 – Jan 2024 |
| Description | LPD is the Laboratory Products Division within healthcare division. This project is specifically related to LPD division and new features which will enable LPD business to make decisions on Inventory moves, Goods in Transit, and Profitability. |
| Technology Stack | Databricks, Pyspark, Spark SQL, AWS (S3, Athena), GitHub, Airflow |
| Responsibilities | • Worked on creating and validating Databricks Notebooks, Jobs and scheduled as per requirement. |
| | • Extracting data from various data sources |
| | • Handle missing values, bad records, and data imbalances which is cleaning of data. |
| | • Applying transformations using Pyspark and SQL |
| | • Loading data into target location |
| | • Prepared support documents and provided KT to daily support team |