Saraswat Mukherjee

Data Scientist

# About

 **Experience**

Highly skilled and experienced Data Scientist with over 5 years of experience in analyzing complex datasets, developing predictive models and leveraging machine learning algorithms to drive data-driven solutions. Adept at identifying opportunities for business process improvements, cost optimizations and revenue growth.

**Oct 2024 - Present**

**Data Scientist**

**(0 Years,9 Months)**

Persistent Systems Ltd.

**Sr. AI Engineer**

AIT Global India Pvt Ltd

**Data Scientist** Genpact India Pvt Ltd

**Jul 2024 - Oct 2024**

**(0 Years,3 Months)**

**Aug 2016 - Jul 2024**

**(7 Years,11 Months)**

# Education

 **Skills**

I worked here as a Gen AI Engineer where I worked majorly on Gen AI projects. Here I worked with multiple LLM and SLM models for text generation and classification along with some popular frameworks like Langchain and Hugging face.

**BSc in Physics Jan 2018 - Mar 2021** IGNOU

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**Diploma in Computer science Mar 2013 - Mar 2016** BTE Delhi

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Hugging face

OPEN AI

Langchain

Python

FAISS

Embeddings

FAST API

Streamlit

Pytorch

RAG

Vector databases

Gen AI

Tensorflow

Pandas

Numpy

Statistics

Deep learning

NLP

Streamlit

MLflow

AWS

Docker

Github

JIRA

Machine learning

Pandas

Numpy

Sci-kit learn

CrewAI

Langgraph

AWS Bedrock

AWS Lambda

Azure Load Testing

LLM- GPT-4, Llama 3 etc.

Azure Devops

# Projects

**HRMS Portal AI Chatbot**

 I helped my team in building an AI Chatbot in my current company using Azure OpenAI LLM model.

 We considered different scenario based conversations as textual data and convert them into embedding and store them on Azure vector database.

 After preparing the models using prompts and fine tuning we deployed in Azure

**Credit card issuance**

 I worked on successfully building a loan prediction application and deployed it using Streamlit and GitHub on Docker container. In this app the user just have to enter few details and submit.

 On doing so the user will get to know whether the loan is approved or rejected instantly. The app was later deployed on AWS EC2 as well.

 The model performed efficiently with a high accuracy of 92%.

**Training model to recognise images**

 I was involved in building a model including several linear and convolution layers and tested them with some built-in Pytorch datasets.

 Then I prepared a dataset which consisted of different amenities and goods.

 Then I used some pre-trained models to train it our prepared datasets so that it can detect the amenities and provide their respective names.

 We achieved an accuracy of 90% here which helped us to achieve our goal fruitfully.

**HRMS Chatbot**

 I lead my team on a project for developing an HRMS Chatbot where the user can apply for leave and regularisation by just chatting with the HRMS agent and will get the work done.

 I prepared a dataset in textual format where multiple scenarios were mentioned about the leave applications and that was used to fine tune our LLM model.

 By using Langchain Huggingface and Hugging face endpoint the LLM model was called. Then by using some modules we prepared a Chatbot for successfully detecting the intents and entities in order to generate proper human like responses and get the work done.

 In another approach I called LLama 2 from AWS Bedrock and prepared the application using CrewAI agents. Finally we

used Langgraph to build a proper cyclic and conversational Chatbot.

**Research tool analysis**

 I lead my team on a project for our client which is a US Based bank, where we developed a web application. There the user can go the application and copy the links of several websites having articles and blogs and upload the links in the application.

 After that user can ask any query and will get the answers available in the articles. We used the Open AI LLM model for that along with Langchain framework which is the most useful and popular framework currently on Gen AI.

 Then by using the RAG architecture and vector databases and some libraries in Langchain I created the Chatbot and worked on for its deployment part as well to some extent.

 For the frontend I used Streamlit library majorly to develop the application.