KR Harsha

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●*Generative AI Engineer/Data Scientist* ●

Generative AI Engineer/Data Scientist with around 3 years of hands-on experience in building data-driven solutions, backed by a total of around 5+ years in IT. Strong foundation in ETL, Python, Statistics, Machine Learning, SQL, Deep Learning, Power BI, and Generative AI. Proven expertise in delivering scalable ML solutions across Banking, HR, and Insurance domains.

KEY SKILLS

~ Data Science

~ Generative AI

~ Machine Learning

~ Python

~Exploratory Data Analysis

~ SQL

~ Statistics

~ETL

~Datawarehousing

~Deep Learning(CNN)

~PowerBI

~LangChain Framework

~RAG Models

PROFILE SUMMARY

- Generative AI Engineer / Data Scientist with around 3 years of experience delivering AI and data-driven solutions across Banking, HR, and Insurance domains.
- Strong foundation in Supervised and Unsupervised Learning techniques including Regression, Classification, and Clustering.
- Skilled in Feature Engineering, Model Optimization, and Hyperparameter Tuning for enhanced model performance and accuracy.
- Experienced in building predictive analytics solutions and recommendation systems using Python, SQL, Pandas, NumPy, and Scikit-learn.
- Proficient in Deep Learning frameworks like TensorFlow, Keras, and PyTorch for Computer Vision and Natural Language Processing (NLP) applications.
- Specialized in Generative AI with expertise in Retrieval-Augmented Generation (RAG), LangChain, LLMs, prompt engineering, and intelligent document search.
- Built end-to-end RAG-based systems to enable contextual question-answering and AI-driven content generation.
- Hands-on experience in deploying machine learning models using Flask, Streamlit, and FastAPI.
- Adept at building ETL pipelines and leveraging Data Warehousing for efficient and clean data ingestion.
- Strong capability in data visualization and storytelling using Power BI, Tableau, Matplotlib, Seaborn, Plotly, and Streamlit dashboards.
- Passionate about solving real-world business problems through innovation in AI, Machine Learning, and Generative AI technologies.
- Excellent communication skills with a proven ability to present insights and technical concepts to cross-functional stakeholders.

ACADEMIC DETAILS

2018   Master of Science in Information Engineering and Computer Science,Rhein-Waal University,Germany.
2011   BTech (Computer Science**)** from CVR College of Engineering ,JNTU University(in 2011),Hyderabad, India

OPERATING SYSTEMS	: Windows 10,11,Linux,Mac
LANGUAGES	: Python , SQL
DATA BASE	: Oracle,SSMS,Teradata SQL Assistant,Azure Synapse
TECHNOLOGIES	: Data Science,Machine Learning,Generative AI
TOOLS	: Jupyter,VS Code,Azure tools,Google Colab
VISUALIZATION	: Power BI & Tableau

ORGANISATIONAL EXPERIENCE

Since January 2024	**BlueRoad Technologies/ Generative AI Engineer**
Sept'21-Nov'2022	**Cognizant Technology Solutions/Associate Projects**
Aug'19 – Aug'21	**ChrisTech Systems/ETL Tester**

Projects Undertaken

Client:	Alorica,USA
Designation:	Generative AI Engineer
Team Size:	3
Environment:	Python, Excel, Jupyter Notebook, Pandas, NumPy, Scikit-learn, Flask, LangChain
Duration:	Feb'24-Till now

Description: At Alorica, a global leader in customer experience and BPO services, the project involved developing a predictive analytics solution for a major hospitality client. The core objective was to forecast new customer bookings using historical data to support customer acquisition and retention strategies. Additionally, a Retrieval-Augmented Generation (RAG) system using LangChain was designed to enhance internal document search capabilities.

Key Responsibilities:
- Developed and deployed machine learning models to predict customer bookings based on historical booking patterns and user behavior.
- Conducted exploratory data analysis (EDA), feature engineering, and model tuning using Scikit-learn and Pandas.
- Built and exposed RESTful APIs using Flask to integrate ML models into production systems.
- Created dashboards and insights using Excel for business stakeholders to monitor booking trends.
- **Designed and implemented a Retrieval-Augmented Generation (RAG) system using LangChain and LLMs to improve document search and retrieval efficiency.**
- Integrated vector databases and embedding models to enhance semantic search relevance and accuracy.
- Preprocessed and indexed large-scale unstructured datasets for effective use in the RAG pipeline.
- Optimized prompt engineering and retrieval techniques to generate high-quality, contextually relevant responses.
- Collaborated cross-functionally with developers and business analysts to align RAG outputs with real-world use cases.

Client:	Al Rajhi Bank,Saudi Arabia
Designation:	Data Scientist
Team Size:	3
Environment:	Python, PowerBI,SQL,Jupyter Notebook,Scikit learn,VS Code etc.
Duration:	Jan'22-Oct'22

Description: At Al Rajhi Bank, the project focused on leveraging machine learning to enhance workforce stability and revenue forecasting within the retail banking segment. The aim was to provide data-driven insights for HR and finance departments to proactively address employee attrition and optimize revenue planning.**Role:**

- Collaborated with stakeholders to translate business requirements into predictive solutions aligned with HR and financial strategies.
- Designed and implemented an **Employee Attrition Prediction Model using Logistic Regression and Random Forest**, identifying key factors contributing to staff turnover.
- Developed a **Retail Revenue Forecasting Model** utilizing ensemble techniques and regression algorithms to predict income from banking products.
- Performed in-depth **Exploratory Data Analysis (EDA)** to discover patterns and correlations in employee demographics, tenure, and financial performance.
- Utilized **Python and SQL** to preprocess and clean structured data from Oracle databases, ensuring data integrity and model readiness.
- Conducted **feature engineering and selection** to improve model performance, interpretability, and business relevance.
- Evaluated models using statistical metrics such as **Accuracy, Precision, Recall, F1-score** (for attrition) and R^2, **MAE, RMSE** (for revenue).
- Created **interactive dashboards in Power BI** to visualize predicted attrition risks and revenue trends, enabling real-time decision support.
- Delivered presentations and reports to HR and finance leadership to support workforce planning and financial forecasting.