

Abdul Rehman

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AI Engineer/ Freelancer

SUMMARY

I've been working as a freelance AI Engineer for the past 2 years, gaining hands-on expertise in areas like Generative AI, Chatbots, LLMs, Computer Vision, NLP, and Time Series Analysis. I'm highly familiar with tools and techniques such as Stable Diffusion, data-intensive applications, and transforming complex data into actionable insights.

WORKING EXPERIENCE

AI Engineer Enthusiast

Lahore

Fiverr/Upwork

Oct 2023 – Present

● Project: Credit Card Churn Prediction for CASA USING CI/CD Pipeline

- Spearheaded the development of a robust predictive model to estimate residential property prices across 650+ locations nationwide.
- Designed and implemented a scoring pipeline that improved price prediction accuracy by over 25%, empowering real estate stakeholders with data-driven valuation insights.
- Engineered 100+ features from property attributes, location-based data, and historical sales to capture key pricing determinants and market trends.
- Employed advanced feature engineering techniques to extract valuable insights from heterogeneous datasets, ensuring a comprehensive understanding of property valuation drivers.
- Utilized SHAP values and feature importance techniques to interpret model predictions, enabling transparent decision-making for business and technical stakeholders.
- Streamlined model deployment through CI/CD pipelines, integrating with Vertica DB as a data warehouse for efficient data ingestion, processing, and real-time analysis.

● Project: Chat Bot for Medical and Researchers via Hybrid Search (Agentic RAG Pipelines)

- Developed a sophisticated healthcare information system integrating hybrid search techniques to enhance medical research databases and electronic health record (EHR) systems.
- Utilized the Google Gemini model for semantic understanding and Pinecone vector DB for efficient vector-based retrieval, enabling accurate and context-aware search results.
- Optimized the retrieval of patient records, research papers, and clinical guidelines by combining keyword and semantic search, significantly improving data accessibility and decision-making for medical professionals.

● Detecting Defects in Production & Maintenance Department in a Steel Company

- Implemented Deep Learning CNN ResNet models for defect detection in the Production & Maintenance Department of a Steel Company. Leveraged Transfer Learning techniques to utilize pre-trained models for efficient training and improved accuracy.
- Conducted extensive data preprocessing and augmentation to handle imbalanced data and enhance model performance. The architecture allowed for accurate identification of defects in steel products, contributing to quality control and maintenance efficiency with 92% accuracy.

● Time Series Forecasting Stock Price Prediction

- Managed and executed a Stock Price Prediction project of 4 markets of Saudi Arabia, utilizing historical stock price data to accurately forecast monthly stock prices with a high level of precision.
- Employed various time series-forecasting techniques, such as ARIMA, SARIMA and Holt Winter model to analyze stock price patterns and trends.
- Conducted thorough data exploration and preprocessing to handle seasonality, trends, and anomalies in the footfall data, resulting in reliable and actionable predictions.

SKILLS/Tools

- **Programming Languages & Tools:** Python, R, C++, Advanced SQL, NOSQL, MATLAB, Pandas, NumPy, Matplotlib, Seaborn, Plotly, Dash
- **Machine Learning & AI:** Supervised, Semi-Supervised & Unsupervised Learning, Clustering, Regression, Anomaly Detection, Predictive Analytics, Statistical Modelling, Time Series Forecasting, Machine Learning, Deep Learning, NLP, Computer Vision, Reinforcement Learning (RLHF, DPO, SVCB), Fine-Tuning (LLMs & domain-specific models), Multi-Agent Systems (CrewAI, Autogen)
- **Generative AI & LLM Ops:** RAG (Retrieval Augmented Generation), Agentic AI, LangChain, LangGraph, LangSmith, LMOps, Prompt Engineering, Hybrid Search, Multi-Modal AI, Model Deployment, CI/CD, MLOps, Kubeflow

• **Cloud & Infrastructure:** Google Cloud Platform (GCP), Amazon Web Services (AWS), Microsoft Azure • **Business & Domain Expertise:** Banking & Financial Services, Telecommunications, Customer Segmentation, Churn Prediction, Cash Optimization, Credit Risk Modelling, AI-driven Operational Efficiency

• **Specialized Techniques:** Feature Engineering, Model Interpretability (SHAP, Feature Importance, Grad-CAM), Hyperparameter Optimization, Event-Based Demand Adjustment, Real-Time Forecasting Pipelines, Exploratory Data Analysis