Ali Raza

# Machine Learning Engineer

**SUMMARY**

Innovative and results-driven Machine Learning Engineer with over 3 years of experience in developing and deploying advanced machine learning models and algorithms. Proven expertise in leveraging predictive analytics, computer vision, and natural language processing to drive business growth and efficiency. Skilled in building recommendation engines, optimizing feed streams, and creating backend APIs for ML models. Strong background in cloud computing, data visualization, and ETL pipeline design. Adept at collaborating with cross-functional teams to deliver high-quality data solutions that align with organizational goals.

# EXPERIENCE

**Edraak Systems** – Machine Learning Engineer

*Lahore*

*10/2022 - 04/2024*

* **Machine Learning and Predictive Analytics:** Leveraged machine learning algorithms to build predictive models. Identified key trends and patterns in large datasets. Resulted in a 27% increase in profit margin.
* **Recommendation Engine:** Built a recommendation engine using Cosine

Similarity and Combined Filtering approach, enhancing user experience by providing personalized content recommendations. This led to a 20% increase in user satisfaction and engagement.

* **Feed Stream Development:** Developed and optimized a feed stream based on user preferences, resulting in a 25% increase in user retention and interaction.
* **Built recommendation outfit detection model** for an online shopping company which enhanced customer growth up to 30 % and purchasing the product ration up to 27%.
* **Backend APIs for ML Models:** Developed backend APIs for ML models

and deployed them on a cloud server (AWS), ensuring seamless integration and scalability, which reduced latency by 30%.

* **Cognitive Algorithms and Database Queries:** Designed cognitive algorithms for the app and wrote aggregation queries for the database, improving data retrieval and processing efficiency by 40%.
* Computer Vision and NLP Models: Created multiple Computer Vision and NLP models to improve work structure, leading to a 35% increase in data processing and analysis efficiency.
* Automation and Efficiency Improvement: Automated data processes using Python. Improved data processing efficiency by 10 hours per week. Enabled a 15% increase in departmental productivity.
* Developed chatbot for bank to assist customer for loan query. Developed

random forest and logistic regression model for microfinance organization to assist for loan approval. Accuracy increased by 43%.

**InventStarts**- Jr. Data Engineer

*Kamalia*

*01/2021 - 09/2022*

* **Data Visualization:** Built and maintained scalable data visualizations using Excel, Tableau, and Power BI, creating interactive dashboards that drove data-driven decision-making and uncovered actionable insights, leading to a 15% increase in sales.

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# SKILLS

## Programming Languages:

Python, R , SQL

* + **Machine Learning, Algorithms & MLOPs:** Scikit- learn, Pandas, Numpy, Pytorch, Keras, tensorflow
  + **NLP Libraries:** NLTK, spaCy, Textblob, Genism, Hugging Face Transformer
  + **Computer Vision:** OpenCV, DeepFace

## CI/CD Tools

* + **ML Analysis:** Predictive Analysis, Sentimental Analysis, Time Series Analysis, Statistical Analysis

## Docker, Kubernetes

* + **Big Data Technologies:**

Hadoop, Spark, Kafka

* + **Data Engineering Tools:** Data pipeline & architecture, Apache Airflow, Apache Spark, Hadoop, Kafka

## Relational Databases:

MySQL, PostgreSQL

## NoSQL Databases:

* + MongoDB, Cassandra
  + **Data Visualization:** Tableau, PowerBI
  + **Data Analysis tools:** Excel, Google Sheets
  + **Cloud Platforms:** AWS (EC2, S3, Redshift), Google Cloud (BigQuery, Dataproc), Microsoft Azure (Data Factory, Synapse)
  + **Data Modeling and Architecture:** Dimensional Modeling, Data Governance, Data Integration

## Version Control: GIT

* + **Other Skills:** Effective Communication, Teamwork, Analytical Approach, Problem Solving, Data Security and Privacy
* **Data Warehousing:** Developed and managed data warehousing solutions, ensuring efficient data storage, retrieval, and analysis.
* **SQL Query Optimization:** Wrote and optimized complex SQL queries, improving query performance by 25% and reducing data retrieval time.
* Data Quality Assurance: Conducted regular data quality assessments and implemented validation processes, ensuring high data accuracy and integrity.
* **Cross-Functional Teamwork:** Worked closely with cross-functional teams to gather requirements, design data solutions, and ensure alignment with business goals.
* **Data Analysis and Reporting:** Conducted data analysis to support

business intelligence and reporting needs, providing insights that informed strategic decisions.

# EDUCATION

*Sep-2016 - Dec-2018*

**National Defence University Islamabad**

**Master of Stategic, Security, Nuclear and Data Science Studies**

# PROJECTS

* **E-Commerce Recommendation System using Bert-Embedding:** Tex and Image classification model to identify trends and sentiments about products.
* **Sentimental Analysi**s and business insights and visualization for Accenture
* **Saudi Arab weather pattern:** How climate change affects for past 20 years

## Tesla Stock Prediction Model

* **ESports Data Analytics and Prediction:** Utilized OpenAI API for advanced esports data analysis, enhancing the accuracy and depth of insights by 30%. Engineered data preprocessing pipelines and improved data quality, ensuring reliable and high-quality datasets for analysis. Developed machine learning algorithms to categorize esports data, improving the organization and usability of large datasets, resulting in a 25% increase in analysis efficiency.
* **Convolytica:** Developed API for microservice architecture, enhancing scalability and integration of the system by 40%. Fine-tuned GPT-3 models to improve performance and adapt to specific use cases, increasing accuracy by 35%. Engineered cloud solutions using AWS services (EC2, Lambda, S3, SageMaker), optimizing deployment and scalability of machine learning models, reducing deployment time by 20%. Utilized FastAPI, Docker, MLflow, and Prefect for data flow automation and efficient model deployment, improving deployment efficiency by 30%.
* **Developed a Roman Urdu NLP engine and a chatbot,** addressing specific linguistic needs and enhancing user interaction by 25%. Built Named Entity Recognition (NER) models using SpaCy and NEO4J,

# CERTIFICATIONS

* Applied Artificial Intelligence Certificate by IBM
* Google Data Analytics Professional Certificate by Google
* Applied Data Science and Chatbot Building using IBM Watson
* High Dimensional Data Analytics by edX

improving information extraction by 40%. Worked with graph databases, employing Cypher queries and Python for various industries' data extraction and analysis, improving data accuracy and retrieval speed by 35%.

* **Real-Time Data Visualization:** Developed real-time data visualizations

using Excel, Tableau, and Power BI, creating dashboards that improved business intelligence reporting and decision-making. Implemented interactive features and visual analytics, leading to a 20% increase in user engagement and actionable insights