
PROFILE

Proficient in Python, SQL, AWS, and GitHub, with a passion for leveraging AI to drive data-driven decision-making. Certified in Machine Learning (Scikit-Learn), Python for Data Science, and AWS Data Analytics, strengthening expertise in predictive modeling, data engineering, and analytics.

SKILLS

- **Programming Languages:** Python, R, SQL, Java, C#
- **Machine Learning & AI:** Supervised & Unsupervised Learning, Predictive Modeling (Regression, Classification, Clustering), A/B Testing, Scikit-Learn, Feature Engineering, NLTK
- **Data Processing & ETL:** Pandas, NumPy, AWS S3, ETL Pipelines, Web APIs, JSON
- **Data Analytics & Statistics:** Exploratory Data Analysis (EDA), Descriptive Modeling, Contextual Analysis, Data Cleaning, Data Wrangling
- **Data Visualization:** Matplotlib, Seaborn, Tableau

CAREER HISTORY

Independent Data Science Projects - Data Scientist (May 2023 - Present, Manchester, UK)

- Developed independent **data science projects** focusing on **Machine Learning (ML)**, **Exploratory Data Analysis (EDA)**, **A/B Testing** and **ETL processes** to enhance technical expertise.
- Created **predictive models** using **Python and Scikit-Learn**, leveraging **classification algorithms** such as **Decision Trees**, **Random Forests**, **SVM**, **Logistic Regression**, and **KNN** to deepen understanding of **supervised learning techniques**.
- Implemented **unsupervised learning methods** like **K-Means Clustering**, **UMAP**, and **PCA** for pattern recognition and dimensionality reduction, reinforcing statistical and algorithmic concepts.
- Designed and developed **Python-based ETL pipelines** to automate data extraction, transformation, and loading, improving hands-on experience with data engineering workflows.
- Researched and experimented with **AWS cloud solutions** to explore best practices in data storage, retrieval, and processing efficiency for large-scale datasets.
- Contributed to **GitHub repositories** and actively participated in **Kaggle competitions** to improve **ML model accuracy**, gain insights from real-world datasets, and stay updated with industry trends.

Alqami - Data Scientist (Feb 2022 - Apr 2023, London, UK)

- **Increased Sales Leads:** Implemented a custom score-based algorithm that boosted sales leads by 32%, leading to an expanded market share.
- **Flask-Based Web Application:** Developed a high-impact Flask app for autonomous dataset health validation, revolutionizing data management for providers and clients.
- **AWS S3 Data Management:** Extracted and transformed data from Amazon AWS S3, optimizing storage for seamless future analysis.
- **ETL and Data Wrangling:** Executed ETL pipeline tasks, data wrangling, and automated reporting, reducing data scientist time and costs by 70-80%.
- **Advanced Analytics:** Crafted analytical components (contextual, statistical, predictive) that enlarged dataset purchase potential by 80%.
- **Reporting Speed:** Achieved 100% acceleration in reporting speed through iterative development, ensuring zero crashes and effective exception management.
- **Data Quality Enhancement:** Improved data quality through post-cleansing operations, boosting purchase potential by over 50%.
- **Machine Learning Integration:** Seamlessly integrated machine learning methods (e.g., K-means clustering, PCA) within the Alqami ecosystem.
- **Data Visualization:** Enhanced decision-making through Tableau-enabled visualization, significantly improving data comprehension and insights utilization.

Gaming Industry – Unity 3d Developer / Team Lead (2015 – 2021, Lahore, PK)

- **Project Engagement:** Engaged in all project aspects, spanning from the requirement-gathering process to the final product.

- **Team Management:** Managed developers, overseeing task analysis and evaluation, and provided technical support for mobile/web applications and games.
- **User Retention Analysis:** Analyzed Unity and Google Analytics to enhance user retention, resulting in a 100% increase in retention rates and longer user sessions.
- **UI & Gameplay Enhancement:** Designed UI custom packages, engineered FPS/TPS kits, and integrated advanced AI for shooting games during development, leading to a 50% improvement in gameplay smoothness and a 70% reduction in bug reports.

QUALIFICATION AND MAJOR ACHIEVEMENT

2021-2022 **UNIVERSITY OF Salford, MANCHESTER, ENGLAND**
Master of Data Science

Manchester, UK

2009-2013 **UNIVERSITY OF MANAGEMENT AND TECHNOLOGY, LAHORE, PAKISTAN**
Bachelor's in Computer Science

Lahore, PK

CERTIFICATIONS

- Power BI Essential Training (January 2023)
- SQL Essential Training (January 2023)
- Machine Learning with Scikit-Learn (Linear Regression, Simple Linear, Multi-Linear, Polynomial Regression, Decision Trees, Random Forests, SVM, KNN) (December 2022)
- Python for Data Science Foundation (Pandas, NumPy, Seaborn, Matplotlib) (March 2022)
- Python Tips & Tricks (March 2022)
- AWS Academy Graduate- AWS Data Analytics (January 2021)

PROJECTS

- **Credit Card Fraud Classification:**

<https://rana-portfolio.com/Report/Credit-Card-Fraud-Classification-Case-Study.html>

Performed EDA, data cleaning, and feature engineering on transactional data to detect fraud patterns. Developed and evaluated classification models (Decision Trees, Random Forests, SVM, Logistic Regression, KNN) to improve detection accuracy. Automated reporting with Seaborn & Matplotlib, generating an HTML report for insights visualization.

- **Exploratory Data Analysis:**

<https://github.com/Rana-Scientist/Exploratory-Data-Analysis-EDA->

Extracted, cleaned, and transformed large-scale datasets from AWS S3, handling missing values, outliers, and column inconsistencies. Conducted quantile analysis, correlation analysis, and descriptive statistics, then reloaded processed data to S3 for further analysis. Visualized key insights using Seaborn & Matplotlib.

OTHER

- **Volunteering:** Teacher Assistant 25 hours/month at UMT (2014-2015)