Muhammad Talha

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Education

Bachelor in Computer Science	**Fast NUCES**	*peshawar*	**2020 - 2024**

- Relevant Courses : Data Structure, Algorithm, Data Science, OOP, Computer Modeling, Final Year Project in **Predictive Analytics.**

Experience

Data Science Intern - Asterisc Technocrat   **August 2023 - November 2023**
- Developed and deployed data preprocessing pipelines to clean and transform large datasets for analysis.
- Built machine learning models to extract actionable insights and solve business challenges.
- Conducted exploratory data analysis (EDA) and presented results using visualization tools like Matplotlib and Seaborn.

Virtual Experience Program Participant – Walmart Global Software Engineering, Forages (Virtual)
- Conducted market research and consumer needs analysis to create data-driven client recommendations.
- Analyzed data to identify trends and patterns, optimizing client-focused strategies.
- Delivered a structured solution approach showcasing problem-solving and data analysis skills.

Projects

Real-Time Traffic Analytics and Dynamic Signaling - Code   FYP

- Fetched real-time traffic data from Google API and simulated it using SUMO.
- Designed and implemented a real-time data pipeline with Kafka and Spark Streaming.
- ***Developed predictive models using SparkML to train a Random Forest Regressor for traffic volume predictions.***
- Displayed **real-time, historical, and predictive analytics** on a Streamlit dashboard.

Web-Based Cyber Attack Classification - Code

- Developed an interactive web dashboard using **React.js and Flask** for real-time attack classification.
- Implemented data visualization with **Chart.js and D3.js** to display security threats.
- Optimized API calls for real-time data processing and analysis.

Detection of Osteoarthritis in Radiographic Images - Code   2023

- Built a data preprocessing pipeline, including resizing, normalization, noise reduction, and data augmentation.
- Fine-tuned pretrained models with TensorFlow and PyTorch for knee osteoarthritis detection.
- Designed deep learning architectures to enhance model accuracy for image classification tasks.

Skills

- Python | Numpy | **Pandas** | Matplotlib | **C++** | MySQL | **JavaScript (ES6+)**
  Postgres | Git | Linux | **Apache Spark** | **Apache Kafka** | Apache Airflow

- **Predictive Analytics** | Data Wrangling | Data Visualization | Software Development Life Cycle (SDLC), Agile, Microservices

Certifications

- Data Analysis with Python | Data Science Methodology | Data Science Orientation | Tools for Data Science V2 - Coursera IBM

Others

- **Data Science Teachers Assistant** - Fast NUCES   **2024**
  Mentored students in Data Science Subject, Teaching different tool and techniques