Muhammad Talha

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Professional Summary

Motivated and detail-oriented **Computer Science graduate** with a strong foundation in software development, system design, and data-driven problem-solving. Passionate about Advanced Driver Assistance Systems (ADAS) and Autonomous Drive (AD), with hands-on experience in data pipelines, predictive analytics, and machine learning models. Proficient in **Python, C++, SQL, and CI/CD tools**, with a keen interest in defining functions, creating system designs for complex functionalities, and software verification. Adaptable and eager to learn, seeking an opportunity to contribute to innovative vehicle technologies while growing within a dynamic and collaborative environment.

Education

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

- Relevant Courses : Data Structure (C++), 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 – 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 in Vehicular Adhoc - 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 trafffc volume predictions.***
- Displayed ***real-time, historical, and predictive analytics*** on a Streamlit dashboard.

Classifying Cyber Attacks in Networks - Code — June 2023

- Applied classification and clustering techniques using Python for detecting and analyzing cyber attacks.
- Performed data aggregation and visualization with pandas and matplotlib.
- Authored a professional report incorporating findings, using LaTeX for documentation.

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 | Postgres | Git | Linux | CI/CD | Jenkins.
- Data Wrangling | Data Visualization | **Machine Learning**.
- **Predictive Analytics** in Vehicular Adhoc Systems

Certifications

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

Volunteer work

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