

Muhammad Talha Ramzan

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Professional Summary

Data Engineering and Analytics Expert with experience in Python, AWS, Linux, and web scraping. Proven ability to design and implement scalable data architectures and manage data processes efficiently. Currently pursuing a BS in Artificial Intelligence and looking for opportunities to apply my skills in data engineering and analytics.

Education

2022-Present: BS in Artificial Intelligence

FAST-National University of Computer and Emerging Sciences, Chiniot Faisalabad, Pakistan



Experience

May 2023-Present: Data Analytics Expert

FAST-National University of Computer and Emerging Sciences, Pakistan

- Analyzed data using Python libraries (NumPy, pandas, matplotlib) to derive actionable insights.
- Managed data processing tasks using Linux and command-line interface (CLI).
- Developed web scraping scripts with BeautifulSoup and Scrapy to collect data from diverse sources.
- Provided freelance data analysis services on Fiverr, including data cleaning, filtering, visualization, and transformation.

Projects

End-to-End Data Engineering Project with AWS: Excited to share the data architecture for my latest end-to-end data engineering project with Muhammad Hassan Tahir! Leveraging AWS services like S3 Data Lake, Glue, Lambda, and Athena, this setup efficiently processes and analyzes the Kaggle YouTube Trending Dataset. Dive into the world of scalable data engineering and explore the power of cloud-based solutions.  

- **Technologies Used:** AWS S3, Glue, Lambda, Athena, ETL, ELT, Python, SQL
- **Key Contributions:**
 - Designed and implemented a data pipeline using AWS Glue for ETL processes.
 - Utilized AWS Lambda for serverless computing to handle data transformations.
 - Employed AWS Athena for querying data stored in S3, enabling efficient data analysis.

Cryptocurrency Data Analysis: Utilized Python (NumPy, pandas, matplotlib) to analyze and visualize trends in cryptocurrency markets, aiding in investment decision-making.

Web Scraping with Beautiful Soup: Developed a web scraper using Beautiful Soup for extracting and processing data from various online sources, contributing to research projects and data collection.

Sudoku Solver using AI Algorithms: Implemented a Sudoku solver using different AI algorithms including backtracking, constraint satisfaction, and genetic algorithms, demonstrating proficiency in AI problem-solving techniques.

Autonomous Delivery Robot: Designed an autonomous delivery robot simulation with pathfinding algorithms such as A* and Greedy Best-First Search (GBFS) to find the most efficient routes for package delivery, integrating AI into real-world logistics scenarios.

Student Seating Plan Optimization: Employed clustering algorithms, K-means, and gradient descent to optimize student seating plans in classrooms, considering factors like social dynamics and academic performance for effective learning environments.

GitHub Simulation using Data Structures: Developed a GitHub simulation system using advanced data structures like graphs and trees, demonstrating version control concepts and collaborative software development.

Areas of Interest

- Data Engineering
- Data Analytics and Visualization
- AWS and Cloud Computing
- Python Programming
- Linux and Command-line Interface (CLI)
- Web Scraping and Data Collection
- Artificial Intelligence
- Big Data Technologies

Professional Skills

- **Programming:** Python (NumPy, pandas, matplotlib), C++

- **Databases:** SQL, Postgresql
- **Big Data:** Apache Spark, Hadoop, Apache Airflow, Apache Pig
- **Data Warehousing:** ETL/ELT, Big Data Technologies
- **AWS Services:** S3, Glue, Lambda, Athena

Licenses and Certifications

- Introduction to PySpark Big Data with PySpark
- SQL for Database Administrators
- Data Analysis with Python
- Introduction to Hadoop and MapReduce
- Data Engineering with Google Cloud

Extracurricular Participation

- Volunteered in the DAIRA event (2023)
- Participated in cultural events and coding competitions
- Engaged in IQ Test Competition in School (2018)

Interests and Hobbies

- Cyber Security
- Studying About Malware