Noor Ul Huda Ajmal

Python Developer - Data Scientist
Islamabad, Pakistan

Python Developer with a strong foundation in data science and software engineering, specializing in building scalable, efficient data pipelines and conducting advanced analysis to generate actionable insights. Skilled in Python, Tableau, and Power BI, with a focus on optimizing model accuracy and delivering impactful solutions for complex business challenges. Passionate about leveraging machine learning to drive value and innovation across diverse projects.

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Technical Skills

Expert	Python Development	Machine Learning	Data Analysis	Web Scraping
Experienced	Mathematical Modeling	Applied Statistics	Natural Language Processing	Power BI

Additional Skills

Time Management   Teamwork   Problem Solving

Work History

Freelance Data Scientist   July 2022 - Present
                                                       2 years 4 months

Delivering high-quality Data Science and Analytics solutions, creating impactful dashboards and data stories that drive insights and informed decision-making. Maintained a 4.8 rating ensuring clear communication, collaboration, and excellent client satisfaction.

Leads-Dashboard: Analyzing Property Leads

- Worked with **R.E.S. Netzwerk**, which operates the **ImmobilienGuru** platform, to analyze the real estate buying and selling data from Germany. The goal was to interpret trends in real estate data by analyzing property leads, identify key features of listed properties, their condition, and perform geographical analysis.

- Developed a **Streamlit**-based web app with interactive visualizations, built using **Python** and libraries like **Plotly** and **Pandas**.

- RES Netzwerk needed a way to analyze large volumes of property data to help streamline their operations, identify valuable trends, and improve lead generation. The developed dashboard provided real-time insights and comparisons of listed properties, addressing the need of an efficient tool to support the company's fast property transaction process and marketing efforts.

- The dashboard significantly improved the ability to visualize and compare real estate data, allowing users to track and analyze property features such as location, condition, and size. It ultimately helped the company in analyzing market trends and optimize their property transactions.

Data Analysis | Data Visualization | Python | Dashboard Development | Real Estate Analytics

Business Performance Analysis

- Developed a comprehensive dashboard for an eBay seller client to transform raw sales and customer insights focusing on financial aspect, customer behavior, product demands and marketing effectiveness.

- Utilized **Python** with **Streamlit** to build an interactive dashboard, used **Plotly** for dynamic visualizations and **Pandas** for data handling and analysis.

- The project aimed to streamline access to key metrics for the store CFO, who needed a real-time view of business performance. By designing detailed analytics on sales, customer segmentation, demand elasticity, and marketing attribution, I enabled the CFO to make data-driven decisions and strategic plans to boost growth.

- The dashboard provided the CFO with a 360-degree view of business performance, enhancing the decision making process and identifying areas of growth.The interactive format of the dashboard allows the client to track performance metrics, thereby improving operational efficiency and strategy planning.

Data Visualization | Data Analysis | Python | Dashboard Development | Business Intelligence

Inventory Management App

- Collaborated with [Ammonite LLC](#) to build a real-time inventory management app, integrating internal and external data for enhanced decision-making and operational efficiency in logistics.

- Developed using **Streamlit** for an interactive interface, with **Pandas** and **Plotly** for data handling and visualization, **yfinance API** for real-time commodity prices and **bs4** for scraping external required data.

- The app centralized the tracking of inventory levels, sales, costs, and trading metrics, and access to relevant news in the logistics industry allowing the company to make informed logistics and trading decisions.

- Delivered a powerful tool that reduced manual efforts of tracking various metrics and improved data visibility, enabling efficient inventory management and strategic planning across the company's logistics operations.

Data Visualization | Data Analysis | Python | Web Scraping | Inventory Management

Temporal Analysis of Pallidus MR1 Dataset

- Collaborated with KravitzLab to analyze temporal activity data of MOUSERAT subjects using the Pallidus MR1 dataset. Developed a python app to visualize hourly and daily patterns and test hypotheses on day versus night activity levels.

- Utilized **Python** with **Pandas** for data handling, **Plotly** for interactive visualizations, and **Streamlit** for app development.

- Focused on identifying temporal patterns in activity data, testing hypotheses on activity shifts during different light/dark cycles. Interactive charts allowed efficient data exploration, supporting insights into behavioral influences between subjects.

- Enabled KravitzLab to validate hypotheses on activity variations of the subjects under examination, providing key insights into behavioral trends, which helped them in understanding of activity influences in controlled environments.

Data Analysis | Temporal Analysis | Python | Data Visualization | Statistical Testing

Machine Learning Intern
Optical Networking Technologies, Research Lab

June 2022 - October 2022
4 months

Worked as an ML intern, conducting R&D on ML algorithms for optical networking applications. Developed predictive models and optimization algorithms for light pathways in Software Defined Optical Networks (SDON).

Prediction of Lightpath in SDON

- Experimented and developed Machine Learning models to optimize control actions for photonic switches in Software Defined Optical Networks. Focused on predicting control

states for precise light signal routing, improving system efficiency in high-speed networks.

- Utilized **Python** with **XGBoost** and **Classifier Chains** for predictive modeling, **Scikit-learn** for preprocessing and evaluation, and **GridSearchCV** for hyperparameter tuning. Development was done in **Jupyter Notebook**.

- The project addressed the challenge of controlling optical switches by building an ML-based model to simplify the prediction of control states. Collected and preprocessed photonics data, trained an 8-feature, 20-label classification model, and optimized performance using GridSearchCV to achieve a 95% precision and 96% recall.

- Achieved a low Hamming loss of 4%, enhancing switch control precision and boosting system reliability, contributing to advanced photonic communication efficiencies.

  Machine Learning | **Data Processing** | **Optical Networking** | **Classifier Chains** | **XGBoost**

Honors and Awards

- Certificate of Merit (2016) - Distinction in SSC.
- Certificate of Merit (2018) - Distinction in HSSC.
- ICP Alumni Scholarship (2019)

Publications

- Multi-labeled Random-forest Enabled Softwarized Management for Photonics Switching Systems. *Asia Communications and Photonics Conference (ACP - 2022)*, IEEE.

Education

NUST Pakistan, School of Electrical Engineering and Computer Science

BE in Software Engineering, 2019 - 2023

References available upon request.