Unemployment Analysis in Pakistan (2000-2023)

A data-driven analysis of Pakistan's unemployment trends using Python and economic indicators.

1. Project Description

This project analyzes unemployment trends in Pakistan from 2000 to 2023 using real-world economic data. The goal is to explore how unemployment has changed over time and how it correlates with other key indicators such as GDP growth, inflation, poverty rate, government spending, and climate-related disasters.

Using Python libraries like Pandas, Matplotlib, and Seaborn, the project includes:

- Time-series analysis of unemployment rate

- Comparison with GDP growth and inflation

- Correlation heatmap between all economic indicators

- Cleaned and organized dataset for export

This data-driven approach helps identify patterns and potential causes of unemployment surges, especially during the COVID-19 pandemic.

2. Tools and Technologies Used

- Python: Programming Language

- Pandas: Data manipulation & analysis

- Matplotlib & Seaborn: Data visualization

- OpenPyXL: Excel file reading

- Jupyter Notebook: Interactive coding & presentation

3. Key Findings

- Unemployment peaked around 2020-2021 during the COVID-19 pandemic.

- Negative correlation between GDP growth and unemployment.

- Mild positive correlation between inflation and unemployment.

- Government spending does not always align with unemployment trends.