Study on Global climate change (CO2 level) and its correlation with human population and economy

Problem :

Create a dashboard to track change in global climate parameters (CO2) and correlate the change with global geographical and economical parameters.

Following are some of the questions we'll try to answer through our project :

1. Correlate between average temperature in countries and CO2 level
2. Correlate between economy of country and CO2 level
3. Correlate between population of country and CO2 level
4. Find if political ideology / economic freedom of the country affects CO2
5. Study public data to get public sentiment on climate change

Data Set:

We'll be using the following open source data sets in our projects.

Sr	Name	Source	URL
1	Global CO2 emissions	World bank data	https://data.worldbank.org/indicator/EN.ATM.CO2E.PC
2.	World Development Indicators	World bank data	https://databank.worldbank.org/reports.aspx?source=2&Topic=19
3.	Political Ideologies	Our world in data	https://ourworldindata.org/regimes-of-the-world-data
4.	Economic Freedom	Heritage.org	https://www.heritage.org/index/ranking.aspx
5.	Temperature	Climate Change Knowledge Portal	https://climateknowledgeportal.worldbank.org/download-data
6.	Tweets on climate change	Harvard Dataverse	https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/3IL00Q

Proposed Solution and Real world Application:

Through this project we want to get knowledge through trends in CO2 levels about some of the major factors behind climate change.

Other than answering / validating our hypothesis mentioned above we want to create a dashboard that could help in visualizing and tracking the change across different parameters.

Having a better understanding of the problem always helps in finding the right solution. This project will help with understanding the major causes of rise in CO2 levels and based on it countries and governments could implement appropriate regulations.

Project steps

Step	Estimated completion time	Person(s) in charge (among the group of 5)
Creating git repo and environment across team Extracting and cleaning up data	One week	Distribute data sets among all 5 members with each person taking one data set from the list above.
Analysis on data sets (lookups and time series)	Two weeks	Each member will work on testing one of the hypotheses from the problem statement. Create time series and other visualizations if needed
Create dashboard for the project Work on presentation and project report	One week	Dashboard : Utkarsh, Ganeshan and Xiao Presentation : Arsalan, Shoh