

INTERN PROJECT PHASE – 1

Data Analyst Projects: Exploring Data Insights

Project 1: Weather Analysis

Documentation: -

1. Document your approach

Documents that are approached by me - Weather Dataset

2. Methodologies used in the analysis.

Methodologies used in the analysis are :-

- Used Python libraries such as Pandas to load, clean, and explore your dataset.
- Data Cleaning and Preprocessing, handle null values, outliers, and other data quality issues
- Calculate summary statistics (mean, median, standard deviation, etc.) to understand the basic characteristics of your data.
- Utilized libraries like Matplotlib and Seaborn to create informative visualizations.
- Exploratory Data Analysis
- Plotted scatter plots, line charts, bar charts, and other relevant plots to gain insights into the relationships within the data.
- Used Markdown cells to document in each step of analysis, explaining the methodology and the reasoning behind decisions.

LIBRARY USED – Pandas | NumPy | Seaborn | Matplotlib

WEB APPLICATION USED - Jupyter Notebook

3. Explanations for the patterns identified in the Weather dataset.

- From above we can conclude that
 1. when Rainfall is 0 or near to 0 ,Evaporation is high.
 2. At Rainfall = 0 , changes of Today raining is NO or nearly to zero and with increase in rainfall changes of raining today also increases.
- From above we can conclude that
 1. Even when rainfall = 0 , the changes of tomorrow raining is still showing yes which means others factor are too contributing in upcoming weather changes.
 2. Even when rainfall > 0 ,at lower evaporation also no rain at tomorrow is showing, which means others factor are too contributing in upcoming weather changes.
 3. Hence Rainfall is directly affected by Evaporation .

- From above we can conclude that
 1. With increase in Sunshine , temperature also increases but the rainfall is decreasing
 2. Hence Rainfall is directly affected by Sunshine.
- From above we can conclude that
 1. With increase in Sunshine and evaporation , temperature also increases.
 2. With decrease in Sunshine and evaporation , temperature also decreases.
 3. Hence Evaporation is directly affected by Sunshine.
- From above we can conclude that
 1. At cloud 9:00 A.M , more the cloud more is the sunshine.
 2. At cloud 3:00 P.M , more the cloud more is the sunshine , but a little more sunshine than compared to above 9:00 A.M .
 3. At the end , with more sunshine , more the cloud more the temperature.
- From above we can conclude that
 1. At cloud 9:00 A.M , more the cloud lesser is the Rainfall.
 2. At cloud 3:00 P.M , more the cloud lesser is the Rainfall
 3. Higher temperature is on lower rainfall.
- From above we can conclude that
 1. Humidity is linearly decreasing in both 9 A.M. and 3 P.M .
 2. With increase in Temperature, Humidity is decreasing .
 3. At high Humidity Evaporation is less and at low humidity evaporation is more.
 4. With increase in Temperature, Evaporation is also increasing.
- From above we can conclude that
 1. Humidity is increasing with increase in pressure in both 9 A.M. and 3 P.M.
 2. Temperature is more high towards less Humidity and medium Pressure , it is more visible at 3 P.M and is also visible at 9 A.M .
- From above we can conclude that
 1. Humidity is increasing with increase in pressure in both 9 A.M. and 3 P.M.
 2. Wind Speed is more high towards medium Humidity and medium Pressure , it is more visible at 3 P.M but in 9 A.M there is less wind speed compared at 3 P.M which is visible at 9 A.M .
- From above we can conclude that
 1. Changes of Raining is at High Humidity and medium pressure in both 9 A.M. and 3 P.M. in both Rain Today and Rain Tomorrow .

2. We can conclude there is chance of rain if humidity is high at any of the time.
3. We can conclude there is chance of rain if Pressure is low at any of the time.