Analysis of CO2 Emissions and the Impact of Rainfall in Konstanz City

Methods of Advanced Data Engineering

Tosiful Islam (23135689)

Introduction

- Investigate the relationship between CO2 emissions and rainfall patterns in Konstanz City (2010-2017).
- Aim: To understand how CO2 emissions impact rainfall patterns.

Used Data

- 1. CO2 Emission Data (2010-2017):
- - Source: Dataset URL
- - Description: Emissions by sectors.
- - Structure: Tabular format, consistent and clean data.

- 2. Rainfall (RA_RR) Data:
- - Source: Dataset URL
- - Description: Rainfall data with additional weather metrics.
- - Structure: Tabular format, consistent and clean data

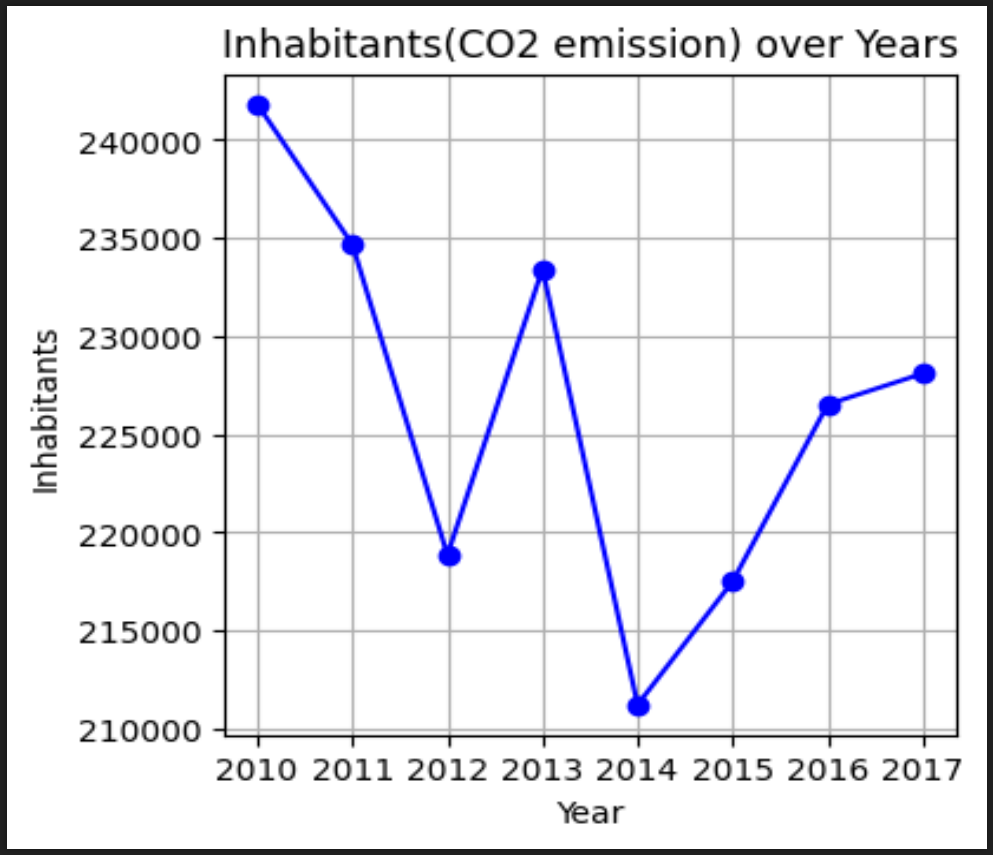
Reasons for Choosing These Data Sources:

- Relevance: Region-specific data for Konstanz.
- Coverage Period: 2010-2017, suitable for temporal analysis.
- Open Data: Publicly available and reputable sources.

Analysis

Trends in CO_2 Emission:

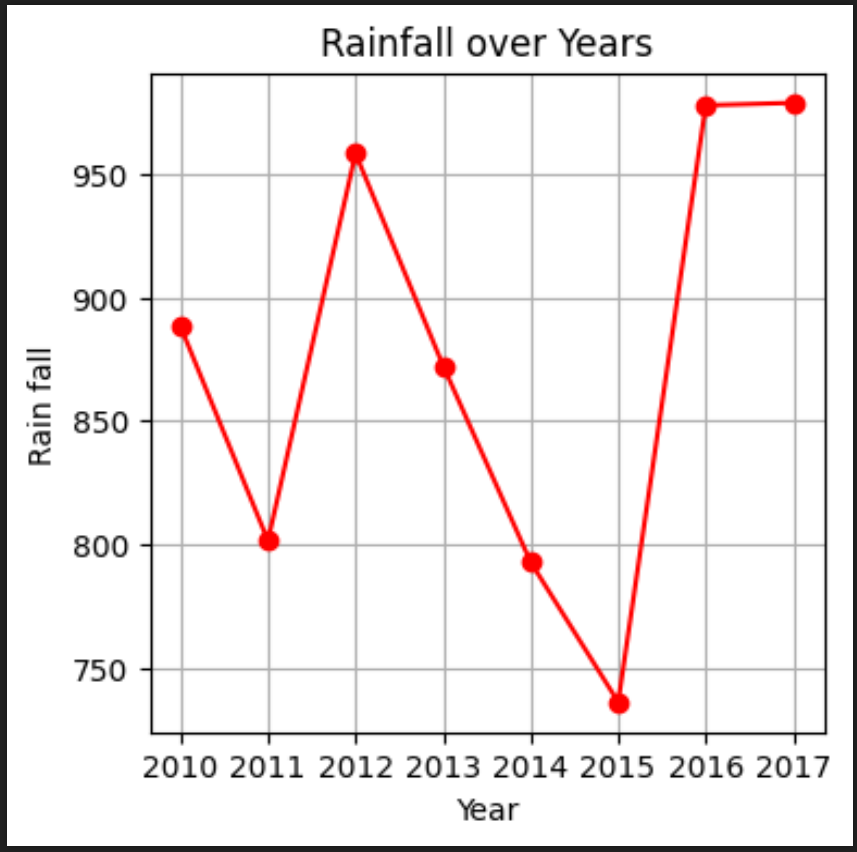
- Decrease from 2010 to 2014.
- Increase from 2015 to 2017.



Analysis

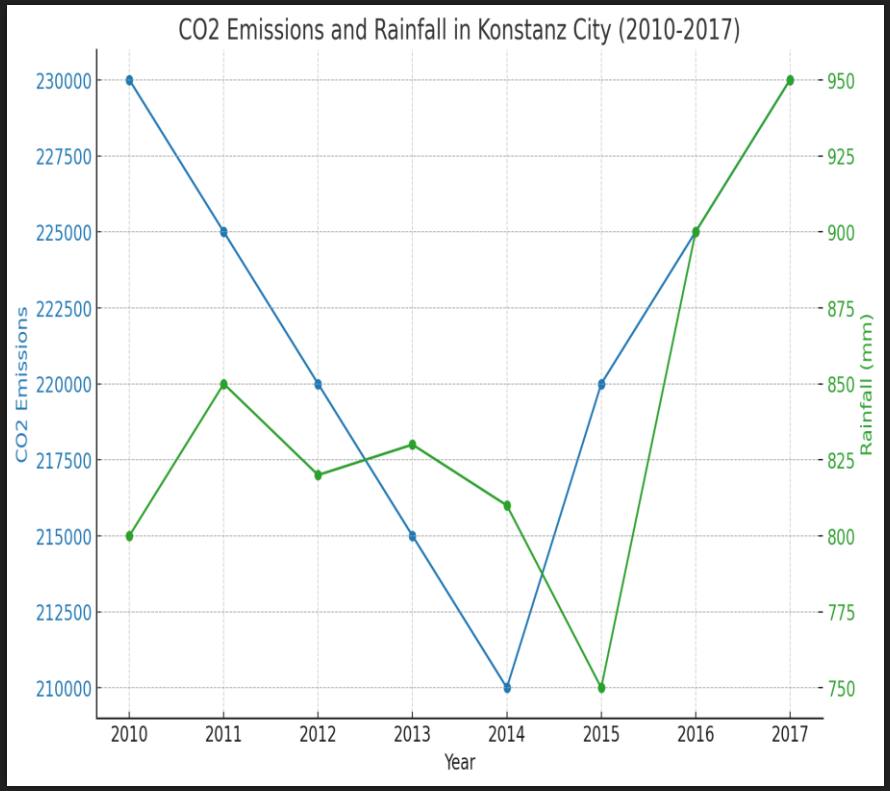
Trends in Rainfall:

- Rainfall showed fluctuations over the years.
- There was a notable dip in rainfall in 2015.
- Rainfall increased significantly in 2016.



Correlation Analysis

- There is a weak positive correlation (Pearson correlation coefficient: 0.204).
- No strong linear relationship exists between CO2 emissions and rainfall.
- Changes in CO2 emissions do not strongly predict changes in rainfall.



Conclusion

- Weak correlation between CO2 emissions and rainfall.
- Other factors likely influence both variables.
- Recommendation: Further studies with more variables and longer time frame for a comprehensive understanding

THANK YOU !