Data Interpretation Lab Project Report

BACHELOR IN COMPUTER APPLICATIONS

Chandigarh University

Weather Pattern Analysis

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ABSTRACT

This project investigates changing weather patterns over recent years, focusing on average temperature, rainfall, and indicators of climate change. Graphical techniques are used to interpret weather trends, enabling better understanding of the environment and necessary actions toward climate resilience.

INTRODUCTION

Climate change is a pressing global issue, with temperature and rainfall being two vital indicators.

This project aims to understand these patterns using historical data to derive meaningful insights.

DATA OVERVIEW

The dataset contains weather records from 2018 to 2022. Key attributes include average annual temperature (°C) and total annual rainfall (mm). This simplified data is used to identify trends over time.

OBJECTIVES

- Study temperature and rainfall patterns over time
- Detect visible changes in weather trends
- Present data using effective visualizations
- Understand climate change implications on local weather

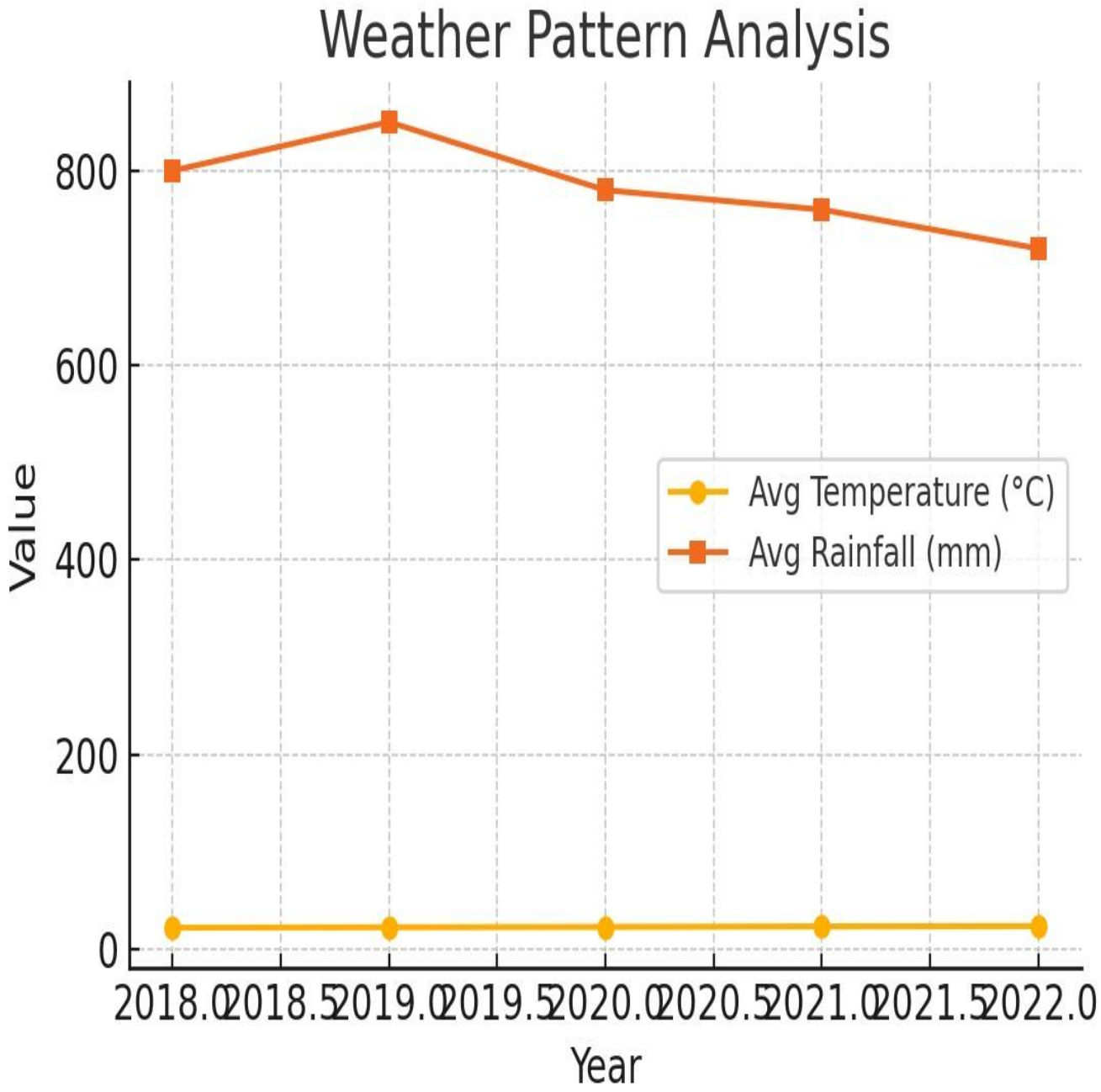
TOOLS USED

- Python (Matplotlib for plotting)
- CSV data files
- FPDF (for report generation)
- Jupyter Notebook / IDE for scripting

STEPS TO ANALYZE THE DATA

1. Import and clean weather data
2. Extract relevant fields (Year, Temperature, Rainfall)
3. Plot graphs to visualize data trends
4. Analyze results and draw conclusions

OUTPUT SCREENSHOTS



CONCLUSION

The analysis clearly shows a gradual increase in average temperature and a slight decrease in rainfall over the years. These trends indicate the presence of shifting weather patterns, which could be an effect of climate change. It is crucial to monitor and respond to such trends to ensure a sustainable future.