



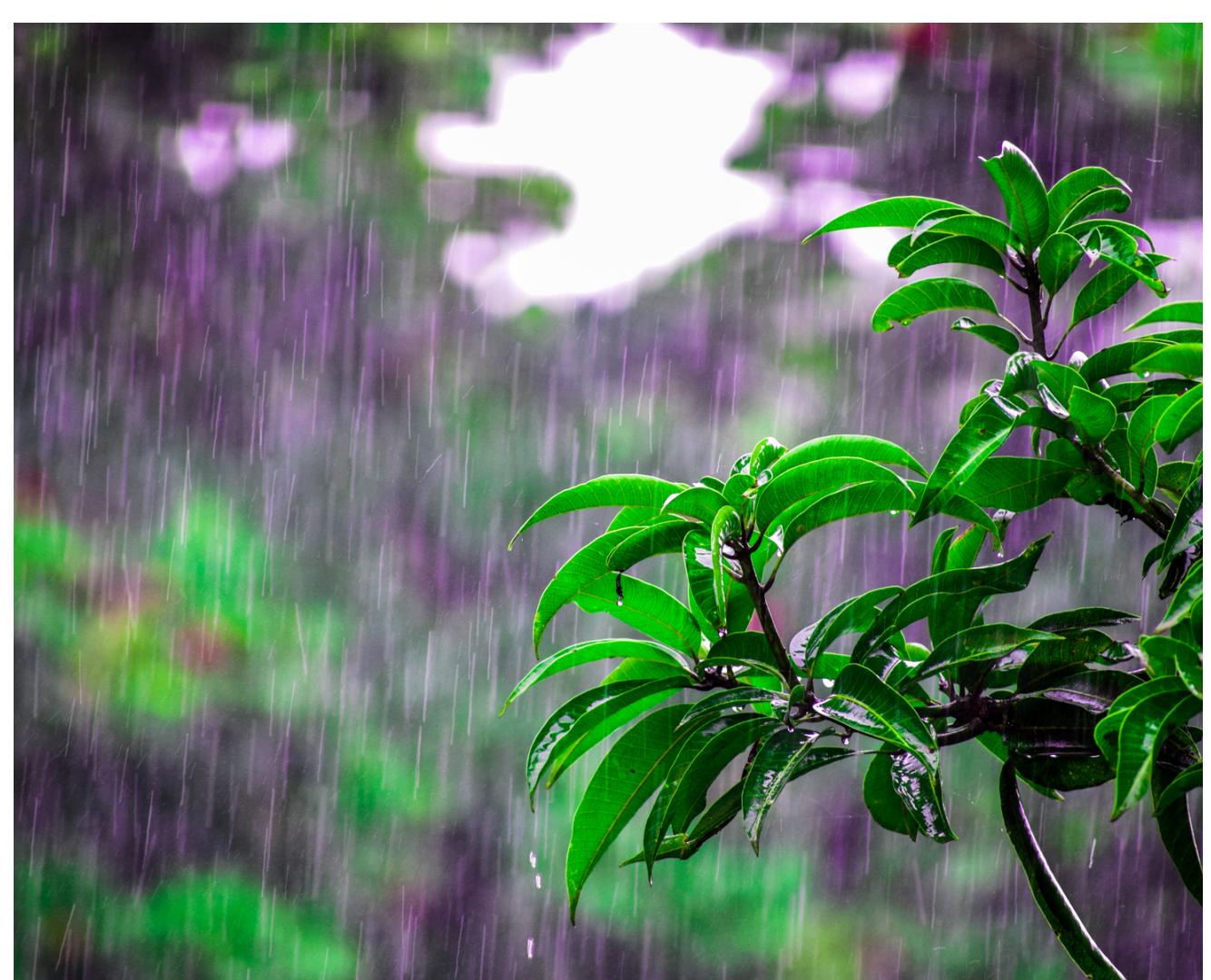
TOP 5 BOOTCAMP PROJECT PROPOSAL

THE WEATHER PREDICTION

A collection of the best sceneries in KSA

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Introduction

Weather is an important aspect of our life as it can help us to know when it will rain and when it will be sunny. Weather forecasting is the attempt to predict the weather condition at some future time and the weather conditions that may be expected. This project by using machine learning can help many people finding the weather of tomorrow.

Data description

The data used in our project collected from

<https://www.kaggle.com/esraamadi/saudi-arabia-weather-history>

the dataset is about the weather history where the timeline starts from 2017 until 2019 across 13 different regions, it has 14 features and more than 245k records. Weather forecasting is simply the prediction of future weather based on different parameters of the past like:

City

Time

Year

Month

Day

Hour

Minute

Weather

Wind

Humidity

Barometer

Visibility

Tools

For weather prediction, we will be using Regression model. For the project we will be using the following:

- **Python** is an interpreted, high-level and general-purpose programming language. Created by Guido van Rossum and first released in 1991, Python's design philosophy emphasizes code readability with its notable use of significant whitespace.
- **Matplotlib** is a plotting library for the Python programming language and its numerical mathematics extension NumPy. It provides an object-oriented API for embedding plots into applications using general-purpose GUI toolkits like Tkinter, wxPython, Qt, or GTK+. SciPy makes use of Matplotlib.
- **Pandas** is a high-level data manipulation tool developed by Wes McKinney. It is built on the Numpy package and its key data structure is called the DataFrame. DataFrames allow you to store and manipulate tabular data in rows of observations and columns of variables.
- **Scikit-learn** is a free software machine learning library for the Python programming language. It features various classification, regression and clustering algorithms including support vector machines.
- **Jupyter Notebook** is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text. Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more.

Questions

- 1- What are the most important features that affect temperatures?
- 2- Is there a huge difference between daytime and nighttime in terms of average temperatures in various regions?
- 3- What is the hottest month where temperatures reached the peak values?
- 4- Does the barometer influence in the mountain cities?
- 5- What are the changes of weather between seasons in the year 2018 and 2019?
- 6- Is there a relationship between the daily minimum and maximum temperature?