



Precised Agriculture

using machine learning

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ABSTRACT

Agriculture is one of the sectors where most people are dependent on it for their livelihood. Crop production is influenced by a variety of seasonal, economic, and biological patterns, yet unforeseen variations in these patterns result in significant losses for farmers. When appropriate procedures are used on data linked to soil type, temperature, air pressure, humidity, and crop type, these hazards can be mitigated. Crop and weather forecasting, on the other hand, may be forecasted by obtaining helpful insights from agricultural data that help farmers pick which crop to plant for the future year in order to maximise profit. This study provides an overview of the various weather, agricultural yield, and crop cost prediction algorithms.

Problem statement :



Farmers have numerous challenges, one of which is determining the best crop to plant depending on climatic conditions. As a result, our issue statement is Predicting the best crops to grow based on climatic conditions.

PREVIOUS METHOD

Algorithms like Random Forest and Naive Bayes for precise agriculture have been used in the past.

Each method is more accurate than the others, but they are not optimised and do not work smoothly on all computers.

PROPOSAL

K-means clustering is a simple unsupervised learning approach for resolving clustering problems.

Logistic regression is one of the most widely used Machine Learning algorithms ,and it belongs to the Supervised Learning approach. It is employed in the prediction of a categorical dependent variable using a set of independent variables.

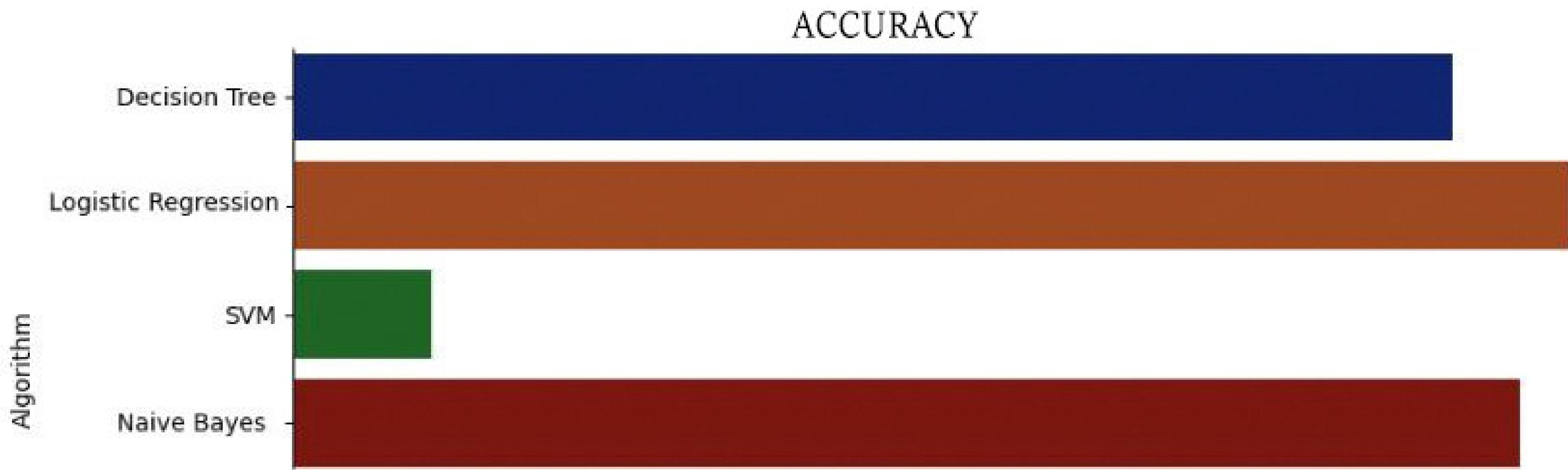


PROCEDURE

In the first step, we imported test datasets. We use numpy and pandas libraries to manipulate the datasets. Then we can use matplotlib to check the distribution of agricultural conditions of each crop. Finally, we use clustering ,logestic regression algorithms, sklearn algorithms to predict the suitable crop based on the climatic and other conditions.



Accuracy Comparision



System Requirements

Hardware Requirements :

Processor: INTEL core i5

RAM: 8 GB

Speed: 2.1 GHz

Hard Disk: 512 GB SSD

Software Requirements :

Operating System: Windows 10

Language: Python

Platform/IDE : Pycharm/google.colab

THANK YOU!!

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