

Fertilizer Recommendation System For Disease Prediction

Introduction

Machine learning is very effective at identifying and detecting plant diseases early on by providing symptoms of the diseases. To diagnose plant diseases, plant pathologists can use digital image processing to examine the digital images. Simply put, farmers in all areas of agriculture benefit from the use of computer vision and image processing techniques. Typically, abnormal physiological functions of plants are what lead to plant diseases. In order to distinguish between the plants' normal physiological functionalities and abnormal physiological functionalities, the characteristic symptoms are produced. Pathogens located on the plant stems are the main culprits behind most plant leaf diseases.

Different image processing techniques can forecast these various leaf signs and diseases. These many approaches make use of various core techniques like segmentation, feature extraction, and classification, among others. Most often, segmentation is used to distinguish between healthy and diseased tissues of leaves in order to forecast and diagnose leaf diseases.

Literature Review

1. SVM is used in the suggested method to categorise tree leaves, diagnose disease, and provide fertiliser. A comparison between the suggested method and the current CNN-based leaf disease prediction is made. Comparing the new SVM technique to the current CNN yields superior results. For the identical collection of photos, CNN's F-Measure is 0.7 and SVM's is 0.8. CNN's accuracy in identifying leaf illness is 0.6 while SVM's is 0.8.

Advantages: The segmentation, such as separating healthy tissues from diseased tissues of leaves, is important for the prediction and diagnosis of leaf diseases.

Cons: This additional research will use the public datasets already available to implement the proposed technique. To increase accuracy, a variety of segmentation algorithms can be used. The suggested algorithm can be further altered to recognise the illness that affects the different plant organs, such as stems and fruits.

2. Cloud Based Automated Irrigation And Plant Leaf Disease Detection System Using An Android Application. International Conference on Electronics, Communication and Aero space Technology, ICECA 2017.

Benefits: It is a simple and affordable technology for detecting plant leaf disease.

Advantages: The performance of the system may be impacted by any hardware issues.

The current paper suggests an Android application for cloud and IoT-based irrigation and plant leaf disease detection. They use soil moisture and temperature sensors, and the sensor data is sent to the cloud for irrigation system monitoring. The user is also capable of identifying plant leaf disease. The feature extraction process uses K-means clustering.

Utilized algorithm Clustering via K-means, Other levels that can be used for sentiment analysis include document, sentence, entity, and aspect levels. These levels can be used to examine positive and negative, interrogative, sarcastic, good and bad functionality, sentiment without sentiment, conditional sentences, and author and reader understanding points.

3. The author offers a technique that predicts crop yield by offering the best crops. In order to determine which crop should be planted in each type of soil, it also focuses on soil types to boost output in the field. Soil types are important in terms of crop yield. With the inclusion of Information on the soil can be obtained by factoring in last year's weather conditions.

Advantages: It enables us to foretell which crops would be suitable for a specific climate. Crop quality can also be increased by utilising weather and disease-related data sets. Using prediction algorithms, we can categorise data based on the disease and information gleaned from to forecast soil and crop, the classifier is employed.

Disadvantages: Due to the changing climatic conditions, accurate results cannot be predicted by this system.