

Fertilizers Recommendation System For Disease Prediction

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LITERATURE SURVEY

1. Fertilizers Recommendation System For Disease Prediction In Tree Leave

Authors : R. Neela, P. Nithya

Agriculture is the main aspect of country development. Many people lead their life from agriculture field, which gives fully related to agricultural products. Plant disease, especially on leaves, is one of the major factors of reductions in both quality and quantity of the food crops. In agricultural aspects, if the plant is affected by leaf disease then it reduces the growth of the agricultural level. Finding the leaf disease is an important role of agriculture preservation. After pre-processing using a median filter, segmentation is done by Guided Active Contour method and finally, the leaf disease is identified by using Support Vector Machine. The disease-based similarity measure is used for fertilizer recommendation.

Advantage:

It is advantageous to find plant diseases using an automatic technique because it lessens the amount of work required to monitor large crop farms and finds disease symptoms at an early stage, when they first appear on plant leaves.

2. Soil Based Fertilizer Recommendation System for Crop Disease Prediction System

Authors : Dr.P. Pandi Selvi, P. Poornima

Smart analysis and Comprehensive prediction model in agriculture helps the farmer to yield right crop at the right time. The main benefits of the proposed system are as follows: Yield right crop at the right time, Balancing the crop production, control plant disease, Economic growth, and planning to reduce the crop scarcity.

Hence to Detect and recognize the plant diseases and to recommend fertilizer it is necessary to provide symptoms in identifying the disease at its earliest. Hence the authors proposed and implemented new fertilizers Recommendation System for crop disease prediction.

Advantage:

Good potential with ability to detect plant leaf disease.

Disadvantage:

Require more time.

3. Plant disease detection by Image Processing

Author : Monishanker Halder

To promote sustainable development, the smart city implies a global vision that merges artificial intelligence, big data, decision making, information and communication technology (ICT), and the Internet-of-Things (IOT). These processes above are related for solving real life problems. Food is one of the basic needs of human being. World population is increasing day by day. So it has become important to grow sufficient amount of crops to feed such a huge population.

But with the time passing by, plants are affected with various kinds of diseases, which cause great harm to the agricultural plant productions. Beside that many countries economy greatly depends on agricultural productivity and it's also a need for a country to attain agricultural productivity of basic agricultural product for the people of that particular country. Detection of plant disease through some automatic technique is beneficial as it requires a large amount of work of monitoring in big farm of crops, and at very early stage itself it detects symptoms of diseases means where they appear on plant leaves. In this paper surveys on different disease classification techniques that can be used for plant leaf disease detection.

Advantage:

High speed, preferable in limited precision.

Disadvantage:

Dimensionality (Large no. the features), Poor performance.

4. Plant leaf diseases detection using image processing techniques

Authors : K.Narsimha Reddy, B.Polaiah, N.Madhu

This paper provides survey on different classification techniques that can be used for plant leaf diseases classification. Identification of symptoms of disease by naked eye is difficult for farmer. Crop protection in large frames is done by using computerized image processing technique that can detect diseased leaf using color information of leaves.

There are so many classification techniques such as k-Nearest Neighbor Classifier, Probabilistic Neural Network, Genetic Algorithm, Support Vector Machine, and Principal Component Analysis, Artificial neural network, Fuzzy logic. Selecting a classification method is always a difficult task because the quality of result can vary for different input data. Plant leaf disease classifications have wide applications in various fields such as in biological research, in Agriculture etc. This paper provides an overview of different classification techniques used for plant leaf disease classification.

Advantage:

Much faster and more accurate.

Disadvantage:

Require large storage space.

5. Crop disease identification and classification using pattern recognition and digital image processing techniques

Authors : Goutum Kambale , Dr.Nitin Bilgi

Agricultural scientists play an important role in detecting and finding cure for plant diseases. Sometimes manual identification of disease is time consuming and laborious process. One of the most important factors contributing to low yield is disease attack. Many studies show that quality of agricultural products may be reduced due to various factors of plant diseases. In banana plant, diseases which are commonly observed are panama wilt, yellow sigatoka, black sigatoka, banana streak virus and banana bunchy top virus . The banana plant leaf diseases not only restrict the growth of the plant but also destroy the crop. Banana plant leaf diseases must be identified early and accurately as it can prove detrimental to the yield. Hence, a machine learning method is required to identify the affected leaf images in timely manner.

The images required for this work are captured from the fields using digital camera. The captured images are then processed on computer using pattern recognition and digital image processing techniques. These techniques will help in identifying banana plant diseases thereby increasing the yield of banana . This a survey paper on disease identification and classification of banana crops. A summary of various techniques for disease identification and classification is also done.

Advantage:

Prediction accuracy is high, robust working when training example contain errors.

Disadvantage:

Involve long training time, difficult to understand learned function. large no. of support vectors used from the training set to perform classification task.

6. Survey on plants disease detection using Machine Learning

Authors : Preetha S , Musqan Arshad

Agriculture is a significant source of income for Indian people. Experts do the manual method of detecting disease in a plant. For this, a large team was required, and continuous monitoring was required; that was a complicated task when we do this with a large number of crops. In some places, farmers were unaware of the experts, and they do not have proper facilities. In such conditions, one technique can be beneficial in keeping track of and monitoring a large number of crops. This technique is known as Automatic Detection. This technique makes it much easier and cheaper to detect disease. Machine Learning can provide a method and algorithm to detect the disease. There should be the training of images of all types of leaves that include the ones that are healthy and disease leaf images.

Advantage:

Easy to implement and quite good in result.

Disadvantage:

Slow learner, not robust to the noise data in large training example.

5. Plant Disease Detection Techniques

Author : Dr. Rajbir Kaur

Plant diseases cause major losses in terms of production, economy, quality and quantity of agricultural products. Since, 70% of Indian economy is dependent on agricultural yield, there is a need to control the loss incurred by plant diseases. The plants need to be monitored from a very initial stage of their life-cycle to avoid such diseases. The traditional method being followed for this supervision is naked eye observation which is more time-consuming, expensive and a lot of expertise is required.

So, in order to speed up this process there is a need to automate the disease detection system. The disease detection system needs to be developed using image processing techniques. Many researchers have developed systems based on various techniques of image processing. This paper reviews the potential of the methods of plant leaves disease detection system that facilitates the advancement in agriculture. It includes various phases such as the image acquisition, image segmentation, feature extraction and classification.

Advantage:

Plant disease detection using any automated technology is advantageous since it eliminates a considerable amount of monitoring work in large crop farms and detects disease signs at an early stage, i.e. when they occur on plant leaves.

Disadvantages:

- Require extensive training. Hard to comprehend taught function.
- Hard to comprehend taught function.

6. Disease Detection in Tomato Leaf using Deep Learning Techniques

Authors : _Hepzibah Elizabeth David; K. Ramalakshmi; Hemalatha

Gunasekaran; R. Venkatesan

Tomatoes are the most common vegetable crop widely cultivated in the agricultural fields in India. The tropical climate is ideal for its growth, however certain climatic conditions and various other factors affect the normal growth of tomato plants. Apart from these climatic conditions and natural disasters, plant disease is a major crisis in crop production and results in economic loss. The traditional disease detection methods for tomato crops could not produce the expected outcome and the detection period for diseases was slow. The early detection of diseases can give better results than the existing detection models.

Thus, computer vision-based technology deep learning techniques could be implemented for earlier disease detection. This paper introduces a comprehensive analysis of the disease classification and detection techniques implied for tomato leaf disease identification. This paper also reviews the merits and drawbacks of the methodologies proposed. This paper finally proposes the early disease detection technique to identify tomato leaf disease using hybrid deep-learning architecture

Advantage:

Prediction accuracy is high and having robust working when training example have error in them.

Disadvantages:

- Require long training time. Difficult to understand learned function.
- Difficult to understand learned function.