IMAGE PROCESSING AND DATA MINING MONITORING IN THE PREDICTING DISEASE OF LEAF USING ANDROID APPLICATION

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ABSTRACT

India is fast developing country and agriculture is the back bone for the countries development in the early stages. Due to industrialization and globalization concepts the field is facing hurdles. On top of that the awareness and the necessity of the cultivation need to be instilled in the minds of the younger generation. Now a day's technology plays vital role in all the fields but till today we are using some old methodologies in agriculture. Identifying plant disease wrongly leads to huge loss of yield, time, money and quality of product. Identifying the condition of plant plays an important role for successful cultivation. Identification of plant disease is very difficult in agriculture field. Leaf disease detection requires huge amount of work, knowledge in the plant diseases, and also require the more processing time. The objective of this research is to make use of significant features and prediction is done using computer vision technique. This method mainly download the image from the server then it converts the image into a gray scale by calculating its pixels and it shows out only the defected parts of the leaf. Generally we can observe the symptoms of disease on leafs, stems, flowers. so here we are using the leafs for identification of disease affected plants. First we need to select the plant which is affected by the disease and then collect the leaf of the plant and take a snapshot of leaf and load the leaf image into the system. It means representation of the image in more meaningful and easy to analyze way. In segmentation, a digital image is partitioned into multiple segments can defined as super-pixels. The main objective of this project is to find out whether the leaf is defected or not. If the leaf is in green color, then there is no defect in the leaf. If the leaf is spotted with black dots then it is shown to be affected by some disease and then we are predicting the disease of leaf and its lifetime is also too low. This approach can significantly support an accurate detection of leaf disease. We can extend this approach by using image processing technique. It displays the output in graphical view that is X and Y coordinates. The user can also view the output in mobile application by retrieving the result from the server.

Keyword: - *Disease Analysis, JAVA, JAVA Servlets, XML, Data Mining, Use Case Diagrams, Net Beans, Android Phone and Android Application, etc…*

1. INTRODUCTION

Developing countries like India the economy is mainly depends on agriculture. Due to plant diseases the quality and quantity of agriculture product is reduced. Some of the plant disease do not have visibility during early stage it only appears at that final stage. The purpose of agriculture is not only to feed ever growing population but it is an important source of energy and a solution to solve the problem of global warming. Plant disease diagnose is very important in earlier stage in order to cure and control the disease. In this method experts are involved who have the ability to detect the changes in leaf color. Many times different experts identify the same disease as the different disease. This method requires continuous monitoring of experts. Depending on the applications, many systems have been proposed to solve or at least to reduce the problems, by making use of image processing we are also some of the automatic classification tool. Using this technique, we can easily segment the plant disease and also the affected part of the leaf can be found.

1.1 Existing System

In the existing system, plant disease identification is simply a naked eye through which the identification and detection of plant disease is done. In this system, there was must be continuous monitoring of the plants is required and there was not proper observation when we do with large farms. It mainly done with the help of mat lab and it does predicts only the particular disease which commonly affects different plant leaves.

1.2 Objective

- To find out whether the leaf is affected from disease or not.
- To classify the affected part of the leaf.
- To detect the accurate part of the affected place in the leaf.
- To identify the disease present in the leaf.

2. LITERATURE SURVEY

Machine learning is the one of the branch in Artificial Intelligence to work automatically or give the instructions to a particular system to perform a action. The goal of machine Learning is to understand the structure of the data and fit that data into models that can be understood and utilized by the people. The proposed research work is for analysis of various machine algorithms applying on plant disease prediction. A plant shows some visible effects of disease, as a response to the pathogen. The visible features such as shape, size, dryness, wilting, are very helpful to recognize the plant condition. The research paper deals with all such features and apply various machine learning technologies to find out the output. The research work deals with decision tree, Naive Bayes theorem, artificial neural network and k-mean clustering and random forest algorithms. Disease development depends on three conditions-host plants susceptible to disease, favorable environment and viable pathogen. These applications are useful for timely recognition of plant disease. The disease like fungal, bacterial and virus are the destructive disease for any plant. In the study, five types of tomato diseases i.e. tomato late blight, Septoria spot, bacterial spot, bacterial canker, tomato leaf curl and healthy tomato plant leaf and stem images are classified. The classification conducted by extracting color, shape and texture features from healthy and unhealthy tomato plant image. The feature extraction process is done after the segmentation process. Extracted features from segmented images fed to classification tree. Finally, the disease classification was based on these six different types of classes. The classification of six types of tomato images yielded overall 97.3% of classification accuracy. In India, economically agricultural field is very much important. The crops are affected by uneven climatic conditions, Because of that diseases on plant is increased and agriculture yield is decreased. Now days, the conditions become worst because of bacterial diseases. Detection of diseases and prevention is much more needed for that modern agriculture techniques and systems are designed. In this system, we detect pomegranate diseases and also suggest the solution on diseases. The proposed system, consist of image pre-processing, segmentation, extraction of feature and classification. In image pre-processing, images are resized. In segmentation, color segmentation is carried out. Color, morphology and texture features (Gabor filter) are used for the feature extraction. Minimum distance classifier is used for classification purpose. Agricultural productivity is something on which economy highly depends. If proper care is not taken in this area then it causes serious effects on plants and due to which respective product quality, quantity or productivity is affected. For instance a disease named little leaf disease is a hazardous disease found in pine trees in United States. Detection of plant disease through some automatic technique is beneficial as it reduces a large work of monitoring in big farms of crops, and at very early stage itself it detects the symptoms of diseases i.e. when they appear on plant leaves. This paper presents an algorithm for image segmentation technique which is used for automatic detection and classification of plant leaf diseases. It also covers survey on different diseases classification techniques that can be used for plant leaf disease detection. Image segmentation, which is an important aspect for disease detection in plant leaf disease, is done by using genetic algorithm.

3. PROPOSED SYSTEM

In the proposed system, this is done using the segmentation process which detects and classifies the image. Image processing is used for measuring affected area of disease and to determine the difference in the color of the affected area. It covers the survey based on the classification mechanism whether the affected leaf is from which type of plant , it specifies the pixel values and it represents as grayscale image.

3.1 Advantages of Proposed System

- It also segments the plant leaf and it shows only the affected part of the leaf.
- Less optimization is needed.
- It also represents the result in the form of graphical view and it also retrieves from the server and can be viewed with help of mobile application.
- It shows the accurate pixel value for the affected leaf

4. RESULT & DISCUSSION

In this project we analysis the disease from the leaf and it can been analysis by using the android application of Disease Finder. This application is Finds the disease on the leaf of Pepper Plant, Tomato Plant and Potato Leafs.

Original Image:-

Fig.No.1
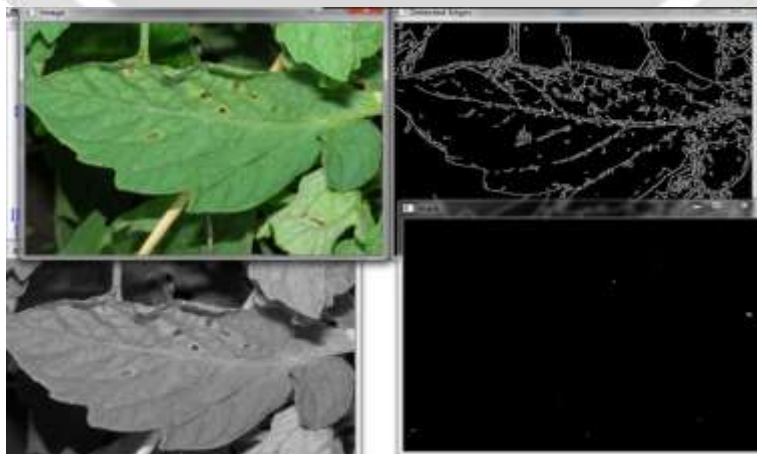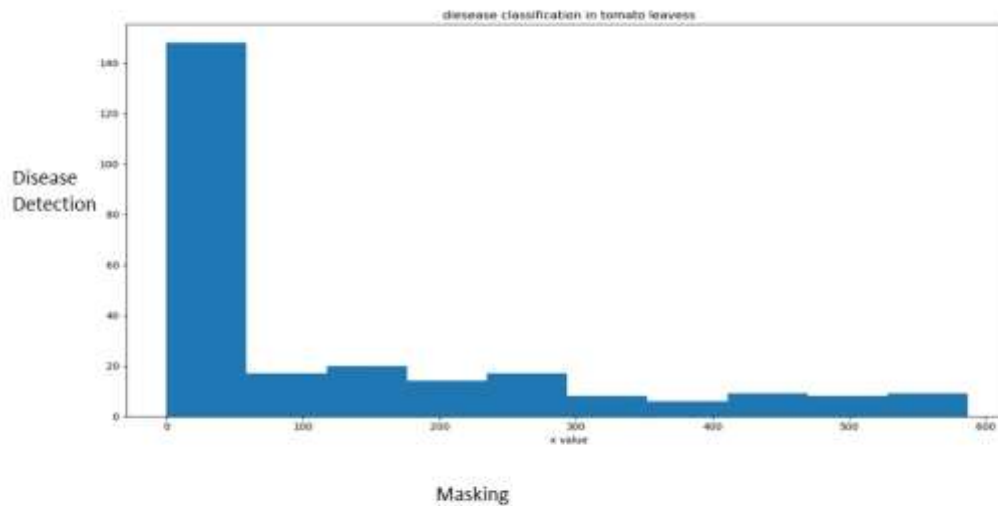
Output:-

Fig.No.2

Graph for Masking and Disease Detection:-

Fig.No.3

5. CONCLUSIONS

In this project, we addressed the challenging research issue of network flow obfuscation. We have identified the threats posed by the incremental release of network flows. Based on our previous research, we have proposed a novel algorithm to enforce -obfuscation to incremental releases, and we have formally proved the confidentiality guarantees provided by the new algorithm. We have experimentally evaluated our technique with a very large set of real Cisco Net Flows gathered within an important Tier-II autonomous system. Results showed that our technique preserves the utility of network flows for different network analysis tasks.

6. REFERENCES

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