A Review on Efficient Identification of American Cotton Leaf Diseases through Training Set

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Abstract

The cotton leaf disease detection is the process of detecting disease by analyzing their visual properties. The visual properties extraction process from the images is known as the feature extraction. The feature extraction process can be done using the various feature descriptors like SIFT, SURF or other most suitable candidate. The feature descriptors are then passed to the classifier for the evaluation of the feature. The classifier is the algorithm, which is used to classify the feature on the basis of its similarity with the training dataset. The training dataset is the collection of features previously extracted from the known objects (the leaves with specific disease in this case). The leaves with disease are classified on the basis of their similarity with the training dataset of disease samples previously described by the feature descriptors. In this paper, our aim is to solve the cotton disease detection problem using the image processing techniques automatically from the input image. The disease classification will primarily based upon the visibility of the disease on the cotton leaves, which further can be used for the identification using the classifier. The proposed model implementation would be done using the MATLAB simulator and the proposed model results would be obtained in the form of the
accuracy, precision, recall, elapsed time and many other similar parameters.

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A Review on Efficient Identification of American Cotton Leaf Diseases through Training Set

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Index Terms

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Keywords

Cotton disease classification, disease verification, leaf borne disease classification, disease feature descriptor, SIFT, SURF, vector classifier.