Phase 13

In paper [1], the authors have preprocessed and segmented the image before using images for classification of the plant diseases. Preprocessing of the images contain resizing the images size to 512X512 as processing the images with large size take more time. In segmentation the authors have removed background based on clustering and color based. Once the background is removed the image features are extracted (co-relation, energy, homogeneity etc). For classification the authors used the features and looked into different strategies like ANN, CNN, principal component analysis (PCA), Support Vector machine (SVM) techniques. In proposed method they used Support Vector Machine for classification.

In paper [2], the authors have developed an interactive web application for the users to upload images to the crop. For capturing the images of the crop they used drone and captured multispectral images. In application the used can point the region of interest for further processing of the image. Later NDVI value is calculated for plant health and NDWI is calculated for knowing the water index. Normalized different Red Edge Index is used to get more precises values of the crop health and returned the NDVI images for better understanding.

In paper [3], the authors made a review on different approaches for identifying the disease in plants. They have given a table for identification, and it is as follows:

Table

Description automatically generated

In paper [4], used k-means clustering approach to perform image processing on L\*a\*b colour space. Subsequently they applied support vector machine to identify disease based on fourteen types of feature of colour, texture and shape.

In paper [5], used NDVI to provide crop mapping from a corn field. This mapping helped the user to determine the crop health and as well as the regions where there is more growth and less growth in the plants.

In paper [6],used aerial multi-spectral images to determine crop NDVI and also used RGB images to determine the correlation between multi- spectral data and RGB colour model. The acquired data is then used to improve decision support system for variable rate and site-specific actuation across the farm.

In this paper [7], The authors have collected data for 26 days which consists of both rgb and multispectral images. For rgb images they have converted it to hsv format and got results. For multispectral images they have observed more while the plants are getting diseased. So they have concluded that the both RGB and multispectral images can benefit for more results and accuracy.

In paper [8], proposed a multi-disease identification algorithm to detect three different diseases in wheat crop. They implemented the algorithm in a smartphone application to enable real- time image processing and disease identification.

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