Topic : Plant Disease Detection and Classification

Abstract: Agricultural productivity is very dependent on the economy. Plant disease play an important role in agriculture because plant diseases are very natural and failure to care will have serious consequences for plants. Detection of plant diseases is important to prevent loss.

Reference paper: https://ieeexplore.ieee.org/document/9142988

The reference paper used is "Leaf disease detection and classification by Decision Tree Algorithm".

In this paper they are using decision tree algorithm to classify the healthy plant and disease plant. They are taking input image and doing pre-processing of image and then applied segmentation techniques. Now features are extracted and giving input to machine learning algorithm to classify the disease plant and healthy plant.

Enhancement of work: I want to use deep learning technique i.e., convolutional neural network to classify the plants.

I will take input image. Since the images may not be clear, I will apply Averaging filters like gaussian low pass filter to make the images smoothening and also to remove noise in the pre-processing step. Now I will convert it to grey scale image. I will apply thresholding technique to distinguish healthy part and disease part in the image. Then I will feed it to CNN network where the model gets trained and tested. I will be using Accuracy metric to check the model performance.