Title: Plant Disease Detection Using Image Processing

Inventor's Information:

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Objective:

The main objective is to identify plant diseases using image processing. After identifying the disease, it also suggests the name of the pesticide to be used. It also identifies the insects and pests responsible for the epidemic.

Abstract:

Disease detection in plants plays a very paramount role in agriculture. Disease in plants causes major endangerment and economic losses in the agricultural industry. Prognostication of crop health and disease early can facilitate the control of diseases. Magnification of plants is a major requisite of farmers as they are a paramount aspect of one's survival, as the pabulum demand is incrementing at an expeditious rate due to incrementalism in population. Moreover, the utilization of technology today has increased the efficiency and precision of detecting diseases in plants. These techniques are applied to detect diseases from infected plants. Getting affected by a disease is very prevalent in plants due to sundry factors such as fertilizers, cultural practices followed, environmental conditions, etc. These diseases hurt agricultural yield and ineluctably the economy predicated on it. Plant disease detection utilizing image processing is the best way to detect and get exact results. This application will allow farmers to get the correct information about the disease and avail in increasing their yield. The motto is to detect sundry plant diseases and provide precautions and remedies to preserve the plants from eradication.

Methodology:

Our proposed system is an application predicated software. We have an android predicated software which simply takes the image of the plant and uploads it to the mobile contrivance. Then this image is shipped through a Convolutional Neural network which converts the picture into a numerical form and relegates it with the opposite numerical arrays within the model. We are using a TensorFlow model which is made into a TensorFlow lite model because of the sizably voluminous size of the mundane Tensorflow model. This model allows relegating the uploaded image numerical value to the dataset values. When a numerical array matches it calculates the confidence and exhibits the value which has the highest confidence. In this way, we can ascertain that we always have the highest confidence value exhibited in the results.

Block Diagram: