Plant Diseases Detection system for Sustainable Agriculture

Problem Statement

Develop a CNN based model capable of detecting and classifying plant disease from images of leaves of various crops such as apple ,cherry ,grapes and corn. The model should accurately identify both healthy and diseased leaves while predicting the specific type of disease. This system will and in precision agriculture by enabling detection and effective disease management.

Aim

To design and implement a CNN-based model that accurately detects and classifies plant disease from leaf image ,identifying both healthy and diseased conditions. The system aims to support precision agriculture by enabling early diagnosis improving crop management practices.

Pipeline

The objectives of this project discussed are :

1. Data Collection & Data Loading: In this Dataset, There are 3 types of datasets i.e , train, test, validation. All the datasets are containing images to be used.
2. MOUNTING : This will be zipped and uploaded to Drive for further use and mount drive on google colab where we use the python code
3. Image Processing & Augmentation: The images are processed to a specific size ie, 128\*128 pixels.
4. CNN Model: A CNN is used to train the model using the training dataset.
5. Testing & Evaluation : The model is finally tested using the dataset , Evaluation helps to determine the model’s performance.