

# 1. Project Topic

Plant disease detection using Convolutional Neural Network(CNN)

**Restricted to the following plants** : Tomato, Potato and Pepper

## 2.Team Members

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## 3. Description about the problem

Early detection of diseases in plants can help in taking the necessary remedial measure to save the plant. Inexperienced pesticide usage can cause the development of long-term resistance of the pathogens, severely reducing the ability to fight back. Timely and accurate diagnosis of plant diseases is one of the pillars of precision agriculture. It is crucial to prevent unnecessary waste of financial and other resources, thus achieving healthier production.

## 4.Source of data on which you are planning to work with.

Plantvillage dataset from Kaggle (around 41,000 images of leaves)

## 5. Methodology

Convolutional Neural Network (CNN) was used to execute the project. Images of the leaves (healthy and disease) were taken from the Plantvillage dataset and used to train CNN.

Once trained , model is able to recognize different types of plant diseases out of healthy leaves. Accuracy was evaluated

**OpenCV** was used for Image Identification  
**Keras** for building CNN model

## **6.Output Description.**

The CNN would take an image of a leaf and classify it healthy or having disease