- **Identification of plant diseases using leaf images**

Agriculture plays a major role in the present society. Developing effective technologies to improve agriculture, is important. One such technology is detection of plant diseases using leaf images. This project uses an algorithm to take the image of a leaf of a plant under study, analyzing the leaf image and then determining the disease in the plant, if there is any. The algorithm is based on the image template matching technique using Normalized Square Differences Based Image Matching formula.

The system has three modules. The DTD (Disease types module) is used to store the details of different types of plant diseases in the Database, the DA (Disease Analysis) module is used to analyze the disease of a given plant, using its leaf image and the IP (Image Processing) module is used to pin point the affected area of the leaf.

This Project uses PyQt tool to create the needed Graphical User Interfaces, PyUIC module to automatically generate the automated code .

The images of various types of disease effected leaves are stored in an image file system. The file system will be stored at a specific location in directory structure. The location will be fed as in input to the system through a GUI screen.

Algorithm Used: Normalized Square Differences method.

Outputs from the project:

(1) A set of graphical User Interfaces to control project operations.

(3) Three different leaf images with disease

(4) Images showing the effected part of the leves.