ABSTRACT

A farmer is one of the most important members of society. He is the giver of food to the people, to all practical purposes. The farmer has many kinds of work to do. He ploughs his fields. He sows the seeds. He waters the fields regularly. He has to take care of the crops. He has to protect them against hail and frost. He has to apply compost and fertilizers. He has also to sprinkle insecticides and pesticides to protect the crops against pests and insects. How can we help them?Technology!

The main aim of this project is to help farmers grow more food. How do we do this? We know all that there are many diseases associated with crops. The goal is to provide a convenient way for farmers around the world to efficiently identify the type of disease that their crop is affected with so that they can administer quick treatments and potentially save themselves from large scale losses.

The current existing solutions to the plant disease identification problem involves training a model on images of leaves placed against a plain white background. However, in reality, we cannot expect the farmer to arrange for such ideal conditions. So by using different image processing techniques, we plan on developing a pipeline for efficiently segmenting the infected leaf from the noisy backgrounds. Because we aim to work with noisy images, we first plan on building the mobile application solely with the focus of dataset creation. i.e, the application, when complete will be able to automatically detect the leaf in the photo and segment it from the background. Once we achieve this, we will expand on it by connecting it to a python server which will be running the code to classify the processed image and identify the disease.