

Project proposal

Project Topic: Potato Yield Prediction

PROBLEM STATEMENT:

Agriculture is a major Pakistan occupation. It Plays a vital role contributing to over 18% of Pakistan's GDP and provides jobs to 50% of the population of Pakistan. Population growth is a major food security challenge. Population growth is increasing the need for farmers to produce more in the same agricultural country in terms of increasing supply. Farmers who grow potatoes are facing a lot of economic losses every year because of various diseases that can happen to a potato plant. There are two common diseases known as early blight and late blight. Early blight is caused by fungus and late blight is caused by a specific microorganism and if a farmer can detect these early and apply appropriate treatment then it can save a lot of waste and prevent the economic loss. The treatment for the early blight and late blight are a little different so it's important that you accurately identify what kind of disease is there in that potato plant

SYNOPSIS:

A machine-based approach is used to filter fruit (Potato) by predicting the degree of maturity and aims to change the staffing system. The program includes pre-image processing, feature extraction and fruit (Potato) classification using novel computational techniques such Machine Learning, Artificial intelligent, deep learning and so on. ATLIQ agriculture is an AI company that happens to solve problems in agriculture domain and that company has taken this project and they have built an application which they can give it to a farmer. All they need to do is go to their farm and just take a picture of plant and the application will tell them whether the potatoes plant is healthy or it has one of these diseases and behind the scene it will be using deep learning and convolutional neural networks. We are going to build an application that will resemble to this project.

Dataset Information:

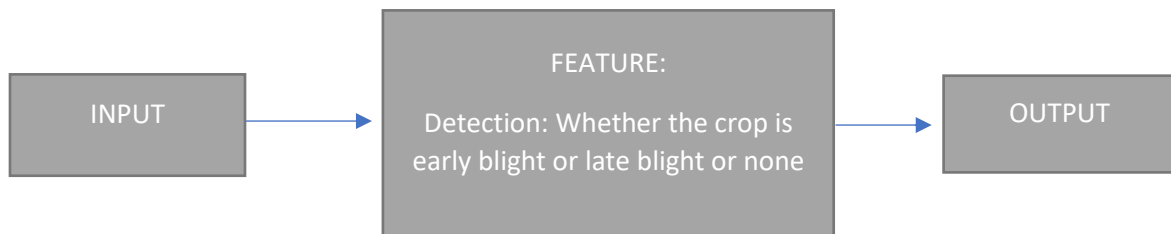
The dataset for our project contains multiple images, some of which are early blight, late blight and remaining are healthy plant images. There are 1000 images of late blight, 152 healthy plant and early blight images are 1000 in number.

The classes in our project are:

- ✓ late blight
- ✓ early blight
- ✓ healthy plant

FUNCTIONALITIES:

- ✓ This program will tell us whether the crop is early blight or late blight (a disease caused by fungi).
- ✓ We will give input to our program which contains the image of the potato.
- ✓ It will detect whether the potato is early blight or late blight by natural image processing and machine learning algorithms and techniques.
- ✓ After that the respective output will provide us the situation of potato whether it is defected or healthy to eat.



Git hub link:

The link to access our project is:

- ✓ <https://github.com/Muhammad-Ahtasham/DNNProjectSem05>

Requirements:

- ✓ Tensor flow
- ✓ Neural Networks
- ✓ Data Augmentation
- ✓ Tensor flow dataset

Group Members:

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