Fertilizers Recommendation System For Disease Prediction
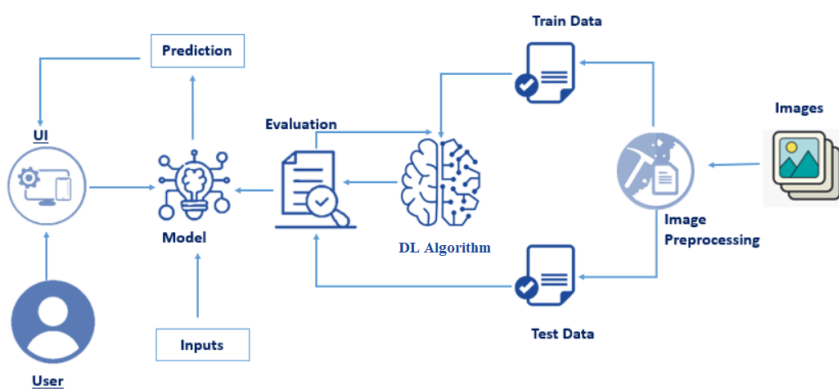
Category: Deep Learning

Skills Required:
Python,Python Web Frame Works,ANN,CNN,IBM Cloud,IBM Watson Studio,IBM Machine Learning,Python-Flask

Project Description:

Agriculture is the most important sector in today's life. Most plants are affected by a wide variety of bacterial and fungal diseases. Diseases on plants placed a major constraint on the production and a major threat to food security. Hence, early and accurate identification of plant diseases is essential to ensure high quantity and best quality. In recent years, the number of diseases on plants and the degree of harm caused has increased due to the variation in pathogen varieties, changes in cultivation methods, and inadequate plant protection techniques.

An automated system is introduced to identify different diseases on plants by checking the symptoms shown on the leaves of the plant. Deep learning techniques are used to identify the diseases and suggest the precautions that can be taken for those diseases.

Technical Architecture:

The workflow is as follows:

➢ Download the dataset
➢ Image Preprocessing
➢ Classify the dataset into train and test datasets.
➢ Build the model with convolutional Neural Networks
➢ Add the neural network layers.
➢ Train and save the model
➢ Test the models
➢ Build Python Code
➢ Build HTML Pages
➢ Run the code
➢ Train the model on IBM

Results:

Plant Disease Prediction

Drop in the image to get the prediction

Select plant type

Choose...

Drop in the image to get the prediction

Fruit

Choose...

Prediction: Oopps!! Your apple plant is infected by Black Rots. This infection is a fungal infection. To control balck rot, remove the cankers by pruning at least 15 inches below the end and burn or bury them. Treating the sites with the antibiotic streptomycin or a copper-based fungicide will be helpful.

Drop in the image to get the prediction

Vegetable ▾

Choose...

Prediction: Yaayy!! Your pepper plant is healthy. But, take the necessary precautions like, putting the plant where it gets at least 10 hours of direct sunlight. Keep soil evenly moist for good growth. Peppers need well draining soil that is rich and loamy, but avoid too much nitrogen in the soil. Too much nitrogen can cause plenty of leaves and little to no peppers. Your soil should have a pH between 6.0 and 6.5.