V.S.B. ENGINEERING COLLEGE, KARUR

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

IBM NALAIYA THIRAN

PROJECT DESIGN PAHSE - I

PROPOSED SOLUTION

Date	19 September 2022
Team ID	PNT2022TMID33383
Project Name	Fertilizers Recommendation System for Disease Prediction
Maximum Marks	2 Marks

Proposed Solution :

S.No.	Parameter	Description
1.	Problem Statement (Problem to besolved)	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. Our project is proposed to build an automated system which 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.
2.	Idea / Solution description	The user needs a way to get relevant fertilizer based on the disease symptoms shown in the leaves. Protecting crops in organic farming is not an easy task. Plant disease, especially on leaves, is one of the major factors of reductions in both quality and quantity of the food crops. Fertilizer Recommendation is not taken into consideration. So, it is necessary to develop crop yield prediction and fertilizer recommendation system which predicts crop yield and recommend fertilizer for selected crop based on different datasets like fertilizer data, location data and crop yield data.

3.	Novelty / Uniqueness	Image data augmentation is a technique that can be used to artificially expand the size of a training dataset by creating modified versions of images in the dataset. Recommend the fertilizer for affected leaves based on severity level. Fertilizers may be organic or inorganic. Admin can store the fertilizers based on disease categorization with severity levels. The field of agriculture is in a great threat this includes the diseases that attack the plant leaves. Our system finds the area of the leaf that has been affected and also the disease that attacked the leaves. A system that automatically detects leaf disease with the help of image processing is being developed. This system does few image pre-processing techniques like image acquisition, image segmentation, feature extraction and classification.
4.	Social Impact / Customer Satisfaction	User friendly application, the customers are satisfied as we use different methods include different fundamental processes like segmentation, feature extraction and classification and so on. Mostly, the prediction and diagnosis of leaf diseases are depending on the segmentation such as segmenting the healthy tissues from diseased tissues of leaves, so the farmers get high yield.
5.	Business Model (Revenue Model)	Making the business model strong leads to an early identification of disease and the fertilizer is recommended. Crop Yield Prediction can be done using crop yield data, nutrients and location data. Fertilizers can support rolling out beneficial improvements in cultivating by expanding crop yield. Farmers can diminish costs per unit of creation and increment the edge of return over absolute expense by expanding paces of use of fertilizer on chief money and feed crops. This not simply offers huge benefits for farmer jobs and food security, however also conveys natural benefits by diminishing our solicitations for farmland.
6.	Scalability of the Solution	This model reflects different approaches to recognize the illnesses in crops. This model focuses on detecting the plant disease and providing suitable fertilizer which is used for accurate treatment of diseases on crops to provide high quantity and improved quality of products.