IBM FERTILIZER RECOMMENTATION USING DISEASE PREDICTON

INTRODUCTION

Fertilizer Recommendation system for disease Prediction is a simple ML and DL based website which recommends the best crop to grow, fertilizers to use and the diseases caught by your crops.

PROBLEM STATEMENT

Agriculture is the most important sector in today's life. Most plants are affected bya 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. Detection and recognition of plant diseases using machine learning arevery efficient in providing symptoms of identifying diseases at its earliest. Plant pathologists can analyze the digital images using digital image processing for diagnosis of plant diseases.

IBM-Project-8047-1658907237
B3-3M5E

PROBLEM SOLUTION

The solution to the problem is Machine learning, which is one of the applications of Artificial Intelligence, is being used to implement the proposed system. Crop recommendation is going to recommend you the best crop you can grow in your land as per the soil nutrition value and along with as per the climate in that region. And recommending the best fertilizer for every particular crop is also a challenging task. And the other and most important issue is when a plant gets caught by heterogeneous diseases that effect on less amount of agriculture production and compromises with quality as well. To overcome all these issues this recommendation has been proposed. Nowadays a lot of research and work is being implemented in the smart and modern agriculture domain. Crop recommendation is characterized by a soil database comprised of Nitrogen, Phosphorus, potassium. The ensembles technique is used to build a recommendation model that combines the prediction of multiple machine learning. Models to recommend the right crop based on soil value and the best fertilizer to use.

THE BENIFICIAL USERS

- Farmer
- Common People
- Seller
- Buyer Employees
- Industrial People

VALUE FOR SOCIETY

Consumers Farming is one of the major sectors that influences a country's economic growth. In country like India, majority of the population is dependent on agriculture for their livelihood. Many new technologies, such as Machine Learning and Deep Learning, are being implemented into agriculture so that it is easier for farmers to grow and maximize their yield.

VALUE FOR ENVIRONMENT

- In the crop recommendation application, the user can provide the soil data from their side and the application will predict which crop should the user grow.
- For the fertilizer recommendation application, the user can input the soil data and the type of crop they are growing, and the application will predict what the soil lacks or has excess of and will recommend improvements.
- For the last application, that is the plant disease prediction application, the user can input an image of a diseased plant leaf, and the application will predict what disease it is and will also give a little background about the disease and suggestions to cure it. These all are to improve the agriculture, that's slightly reduces the poverty, climatic condition, soil erosion etc ...

VALUE FOR BUSINESS

Predicting the fertilizers, analysing the disease in a tap makes the life of farmers easy with minimal subscriptions would provide an acceptable return for the organization. This action adds a lot of value to the company and the business in society.

FORM FACTORS

Our Fertilizer recommendation system for disease Prediction is in the form of web application to provide this valuable service to the environment and society.

IBM-Project-8047-1658907237
B3-3M5E