

IBM FERTILIZER RECOMMENDATION USING DISEASE PREDICTON

INTRODUCTION

A straightforward ML and DL-based website called Fertilizer Recommendation System for Disease Prediction recommends the best crop to produce, the fertilisers to use, and the diseases your crops will catch.

PROBLEM STATEMENT

The agriculture sector is vitally important to India's economic, social, and employment development. Nearly 48% of the people in India relies on the agriculture sector for their livelihood. According to the 2019–2020 Economic Survey, the median income for Indian farmers is Rs. 2500 across 16 states. The majority of Indians rely on agriculture for their livelihood. Villagers in India have the option to work in agriculture, which helps the country develop economically and on a huge scale. The issue of planting the wrong crop on their property based on a conventional or non-scientific approach affects the majority of farmers. For a nation like India, where agriculture provides food for over 42% of the population, this is a difficult undertaking. And the consequences for the farmer of selecting the incorrect crop for the land include migrating to a major city for employment, committing suicide, giving up farming, and leasing out the land to businesspeople or using it for purposes unrelated to agriculture. The result of poor crop selection is a lower yield and lower revenue.

PROBLEM SOLUTION

The proposed system is being implemented using machine learning, one of the applications of artificial intelligence, as a solution to the issue. In accordance with the soil nutrition value and local climate, crop recommendation will advise you on the ideal crop to cultivate on your property. It's also difficult to suggest the optimal fertiliser for each specific crop. The second and most significant problem is when a plant contracts a variety of illnesses that reduce agricultural production and degrade product quality. This suggestion has been made in an effort to resolve all of these problems. In the field of smart and modern agriculture, a lot of study and effort is now being done. A nitrogen, phosphorus, and potassium-rich soil database serves as the basis for crop recommendations. A recommendation model is created using the ensembles technique by combining the predictions of various machine learning techniques. models to suggest the best crop based on the value of the soil and the usage of the best fertiliser.

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, Analyzing 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.