FERTILIZERS RECOMMENDATION SYSTEM FOR DISEASE PREDICTION

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: R.Neela, P.Nithya

YEAR:2017

ABSTRACT:
Agriculture is the main aspect of country development. Many people lead their life from agriculturefield, which gives fully related to agricultural products. Plant disease, especially on leaves, is one of the major factorsof reductions in both quality and quantity of the food crops. In agricultural aspects, if the plant is affected by leafdisease then it reduces the growth of the agricultural level. Finding the leaf disease is an important role of agriculture preservation. After pre-processing using a median filter, segmentation is done by Guided Active Contour method and finally, the leaf disease is identified by using Support Vector Machine. The disease-based similarity measure is usedfor fertilizer recommendation

. A**dvantages :** For crop recommendation and fertilizer recommendation, we canprovide the availability of the same on the popular shopping websites, and possibly allow us- ers to buy the cropsand fertilizers directly from our application.

Disadvantages : To provide fine-grained segmentations of the diseased portion of the dataset.this is not possible due to lack of such data. However, in our application,we can integrate a segmentation annotation tool where theusers might be able to help us with the lack. Also, we can usesome unsupervised algorithms to pin-point the diseased areasin the image. We intend to add these features and fix thesegaps in our upcoming work.

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: Mayuri Pawar,Geetha Chillarge

YEAR:2018

ABSTRACT: India is agricultural land. India ranks second worldwide in agriculture output, but GDP share is declining. There are many factors contribute for declining agriculture GDP which are inadequate irrigation, inadequate power supply,changing environmental conditions, conventional agricultural method etc. In this paper, the proposed system can help farmers by making them aware about their soil conditions. Farmers can maximize crops yield by knowing proportion of nutrients present in the soil. Soil toxicity affects the soil nutrients which indirectly affects crops health. The proposed system predicts the level of toxicity present in the soil and makes farmer aware about it. Many farmers are depending on rainfall which is the one of the factor for poor growth and decreases crops yield. Thus the proposed system recommends thfarmer about the crop, fertility of soil, level of toxicity and water supply. For this recommendation system, sensor's accuracy is very important as well as classification algorithm. For classification, decision tree J48 algorithm is used which is simple to implement and having more accuracy as compared with other classification algorithms. Issue of power supply can be overcome by using solar panel system.

Advantages: The system detects the diseases on citrus leaves with 90% accuracy.

Disadvantages: System only able to detect the disease from citrus leaves.

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: Dr.P.Pandi Selvi,P.Poornima

YEAR:2021

ABSTRACT: Agriculture is the main aspect for the economic development of a country. Agriculture is the heart and life of most Indians. But in recent days, the field was going down due to various natural calamities. In order to overcome the problem, various issues in this field need to be addressed. The soil type, fertilizer recommendation, diseases in plants and leaves. All these features need to be considered. Our proposed system was organized in such a way, to analyze the soil type diseases in the leaves and finally to recommend the appropriate fertilizer to the farmers, that may be of great help to them.Plant disease, especially on leaves, is one of the major factors that reduce the yield in both quality and quantity of the foodcrops. Finding the leaf disease is an important role to preserve agriculture. Smart analysis and Comprehensive prediction model in agriculture helps the farmer to yield right crop at the right time. The main benefits of the proposed system are as follows: Yield right crop at the right time, Balancing the crop production, control plant disease, Economic growth, and planning to reduce the crop scarcity. Hence to Detect and recognize the plant diseases and to recommend fertilizer it is necessary to provide symptoms in identifying the disease at its earliest. Hence the authors proposed and implemented newfertilizers Recommendation System for crop disease prediction

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Disadvantages : To provide fine-grained segmentations of the diseased portion of the dataset.this is not possible due to lack of such data. However, in our application,we can integrate a segmentation annotation tool where the users might be able to help us with the lack. Also, we can usesome unsupervised algorithms to pin-point the diseased areas in the image. We intend to add these features and fix thesegaps in our upcoming work.

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: Ibrahim,Sherif.

M**YEAR:**2021

ABSTRACT: Fertilizer nitrogen (N) management in any region following standard general recommendations discount thefact that crop response to N varies between sites and seasons. To devise field-specific N management in wheat at jointing stage (Feekes 6 growth stage) using atLeaf meter and leaf colour chart (LCC),eight field experiments were conducted in three wheat seasons during 2017–2020 in the West Delta of Egypt.In the first two seasons, four experiments consisted of treatments with a range of fertilizer N application levels from 0 to 320 kg N ha−1. Monitoring atLeaf and LCC measurements at Feekes 6 growth stage in plots with different yield potentials allowed formulation of different criteria to apply field-specific and crop need-based fertilizer N doses. In the four experiments conducted in the third season in 2019/20, different field-specific N management strategies formulated in 2017/18 and 2018/19 wheat seasons were evaluated. In the at Leaf-based fertilizer N management experiment, prescriptive application of 40 kg N ha−1 at 10 days after seeding (DAS) and 60 kg N ha−1 at 30 DAS followed by application of an adjustable dose at Feekes 6 stage computed by multiplying the difference of atLeaf measurements of the test plot and the N-sufficient plot with 42.25 (as derived from the functional model developed in this study), resulted in grain yield similar or higher that obtained by following the standard treatment. The LCC-based strategy to apply field-specific fertilizer N at Feekes 6 stage consisted ofapplying 150, 100 or 0 kg N ha−1 based on LCC shade equal to or less than 4, between 4 and 5 or equal to or more than 5,respectively. Both atLeaf- and LCC-based fertilizer N management strategies not only recorded the highest grain yield levels but also resulted in higher use efficiency with 57–60 kg N ha−1 in average less fertilizer use than the standard treatment**.**

Advantages: The system helps to compute the disease severity.

Disadvantages: The system uses leaf images taken from an online dataset, so cannot imple- ment in real time.

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: Mr. Santosh Mahagaonkar

YEAR:2019

ABSTRACT: Machine learning is an emerging research field in crop yield analysis. Yield prediction is a very important issue in agriculture. Any farmer is interested in knowing how much yield he is about to expect. In the past, yield prediction was performed by considering farmer's experience on particular field and crop. The yield prediction is a major issue that remains to be solved based on available data. Machinelearning techniques are the better choice for this purpose. Different Machine learning techniques are usedand evaluated in agriculture for estimating the future year's crop production. This paper proposes and implements a system to predict crop yield from previous data. This is achieved by applying machine learning algorithms like Support Vector Machine and Random Forest on agriculture data and recommends fertilizer suitable for every particular crop. The paper focuses on creation of a prediction model which may be used for future prediction of crop yield. It presents a brief analysis of crop yield prediction using machine learning techniques

A**dvantages :**It allows us to predict which crops would be appropriate for a given climate.Using the weather and disease related data sets, the crop quality can also be improved. Pre-diction algorithms help us to classify the data based on the disease, and data extracted fromthe classifier is used to predict soil and crop.

Disadvantages : Due to the changing climatic conditions, accurate results cannot be predictedby this system.

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: Nawabshah, Sindh, Pakistan

YEAR:2021

ABSTRACT: Farming is one of the most fundamental and generally rehearsed work in Pakistan and it plays an imperative part in fostering the country. In Pakistan, the most part of the land is used for agriculture cultivation to meet the desires of nearby people and export want as properly. Therefore, the need of increasing crop production is the significant challenge for farmers. Crop cultivation anywhere in the world depends on the climate so called seasons and soil properties, however, the enhancing the production of crops depend on various factors like mainly on temperature. In order to address the issue of increasing crop production for Pakistan, a crop recommendation system is proposed in this work. In this work, idea of ideal harvest prior to planting it, it would be of extraordinary assistance to the farmers and others required to settle on fitting choices on upgrading the creation of yields for neighborhood utilization needs and may prompt the capacity and expanded fare choice for business. Our framework utilized Machine Learning procedures with the end goal that it proposes the appropriate corps dependent on the temperature. This framework subsequently diminishes the monetary misfortunes looked by the farmers brought about by establishing the ominous harvests and furthermore it gives the information on the occasional characterization of yields what harvest is reasonable for which season. It is concluded that proposed algorithm has an average accuracy of 90% on the given dataset. The achieved accuracy is more in comparison to existing work.

A**dvantages :** For crop recommendation and fertilizer recommendation, we can provide the availability of the same on the popular shopping websites, and possibly allow users to buy the crops and fertilizers directly from our application.

Disadvantages : To provide fine-grained segmentations of the diseased portion of the dataset.this is not possible due to lack of such data. However, in our application,we can integrate a segmentation annotation tool where theusers might be able to help us with the lack. Also, we can usesome unsupervised algorithms to pin-point the diseased areas in the image. We intend to add these features and fix thesegaps in our upcoming work

TITLE: An Experimental Analysis of Fertilizers Recommendation System For Disease Prediction

AUTHOR: Praveen Kumar. D, Muthuvel. R

YEAR:2022

ABSTRACT: Tamil Nadu, as a coastal state, has agricultural unpredictability, which reduces productivity. More productivity should be possible with more people and land, but it is not possible. Farmers used to employ word-of- mouth, but due to climate circumstances, they can no longer do so. Agricultural elements and parameters are used tprovide data that can be used to learn more about Agri-facts. Some highlights in agriculture are driven by the growtof the IT world. Sciences to help farmers with good agricultural information. Intelligence of applying modern technological methods in the field of agriculture is desirable in this current scenario. Machine Learning Techniques develops a well-defined model with the data and helps us to attain predictions. Agricultural issues like crop prediction, rotation, water requirement, fertilizer requirement and protection can be solved. Due to the environment's fluctuating climatic elements, an efficient technique to promote crop cultivation and assist farmers i their production and management is required. This could aid aspiring agriculturalists in improving their farming.With the use of data mining, a farmer can receive a system of recommendations to assist them in crop production. Crops are recommended depending on climatic parameters and quantity to apply such an approach. Data Analyticsgives a means to evolve valuable extraction from agriculture database. Crop Dataset has been evaluated, and crop recommendations based on productivity and season have been made.

Advantages: The system helps to compute the disease severity.

Disadvantages: The system uses leaf images taken from an online dataset, so cannot imple- ment in real time.This paper mainly focuses on the detecting and classifying the leaf disease of soybean plant. Using SVM the proposed system classifies the leaf disease in 3 classes like i.e. downy mil- dew, frog eye, and septoria leaf blight etc. The proposed system gives maximum average classification accuracyreported is ~90% using a big dataset of 4775 images.

REFERENCES:

[1] Cloud Based Automated Irrigation And Plant Leaf Disease Detection System Using An Android Application. International Conference on Electronics, Communication and Aerospace Technology, 2018.

[2] Semi-automatic leaf disease detection and classification system for soybean culture IET Image Processing, ICECA 2017.

[3] Ms. Kiran R. Gavhale, Ujwalla Gawande, Plant Leaves Disease detection using ImageProcessing Techniques, January 2014.

https://www.researchgate.net/profile/UjwallaGawande/publication/314436486_An_Overview_of_the_Research_on_Plant_Leaves_Disease_detection_using_Image_Processing_Techniques/links/5d3710664585153e591a3d20/An-Overviewof-the-Research-on-Plant-Leaves-Diseae detection-using-Image-ProcessingTechniques.pdf

[4] Duan Yan-e, Design of Intelligent Agriculture Management Information System Based on IOT‖, IEEE,4th, Fourth International reference on Intelligent Computation Technology andAutomation, 2011

https://ieeexplore.ieee.org/document/5750779

[5] R. Neela, P. Fertilizers Recommendation System For Disease Prediction In Tree LeaveInternational journal of scientific & technology research volume 8, issue 11, november 2019

http://www.ijstr.org/final-print/nov2019/Fertilizers-Recommendation-System-For-Disease-Prediction-In-Tree-Leave.pdf .

[6] Swapnil Jori1, Rutuja Bhalshankar2, Dipali Dhamale3, Sulochana Sonkamble , Healthy Farm: Leaf Disease Estimation and Fertilizer Recommendation System using Machine Learning,International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211

[7] Detection of Leaf Diseases and Classification using Digital Image Processing International Conference on Innovations in Information, Embedded and Communication Sys- tems(ICIIECS), IEEE, 2017.

[8] Shloka Gupta ,Nishit Jain ,Akshay Chopade, Farmer's Assistant: A Machine Learning Based Application for Agricultural Solutions.