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LITERATURE SURVEY

FERTILIZER RECOMMENDATION SYSTEM FOR PLANT DISEASES PREDICTION.

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INTRODUCTION:

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.

LITERATURE SURVEY:

Fertilizer recommendation system for plant diseases prediction:

YEAR	TITLE& AUTHOR	TECHNIQUE	PROBLEM SATEMENT	PROS & CONS
2018	User centered design of fertilizer recommendation System for small holder farmer By nikil mallareddy	Site specific nutrient management (ssnm)	Soil health is major problem in india. Imbalanced fertilizer use, a negative consumption of fertilizer these cause severe soil damage and plant death.	**Pros:** Using ssnm technique soil type has been identified and proper fertilizer has been recommended for soil and plant . **CONS:** Lack of soil testing sevices. poor soil health due to low fertilizer use. Excess fertilizer causes effect to environment.

2018	Leaf diseases detection and selection of fertilizer using artificial neural network BY Neethu k.s, p. vijay ganesh.	Stastistical movement, computer vision , color image segmentation , GLCM, ANN,Diagnosis .	If plant is enduring diseases ,then it causes reduction in both quality and quantity of agriculture crops. It cause productivity loss	**PROS:** By using technique it analyses and detect disease suggest fertilizer for those pest . It increase productivity. **CONS:** Some times accuracy value get collapsed. Slowly identify diseases in plant .
2019	Harithm: a plant diseases identification system BY Joseph jose ,hima Jayachandran anna sajji George, jiya.s ,dr. anju pratap	Diseases identification technique, soil fertility analyis. Soft computing based diagnostic method.	It mainly developed for kerala region because there have high levely pest and pathogen. By knowing yearly we can easy cure diseases on plant .	**Pros:** Early detect disease and cure them.It list out symptoms of diseases which has come to plant. By controlling diseases quantity increases and economy increase. **Cons:** Main cons was it developed only for particular state can”t able to used by other states farmer.

2019	Fertilizer recommendation system for disease prediction in tree leaves. BY R. Neela ,p.Nithya	SVM classification algorithm, graph cut algorithm, guided active contour method.	Tree leaves diseases are caused by abnormal physiological functionalities of tree . By knowing the tree leaves diseases and fertilizer are recommended for thoses diseases to cure .	**Pros:** There are true ,false positive and false-negative these metrics are used to find the accuracy rate in disease so we can easily conclude the effect of disease and find fertilizer for that diseases. **CONS:** This made for predict and recommend fertilizer for tree leaves only.
2020	Plant leaf diseases classification and detection system using machine learning. BY G.Geetha ,s. samundeswari,. G.saranya. k.meenakshi,m. nithya	Genetic algorithm , fuzzy logic ,ANN, Naïve bayes algorithm,HOG	Among agricultural product ,tomato is one of most used crop, preventing significant loss in quantity and yield of tomato loss by diseases and identify drawbacks in tomato plant and classify and detect diseases.	**PROS:** Daily usage vegetables mainly tomato are get affected by disease and cure the diseases.It classify the type of siseases and detect diseases. **CONS:** Only tomato plant has been detect and classify diseases.

2020	Identification of plant disease images via a squeeze-and-excitation mobile net model and twice transfer learning. BY Junde chen, defue zhang ,md suzauddola ,yaser ahangari nanehkaran	DWSC, SE Network, transfer learning principle, SE-Mobile Net network mode	Plant and crop diseases have devastating effect on agricultural production .different types of plant diseases are main threat to spontaneous food supply.	**PROS:** The technique used are easily identify diseases in fast. **CONS:** The detail of disease hasn't be detailed about disease.
2021	Plant disease identification using CNN . BY Mustafa abdo mohammed al-hammadi,prof .amol ashok bhilare	CNN	Leaf of plant had been infected or attacked by some disease, the other areas had been exposed to be infected.It will decrease leaf yield and it also reduce farmer income	**PROS:** Low cost, low power consumption ,high accuracy the sensor has excellent sensitivity with quick response time. **CONS:** It only tell about diseases not about prevention.

2021	Soil based fertilizer recommendation system for crop diseases prediction system. BY Dr. p. pandi selvi, p.poornima	Long and short term memory algorithm ,sensor.	It is very much useful to analyze the soil nutrient type efficiently,kind of leaf diseases pesent in crop and predict fertilizer in proficient manner	**PROS:** It has check soil type plant type and then only recommend fertilizer diseased crop. **CONS:** Certain files regrading leaf diseases or soil type or fertilizer may not be updated.
2022	Precision agriculture using Machine Learning and IOT. BY Atharva labhasetwar Venkata Narayana bommanabonia Kundan patil	SVM , Logistic regression , Random forest,precision agriculture.	The most revelant problem faced by farmer is that they do not use the appropriate crop for their land and fertilizer .this is major fault .	**Pros:** Improve farm management efficiency by adjusting field/crop treatment .It will reduce excessive chemical usage in crop production. **CONS:** Accuracy depend upon input dataset . Complexity grows with data.

2022	Farmer assistant : a machine learning based application for agricultural solution. BY Shloka gupta , nishit jain , akshay chopade , Aparna bhonde.	Decision tree , naïve bayes , SVM , random forests , xg boost.	Farmer face several challenges when growing plant . inproper security may cause lots of challenges to agriculture . ACCURACY: 99%.	**PROS:** Farmer get very much useful whil using this application they got everything abut their need for plant growth especially predict disease recommend fertilizer crop productivity. **CONS:** Most of the farmer not get aware of such program like assistant farmer .

Thanking You!!!!!