V.S.B.ENGINEERING COLLEGE,KARUR

Department of

Computer Science and Engineering

IBM NALAIYATHIRAN

LITERATURE SURVEY

TITLE : Fertilizers Recommendation System for Disease Prediction

TECHNOLOGY : Artificial Intelligence

DOMAINNAME : Rural and Agricultural Development

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ABSTRACT :

Agriculture is one among the most important sector of Indian Economy. More than 50% of population depends on agriculture as their source of income. Various environmental factors have a significant impact on the crop yield. More than thousands of years farming is done in India but they are unable to predict the disease in advance. As rural production network is impacted by agents, conflicting evaluating has adverse effect on Indian economy, farmers have been facing different hardships due to lacking information on appropriate advances and utilization of assets like water, fertilizers, water system strategies. But using Artificial Intelligence we will be able to predict the disease in advance and recommend the best fertilizers to increase both the quantity and quality crop yield. With the help of this technology both farmers and consumers gets benefited. This technology aims in using the fertilizers to avoid most of the diseases and promote the quality of the land and increases the yield. The agriculture sector can be considered as the backbone for any developing economy. To obtain the maximum yield from the crops, it is required that farmers should be provided with the best technologies and methodologies. Artificial intelligence is having its vast applications in various sectors.

INTRODUCTION:

Artificial intelligence has a huge impact in all Industrial Sectors. Lately, Artificial Intelligence (AI) has been progressing at an outstanding speed. AI accomplished solving numerous problems and saving a profitable resource by minimizing environmental deterioration. Artificial Intelligence is making a revolution in agriculture by replacing traditional methods by using methods that are more efficient and helping the world to become a better place. Agriculture is the principal foundation of subsistence for about 58% of India's population. The population is expanding enormously with this expansion the interest of food and business is likewise expanding. Intervening of AI in Agriculture is serving farmers to recover their farming efficiency and diminish environmental hostile influences. Disease infection is the main drawback of Agriculture. Due to this drawback, the Quality and Quantity of agriculture products are degraded. To identify and detect the disease on agriculture product and recommend the correct fertilizers, the AI technique is introduced. In this paper, we are presenting a survey for application of artificial intelligence in Fertilizers Recommendation System for Disease Prediction.

LITERATURE SURVEY :

Fertilizer usage is crucial for the improvement of soil yield. But excessive fertilization can also cause serious problems to land health. Using the right amount of product at the right time is therefore a primary mission for farmers. Luckily, today they can rely on growing technological support. The latest example comes from the United Kingdom, where scientists at Imperial College London have developed a new predictive testing tool. “Our technology could help to tackle this problem by empowering growers to know how much ammonia and nitrate are currently in soil, and to predict how much there will be in the future based on weather conditions,” explained the author **[**1] “This could let them fine-tune fertilization to the specific needs of the soil and crops”.

The author [2], developed a soil based fertilizer recommendation system that can be used for regional soil analysis. The advanced farming involves various techniques as IOT, Cloud computing and data mining. This helps the farmers to gather details regarding the fertilizers he can use from his soil sample. The tool was constructed in such a way involving regional languages. This makes it understandable to all the farmers and yield maximum production. The creator [3], proposed a new method for finding leaf diseases in plants. Plant disease, especially on leaves, is one of the major factors for reduction in both quality and quantity of the food crops. Finding the leaf disease is an important role of agriculture preservation. To identify the disease the image of the affected leaf is fed as input into the system. As a first step pre-processing of the image is carried out using median filter. The filtered image then undergoes segmentation, which is carried out by Guided Active Contour method. Classification of the leaf disease was performed by using Support Vector Machine. They compared the performance of their proposed method with the existing CNN method. The author [4] says Artificial Intelligence (AI) is one of the mainstream of research in software engineering with its rapid scientific advancement and the tremendous region of Application. The fundamental idea of AI in agriculture is its adaptability, speedy performance, precision, and cost-viability. Artificial Intelligence in Agriculture not only helps farmers to use their farming skills but also shifts to direct farming to get higher yields and better quality with less-resources. AI-based technology helps to improve efficiency in all sectors and manages the challenges facing various industries including various sectors in the agricultural sector such as crop harvesting, irrigation, soil content sensitivity, crop monitoring, weed, harvest and establishment. AI technology helps diagnose plant diseases, pests, and malnutrition on farms and AI sensors can detect and identify weeds. The mythologies utilized for disease detection, segmentation of the affected part and classification of the diseases.

REFERENCE :

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[3] Neela, R., & Nithya, P. (2019). Fertilizers Recommendation System For Disease Prediction In Tree Leaves. International Journal Of Scientific & Technology Research, ISSN, (2277-8616).

[4] Sujawat, G. S. (2021). Application of Artificial Intelligence in detection of diseases in plants: A Survey. Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12(3), 3301-3305**..**