V.S.B.ENGINEERING COLLEGE, KARUR

Department of Computer Science and Engineering

IBM NALAIYA THIRAN

LITERATURE SUYVEY

TITLE : FERTILIZERS RECOMMENDATION SYSTEM FOR DISEASE PREDICTION

DOMAIN NAME :AGRICULTURE

LEADER NAME : PARTHIBAN A

TEAM MEMBER NAME :KAUSIK T,MOHAMED AASHIQ S,PRABU S

MENTOR NAME :Mr. MANIKANDAN T(AP/CSE)

ABSTRACT: Agriculture is the backbone of every country in the world. In India, most of the rural population still depends on agriculture. The agricultural sector provides major employment in rural areas. Furthermore, it contributes a significant amount to India's gross domestic product (GDP). Therefore, protecting and enhancing the agricultural sector helps in the development of India's economy. In this work, a real-time decision support system integrated with a camera sensor module was designed and developed for identification of plant disease. Furthermore, the performance of three machine learning algorithms, such as Extreme Learning Machine (ELM) and Support Vector Machine (SVM) with linear and polynomial kernels was analyzed. Results demonstrate that the performance of the extreme learning machine is better when compared to the adopted support vector machine classifier. It is also observed that the sensitivity of the support vector machine with a polynomial kernel is better when compared to the other classifiers. His work appears to be of high social relevance, because the developed real-time hardware is capable of detecting different plant diseases.

INTRODUCTION : Plants are considered as a major resource for oxygen supply because they take in carbon dioxide and release oxygen during the day for the photosynthesis process. Plants are considered as the major supplier for food to all terrestrial organisms, including human beings. Plants not only provide food, but also other products such as wood, oil, timber, fiber, medicine, dyes, etc. Plants transport an enormous amount of water from the soil to the atmosphere through transpiration.

However, due to the rise in global warming and deforestation, many plant species are on the verge of extinction. Additionally, the rise in pollution and industrialization has decreased the plant population. Along with this, plant diseasesalso play a major role in their extinction. Anthracnose is a type of disease thatdevelops dark, water-soaked lesions on stems, leaves, or fruit .Plant diseases depend on climatic conditions too. For instance, reddish–purpleleaf spots on the older leaves of the Ixora plant are due to the entomosporium leaf spotfungus. Furthermre, this disease is very dangerous because it actively grows in cooland wet weather conditions. The various other diseases include rust, kole roga, yellowleaf disease, leaf rot, leaf curl, angular leaf spot, leaf spot, late blight, bacteria wilt,etc., which all affect the growth of the plants.Relational database management systems and desktop statistics- andvisualization-packages often have difficulty handling big data. The work may require"massively parallel software running on tens, hundreds, or even thousands ofservers". What counts as "big data" varies depending on the capabilities of the usersand their tools, and expanding capabilities make big data a moving target. "For someorganizations, facing

hundreds of gigabytes of data for the first time may trigger aneed to reconsider data management options. For others, it may take tens or hundredsof terabytes before data size becomes a significant consideration.

LITEREATURE SURVEY :

The Author describes [1]Agriculture is the main aspect of country development. Many people lead their life from agriculture field, which gives fully related to agricultural products. Plant disease, especially on leaves, is one of the major factors of reductions in both quality and quantity of the food crops. In agricultural aspects, if the plant is affected by leaf disease 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 used for fertilizer recommendation.

The Author describes [2]The field of agriculture is in a great threat this includes the diseases that attack the plant leaf. Our system finds the area of leaf that has been affected and also the disease that attacked the leaf. This is achieved by using Image Processing; there are systems that predict the diseases in the leaf. Our system uses K-Medoid clustering and Random Forest algorithm to produce more accuracy in the detection of disease in the leaf. The image is first pre-processed and then the clustering method is applied to find the affected area of the leaf. This is then processed to fetch 13 characters like Mean, SD, Entropy, RMS, Variance, Smoothness, Kurtosis, Skewness, IDM, Contrast, Correlation, Energy and Homogeneity through this we will measure the accuracy and find the disease.

References:

[1] Fertilizers Recommendation System For Disease Prediction In Tree Leaves-R. Neela, P. Nithya

[2] 2019 IEEE International Conference on System, Computation, Automation and Networking (ICSCAN)