Profound Neural Web Founded Paddy Harvest Calculation Consuming Machine Learning

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Abstract

Because it is a necessity for every living thing on this planet, agriculture serves as the backbone of human society.

It has made significant contributions to agricultural healthcare. This trendy term has significantly increased agricultural output. Due to recent events,The overuse of pesticides and chemicals created by humans has resulted in an increase in plant diseases.

Additionally due to a lack of technical understanding, it can occasionally be challenging to identify these disorders. Therefore, this project offers a prototype for identifying the illness that affects paddy plants. The model employs transfer learning, a paradigm for effectively addressing deep learning issues.

KEYWORDS: Transfer Learning, Convolutional Neural Network, Deep Learning, Paddy Crop Disease.

INTRODUCTION

Convolutional Neural Network was chosen because of how well it handles images. Four classifications make up the selected data collection, three of which are related to diseases and one to health. Author Konstantinos Ferentinos [1, 2] have done research on paddy crop disease detection and diagnosis. Constantine et al. developed a deep learning method based on CNN models to present plant disease detection and diagnosis. Marco et al proposed a new twolevel neural network architecture for classifying plant diseases.The suggested model enhances the image using image augmentation, then trains on it to produce the desired outcome.

The following 4 classifications are what we aim to find:It is calorie and starch dense. However, recent times have seen some difficulties with the paddy crop. Climate change, such as global warming, and diseases including bacterial, viral, and fungal infections are making paddy cultivation more difficult. [3] Y. Es-saady,T. El Massi, M. El Yassa,D. Mammass, and A. Benazoun, have done research paddy crop disease detectionThe rice plant's potential problem could result in an early demise if it is not thoroughly investigated. The suggested model determines what illness the plant has.

[4] R. R. Atole, D. Park have done the research on paddy disease detection by using Convolutional neural network Classifier for Detection of Common Rice leaf is having disease or not. The illness that the plant could be afflicted with is divided into three groups, Hispa, brown spot, and leaf blast. Our model predicts that the leaf is healthy if it is in good health. The Convolutional Neural Network is used in the model to forecast and categorize the diseases. Agriculture development is seen as one of the most effective methods for reducing severe poverty and fostering shared prosperity. By 2050, agricultural development hopes to feed 9.7 billion people worldwide. The global agriculture industry has a considerable impact on incomes of all social strata. However, there are significant hazards related to food security, poverty alleviation, and agricultural expansion. The production of the crops may be severely reduced as a result of frequent climatic fluctuations and other weather-related issues. Climate change not only slows down agricultural growth but also steals away many farmers' employment opportunities.

Human error, such as using excessive amounts of pesticides and insecticides that not only ruin crops but also harm livestock, is another important factor that contributes to the degradation of agriculture.the biodiversity is harmed.

Disease is another factor that has a highly negative impact on agriculture. A plant with a disease is just as serious as a person who has one. If not treated in a timely manner, the plant can eventually perish. In Asia, the paddy crop has a significant impact on the number of farmers that are employed. In addition to creating jobs, it also contributes to the partial eradication of poverty. The Asian continent eats a lot of rice. In more than a hundred nations around the world, it is also regarded as a staple dish. It is typically served with more than one meal per day in most households. It is especially affordable and offers itself to everyone.

Literature Survey

[1] R. Rajmohan, M. Pajany, R. Rajesh, D. Raghuraman, U. 118, No. 15(2017)

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It has made significant contributions to agricultural healthcare. This trendy term has significantly increased agricultural output. Recent times, because of The overuse of pesticides and chemicals created by humans has led to an increase in plant diseases. These plant diseases must be treated since they can develop into serious conditions.

Additionally due to a lack of technical understanding, it can occasionally be challenging to identify these disorders. So, a model for identifying the disease that is present in the paddy plant is presented in this study. The model makes use of the transfer learning approach, which is a paradigm for effectively resolving deep learning issues.

[2] L. Barik, "Survey on Region Identification of Rice Disease Using Image Processing", International Journal of Research and Scientific Innovation Vol. 5 Issue 1(2017)

Plant diseases are typically brought on by pests, insects, and pathogens, and if they are not promptly handled, they significantly reduce yield. Farmers are losing money as a result of different crop diseases. When the cultivated area is enormous, measured in acres, the cultivators find it tedious to regularly check on the crops.

The suggested approach offers a way to automatically diagnose diseases using photos from remote sensing while also offering a solution for routinely monitoring the agricultural area. The suggested approach alerts the farmer about crop diseases so they can take additional action. The suggested technology aims to detect infections early, as soon as they begin to spread to the leaf's outer layer. The two phases of the proposed system's operation start with training data sets. This includes using training sets with both healthy and sick data. The second stage involves crop tracking and disease identification using Canny's edge detection technology.

OVERVIEW OF THESYSTEM

Existing System

With the current techniques, it is quite challenging for farmers to manually and reliably diagnose numerous diseases given their minimal training. Deep learning techniques can be used to get around this challenge.

Disadvantages of Existing System

• It is difficult to detect and identify diseases.

• Difficult to handle.

• It takes more time.

Proposed System

Convolution Neural Network (CNN) with transfer learning models is a Deep Learning technology that we suggest for the proposed system and can be quite helpful in solving such issues. These methods make it simple to find and recognize diseases.

Methodology

1. System Module

2. User Module

Admin

In this module admin can login with valid user name and password.

User

User can first register with his/him details. User can login with valid username, password.

Upload Dataset:

This module is concerned with uploading the csv file on the Project where the dataset is a KC csv file that contains related data.

Preprocessing

This Module is meant for removing unnecessary features or columns that has maximum null values. Since most of them are null values, they doesn't convey any information or has impact on the output target variable.
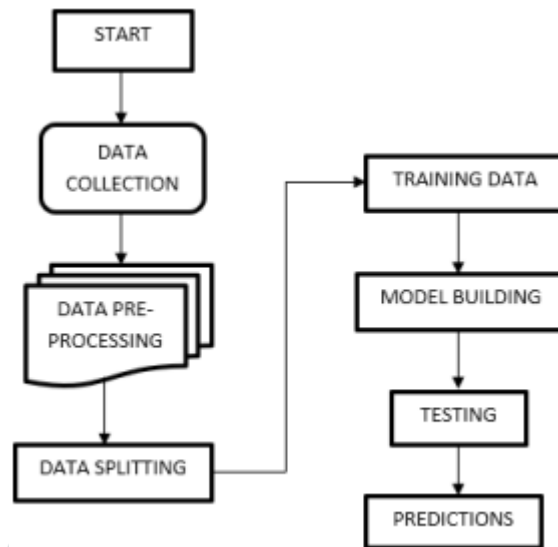
Training Module

TRAINING THE MODEL:

This Module is meant for creating a Model (s) as per the problem statement. Before this creation we are going to split the given data into two parts: Train and Test. Here train data is used for fitting or training the module.

MODEL PERFORMANCE:

Applying the enhanced machine learning algorithms on preprocessed dataset to predict the house price. We are using regression algorithms in this application.

VALIDATING THE MODEL:

Architecture

Frame work of proposed method

Above architecture diagram shows three stages of data flow form one module to another module. Data collection, preprocessing, and algorithm training.

CONCLUSION

This article focuses mostly on comparing various machine learning techniques (Linear regression and Decision Tree Regressor) for the analysis of house price prediction. In comparison to all other algorithms for predicting house prices, the Decision Tree Regressor method has a high accuracy value, according to the results of the experiment. On the King County Dataset, which was gathered from a public dataset, the accuracy value of the algorithm is calculated using the [MSE] Mean Square Error and R2 score. By using the techniques to forecast house resale value, the paper can be extended.

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