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Abstract:

The amount of agricultural land available for farming remains constant, but population growth is currently exceeding it. To feed a growing population, farmers are for employ cutting-edge techniques that increase agricultural yields. Crop health maintenance is essential in this aspect. Plant disease is harming agricultural yields and t the livelihood of plants, which are an important source of control for global warming. The present invention disclosed herein is a novel classification model for infecte classification using deep convolutional neural network comprising of: Dataset (101); Input Image (102); Pre-processing (103); Feature extraction (104); Classification (1 Performance (106); used to classify the infected tree leaves. The classification present in the invention herein is a binary-class classification and is carried by the LeCN multiple layers. The dataset contains three types of leaves with different diseases which are trained to the LeCNet classifier to classify the leaves into normal and abn leaves. The dataset samples are collected from the Plant Village dataset. The features are extracted using LeCNet before classifying the leaves into normal and abnor The present invention disclosed herein is developed using deep learning framework with Python 3.7 and the Tensorflow-2.9.1. The proposed method of the present ir disclosed herein showing outperformance than the existing inventions with accuracy of 94.214%, sensitivity of 99.984%, and specificity of 93.571%.

Complete Specification

Description:FIELD OF INVENTION

The present invention relates to the technical field of Computer Science Engineering.
Particularly, the present invention is related to a novel classification model for infected tree leaves classification using deep convolutional neural network of the bro field of Computer Vision in Computer Science Engineering.
More particularly, the present invention is related to a novel classification model for infected tree leaves classification using deep convolutional neural network used classify the infected tree leaves. The classification present in the invention herein is a binary-class classification and is carried by the LeCNet contains multiple layers

BACKGROUND & PRIOR ART

In the life sciences, data visualization is crucial. With none of the drawbacks of traditional photography, digital image processing and analysis technologies based on computers and microelectronics has various uses in biology. Images taken at any magnification, from macro to panoramic, can be analysed using this cutting-edge r It can be used as a tool in the analysis of plant diseases. Death and famine are common results of plant-borne pandemics. It is estimated that millions of people pe and countless harvests were lost when rice helminthosporiosis swept through northeastern India in 1943. Diseases like this are bad for the environment and the pl

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