Mini Project Progress Report
On

"Study on Plant Disease Detection Using SVM, KNN & CNN"

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ABSTRACT

Developing countries like India face substantial crop losses every year because of the belated detection of plant diseases. Climate change and certain environmental factors can also result in significant crop losses. A solution to this problem is timely and accurate identification of such diseases, without relying heavily on field experts. It can be challenging to correctly identify diseases in plants by observing their leaves, particularly when they have similar textures. Therefore, it is crucial to consider factors like plant leaf color and various texture features to make accurate predictions of plant defects.

This study aims to classify and predict plant diseases using various machine learning models such as Support Vector Machine (SVM), k-Nearest Neighbors (KNN), and Convolutional Neural Network (CNN), and compare their results. Several image pre-processing algorithms are used to extract image features like contrast, correlation, and entropy. These features are fed into SVM, and KNN Algorithms, while CNN directly takes images as input.

The findings of this study can demonstrate the potential of using image analysis for the early detection and diagnosis of plant diseases in agriculture and horticulture, which can help to prevent the spread of diseases and reduce crop losses.