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### Patent Search

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#### Abstract:

Diagnosing plant diseases is a major role to reduce adequate losses in the yield production, which further leads to economic losses. The various disease control measures accessible without proper diagnosis of disease results waste of expenses and time. The diagnosis of disease using images leads to unsatisfactory results in the prevalence due to the image clarity. It is mainly caused by the worst performance of the existing pre-trained image classifiers. This issue can be controlled by the proposed SMOc deep CNN classifier for the accurate and precise detection of plant leaf disease. The developed method transforms the poor-quality captured images into high quality preprocessing technique. The preprocessed input images contain pixels based on its dimension and also the value of threshold is analyzed by the otsu method by which particular disease affected region is extracted based on the image pixels. The K-means segmentation is utilized for the process of segmenting the region of interest and a remaining portion of the input leaf image. The stored features in the feature vector are fed forward to the deep CNN classifier for training which is optimized by the p-SMoGW optimization method. The achieved accuracy for the proposed approach is superior than the prevalent techniques for the disease classification and detection. Effectiveness of the proposed method is experimentally demonstrated for the plant leaf disease diagnosis.

**Complete Specification**

FORM 2

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PROVISIONAL/COMPLETE SPECIFICATION

1. TITLE OF THE INVENTION:

An Efficient Method for Plant Disease Detection and Classification Using Soft Computing Techniques

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