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Image Processing based Arecanut Diseases Detection Using CNN Model

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Abstract: *Areca nut is one of the commercial crop grown in many regions of our country. India has got second rank in production and growing of arecanut. Throughout the life span areca nut can be affected by many of the diseases like mahali (koleroga), yellow leaf disease and stem bleeding etc., these diseases are affected by leaf, trunk, nuts of the arecanut tree. In this paper, the proposed work is to detect these diseases using Convolutional Neural Network (CNN) and recommends solutions for it. CNN is one of the best deep learning algorithm, it takes image as a input and assign the learnable weights to objects of the images and learns the result to classify the images one from the another. The dataset consists of 241 both diseased and healthy images for train and test the CNN model. Here, categorical cross entropy used as a loss function, adam as an optimizer function and accuracy as metrics for compilation of a model. To achieve the high accuracy and minimum loss, 50 epochs used to train the model. This proposed model can achieved the high accuracy of 93.3% accurate in detecting the diseases in areca nut.*

Keywords: Arecanut disease, Deep Learning, Image Processing, Convolutional Neural Network (CNN)

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