

RESEARCH-ARTICLE

Deep Learning-Based Plant Leaf Disease Detection Using Scaled Immutable Feature Selection Using Adaptive Deep Convolutional Recurrent Neural Network

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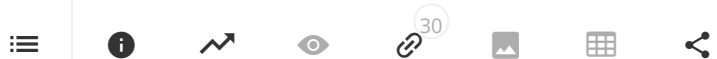
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Abstract






very essential to humans as a source of food. Plant diseases are major factors that affect the yield and quality of the plant. Digital image processing can determine plant diseases. Prediction of plant diseases has been implicated in the early stages of the agricultural sector. Thus, existing image process techniques employed plant disease features manually which is inefficient and results in poor recognition accuracy. This is often time-consuming and can result in poor precision and reproducibility. To tackle this issue, we introduce a proposed Hyper Spectral Immutable Scaled Feature



the segmentation, the image analyzes the nearest maximum feature weight using Spider Optimization-Based Maximum Features Weight (SO-MFW). After that, the HSISFS method selects the plant leaf disease's finest features. Finally, the ADCRNN algorithm with softmax logical activate function categorizes the leaf disease based on the finest features. Thus, the proposed produced high classification and detection accuracy, precision, recall, and F-measure performance, with a low false rate. The classification accuracy performance results are superior than the existing methods.


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