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SVM-RBN Model with Attentive Feature Culling Method for Early Detection of Fruit Plant Diseases

Authors : Piyush Sharma, Devi Prasad Sharma, Sulabh Bansal

Abstract : Diseases are fairly common in fruits and vegetables because of the changing climatic and environmental circumstances. Crop diseases, which are frequently difficult to control, interfere with the growth and output of the crops. Accurate disease detection and timely disease control measures are required to guarantee high production standards and good quality. In India, apples are a common crop that may be afflicted by a variety of diseases on the fruit, stem, and leaves. It is fungi, bacteria, and viruses that trigger the early symptoms of leaf diseases. In order to assist farmers and take the appropriate action, it is important to develop an automated system that can be used to detect the type of illnesses. Machine learning-based image processing can be used to: this research suggested a system that can automatically identify diseases in apple fruit and apple plants. Hence, this research utilizes the hybrid SVM-RBN model. As a consequence, the model may produce results that are more effective in terms of accuracy, precision, recall, and F1 Score, with respective values of 96%, 99%, 94%, and 93%.

Keywords : fruit plant disease, crop disease, machine learning, image processing, SVM-RBN
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