Abstract

In this paper, we present a reduced feature set based approach for recognition and classification of normal and affected agriculture produce types. Color and texture features are extracted from normal and affected image samples of agriculture produce. The color features are reduced from eighteen to eight and texture features are reduced from thirty to five. A classifier based on Back Propagation Neural Network (BPNN) is developed which uses reduced color and texture features to recognize and classify the different normal and affected agricultural produce. A feedback from classifier performance is used in reducing the features. The average classification accuracies using reduced color features are 78.08% and 75.17% for normal and affected agriculture produce type respectively. The average classification accuracies using reduced texture features are 85.53% and 77.43% for normal and affected agriculture produce type respectively. The average classification accuracies have increased to 88.28% and 83.80% for normal and affected agriculture produce type respectively, when the reduced color and texture features are combined. The work finds application in developing a machine vision system in agriculture fields in the area of recognition and classification of agriculture produce.
References


**Index Terms**

Computer Science    Artificial Intelligence

**Keywords**

agriculture produce  color features  texture features  bulk normal produce  bulk affected produce
artificial neural network