Intra-class recognition of fruits using image processing and pattern recognition techniques, is a challenging task mainly because sub-types of the same fruit show a large amount of similarities between each other and hence more difficult to distinguish than when different types of fruits are involved (inter-class). The problem becomes more acute when the camera viewpoint also changes which tend to change the known characteristics of the fruits like contour shape. To solve this problem, this paper proposes a view point invariant solution for intra-class recognition of fruits by combining color and texture features and using a Neural Network (NN) classifier. Experimentations done on a dataset of 270 fruit images show satisfactory performance across different fruit types and sub-types.

References

Intra-class Recognition of Fruits using Color and Texture Features with Neural Classifiers


Index Terms

Computer Science  Image Processing

Keywords
Color Histogram, Texture features, Gray Level Co-occurrence Matrix, Neural Network