Abstract

Farmers of several progressive countries like India are producing the grape raisins. However, the existing grading systems in these countries are human expert based and judgmental. The image based sorting and grading systems developed in the advanced countries are costly and are sometimes slow as they do analysis of individual raisin. This work proposes to develop a cost effective grading process for grape raisins which will give judgment about grading of bulk of raisins sorted manually or mechanically. In this study, the database is developed using the images taken by simple webcam from the local raisin market. Based on the opinion of the raisin experts, these images are grouped into four classes. The Hue, Saturation and Intensity (HSI) color features of these images are obtained to develop the fuzzy logic system for the classification of the images of different grades. The Gaussian membership function is used for developing the four rules for four grades. The performance of the fuzzy classification system is measured in the form of Success Rate. The results show that for more than four features, the raisin grading can be classified with 100 % success rates.

References

Index Terms

Computer Science
Pattern Recognition
Keywords
Raisin sorting  Color image segmentation  Machine Vision  Intelligent System
Feature Extraction