

## عنوان مقاله:

Apple defect detection using statistical histogrambased Fuzzy C-means algorithm

## محل انتشار:

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## خلاصه مقاله:

Image segmentation is one of the important and complicated processes among image processing and computer vision algorithm. Its purpose is to partition an input image into disjoint parts. In this article an important application of image processing in determination of apple quality is studied, and an automatic algorithm is proposed in order to determine apple skin color defects. First, this image is converted from RGB to color space  $L^*a^*b^*$ . Then fruit shape is extracted by ACMA algorithm. Finally, the image has segmented using SHFCMA algorithm. Experimental results on the acquired images show that both FCM and SHFCM spend the same iterations to accomplish the segmentation process and get the same results. However, the proposed SHFCM algorithm consumes less time than the standard FCM algorithm. Accuracy of the proposed algorithm on the acquired images is 91% and 96% for healthy pixels and defected ones, respectively.

## کلمات کلیدی:

Image segmentation, apple defects, color space, statistical histogram, fuzzy c-means algorithm, active counter model

## لینک ثابت مقاله در پایگاه سیویلیکا:

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