Abstract

The salient object detection aims to predict the most eye-catching objects in an image. The existing salient object detection methods only rely on the single color difference and cannot predict the complete results. In this paper, a novel method is proposed for salient object detection. The proposed method combines SLIC super-pixel segmentation and K-Means clustering algorithm to extract image features. Firstly, SLIC segmentation is performed to obtain the color contrast feature map based on the color difference between the pixel blocks. Secondly, K-Means cluster is carried out according to the color feature. After the K-Means cluster, several classes are obtained by features in LAB space. Then, the initial color space distribution feature map of each class is calculated according to the spatial distribution compactness and the color distribution uniformity. Considering that the clustering results do not contain spatial information, this paper maps the clustered results into the super-pixel segmented pixel blocks to further optimize the color space distribution feature map. Finally, the ultimate saliency map is acquired by fusion the color contrast feature map and the color contrast feature map. Extensive experiments are conducted on ECSSD dataset and the experiment results
show the proposed method can achieve state-of-the-art performance.

References

estimation and global search,” in Proc.CVPR, 2015, pp. 3183-3192.

Index Terms
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Keywords