

# 模糊聚类图像分割后处理

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**摘要:** 由于采用模糊聚类算法进行图像分割存在错分点的情况, 需要对错分点做进一步处理以提高分割效果, 对此提出一种图像分割后处理方法. 首先对模糊聚类算法得到的分割结果进行检测, 找出可能的错分点, 然后通过统计错分点周边的隶属度分布情况对其进行重新分类, 最后通过加噪的人工合成图像及自然图像对提出的后处理方法进行实验验证. 结果表明该方法不仅能够进一步提升模糊聚类算法的分割准确率, 而且所分割的图像视觉效果也有很大程度的提升.

**关键词:** 图像分割; 后处理; 模糊聚类; 局部空间信息

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## Post Segmentation of Fuzzy Clustering Algorithm

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**Abstract:** Potentially misclassified pixels often display when the fuzzy clustering algorithm is used for image segmentation, so a post segmentation method corresponding to refining the segmentation results is proposed. The first step is the detection of segmentation results from the fuzzy clustering algorithms, and then it is natural to find and reclassify the potentially misclassified pixels by evaluating the membership matrix of neighborhood window. The last step is the experimental verification via several test images including both synthetic image and natural images. The results of the experiment demonstrate that the proposed method not only improves the segmentation accuracy of fuzzy clustering algorithm, but also promotes the visual effect of segmentation to some extent.

**Key words:** image segmentation; post segmentation; fuzzy clustering; local spatial information

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