Abstract

This paper aims to advance research in image segmentation by developing robust techniques for evaluating image segmentation algorithms. The key contributions of this work are as follows. First, we investigate the characteristics of existing measures for supervised evaluation of automatic image segmentation algorithms. We show which of these measures is most effective at distinguishing perceptually accurate image segmentation from inaccurate segmentation. Second, we develop a complete framework for evaluating interactive segmentation algorithms by means of user experiments. We explore four strategies for this simulation, and demonstrate that the best of these produces results very similar to those from the user experiments.

References

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Hierarchies” IEEE transactions on image processing, vol. 8, no. 1, January 1999


Index Terms

Computer Science

Image Processing

Keywords

Image Segmentation, Clustering, Region-Based, RSST - Recursive Shortest-Spanning Tree.