Application of Conditional Random Field in Image Salient Object Detection with Local, Regional and Global Feature Extraction

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Abstract

Making use of OpenCV, DARWIN and MSRA datasets, we detect the saliency of by extracting local, regional and global saliency feature, then combine those features with pre-fitted weights derived by logistic regression. On top of that, the conditional random field framework is constructed to capture the spatial continuity of the saliency. The importance ratio between the combined unary and pairwise term is determined by cross validation. Based on the binary mask inferred in Conditional Random Field, we ultimately apply winner-take-all algorithm to output one boxing rectangle to label the detected salient object, by which the performance of our approach is evaluated.

1. Introduction

2. Formulation

3. Feature Extraction

4. Learning

5. CRF Inference

6. Result Presentation

7. Evaluation

8. Discussion

8.1. Current Drawbacks

8.2. Possible Improvement

References

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