Supplementary Material II: Additional Experiment Results

This document provides the following additional experiment results for the paper Minimum Barrier Salient Object Detection at 80 FPS. The evaluated methods are FT [1], HC [2], SIA [3], RC [2], GS [6], HSsal [7], AMC [4], SO [8] and our methods MB and MB+, together with the baseline method GD using geodesic distance.

1. The AUC (Area Under the Curve) scores of all the models (Fig. 1).

2. The mAE (mean Absolute Error) scores of all the models (Fig. 2).

3. The precision rate, recall rate and F-measure scores using the adaptive thresholding method [1] (Fig. 3).

4. The weighted-$F_\beta$ scores when the proposed post-processing function is applied and optimized for all the compared models (Fig. 4). In our post-processing function, there are three components, 1) smoothing 2) centeredness and 3) contrast enhancement. We try all possible $2^3 = 8$ combinations of these components (including none of the three and all of the three), and report the best score for each model.

5. More sample saliency maps (Figs. 5-8).

References

Figure 1: AUC scores of the compared methods. The AUC metric is used previous works like [5].

Figure 2: mAE (mean Absolute Error) scores of the compared methods. The mAE metric is used previous works like [3]. Lower scores under this metric indicate better performance.

Figure 3: Precision, recall and F-measure under the adaptive thresholding setting. As in [1], a gray-scale saliency map is thresholded at 2 times of its mean saliency value. The resultant segmentation mask is evaluated based on the ground truth mask. As in [1], we use $\beta^2 = 0.3$ for the F-measure calculation.
Figure 4: Weighted-$F_\beta$ scores when the effect of post-processing is controlled. In (a), we show the original scores for the compared methods. In (b), we show the scores after controlling the factor of post-processing (see text for more details). The post-processing improves the score of FT and HC, but does not significantly improve or even degrade the scores of the other compared models. As we can see, controlling this post-processing factor does not change the rankings of our methods.
Figure 5: Sample saliency maps of the compared models.
Figure 6: Sample saliency maps of the compared models.
Figure 7: Sample saliency maps of the compared models.
Figure 8: Sample saliency maps of the compared models.