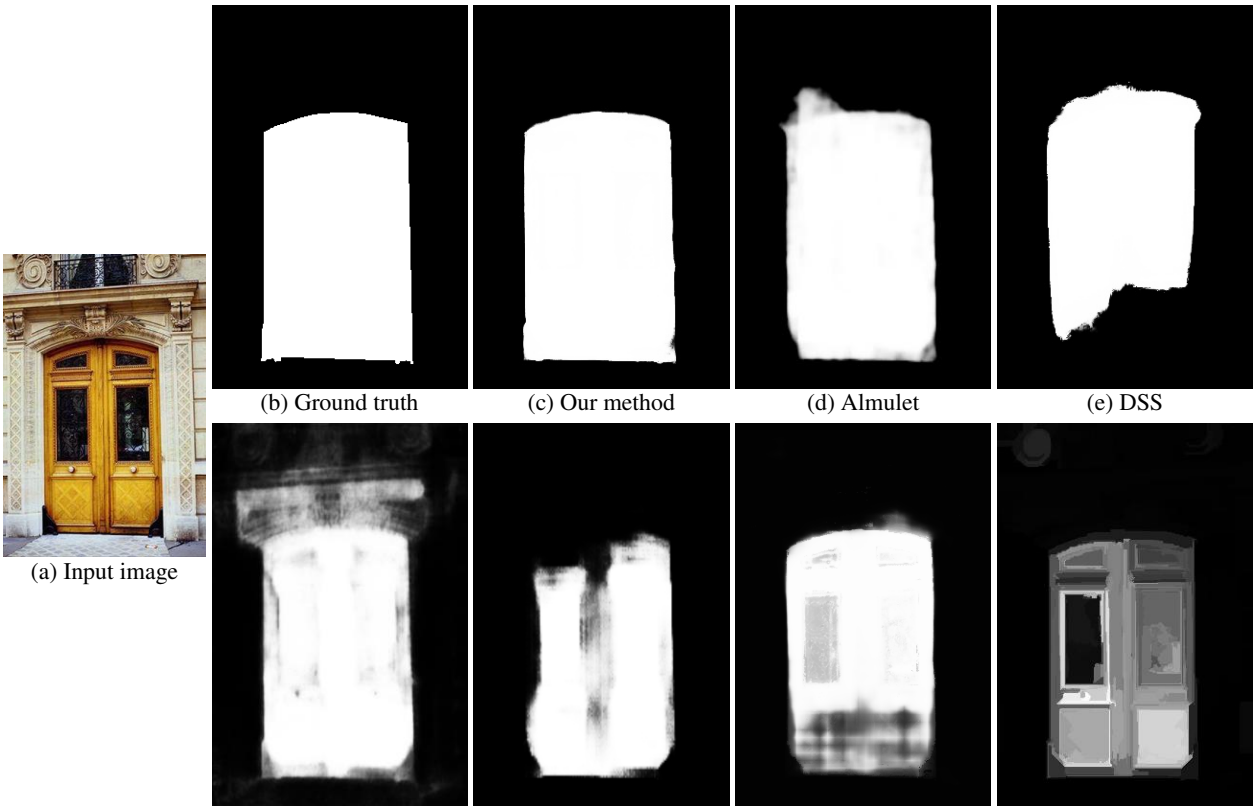
Supplementary Material:

Recurrently Aggregating Deep Features for Salient Object Detection

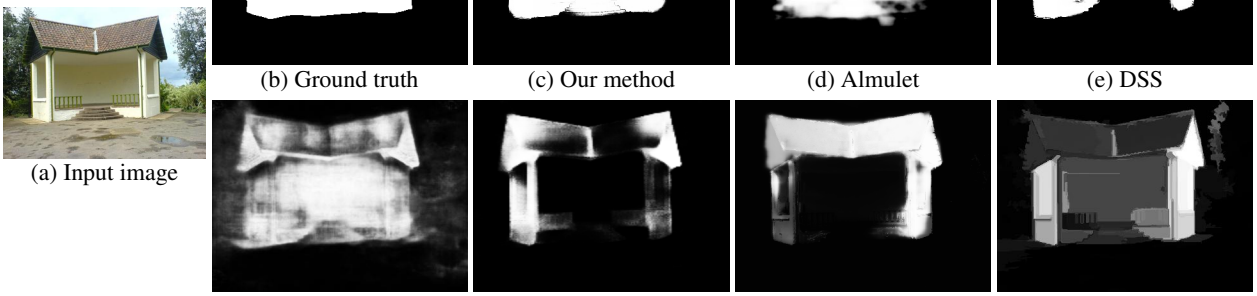
This supplementary material provides 60 additional visual comparisons between our method and state-of-the-art salient object detectors to verify the effectiveness of the proposed method. From the results, we can observe that the proposed method produces saliency maps that outperform others; please refer to the figures (Figure 1 - Figure 60) for details.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS

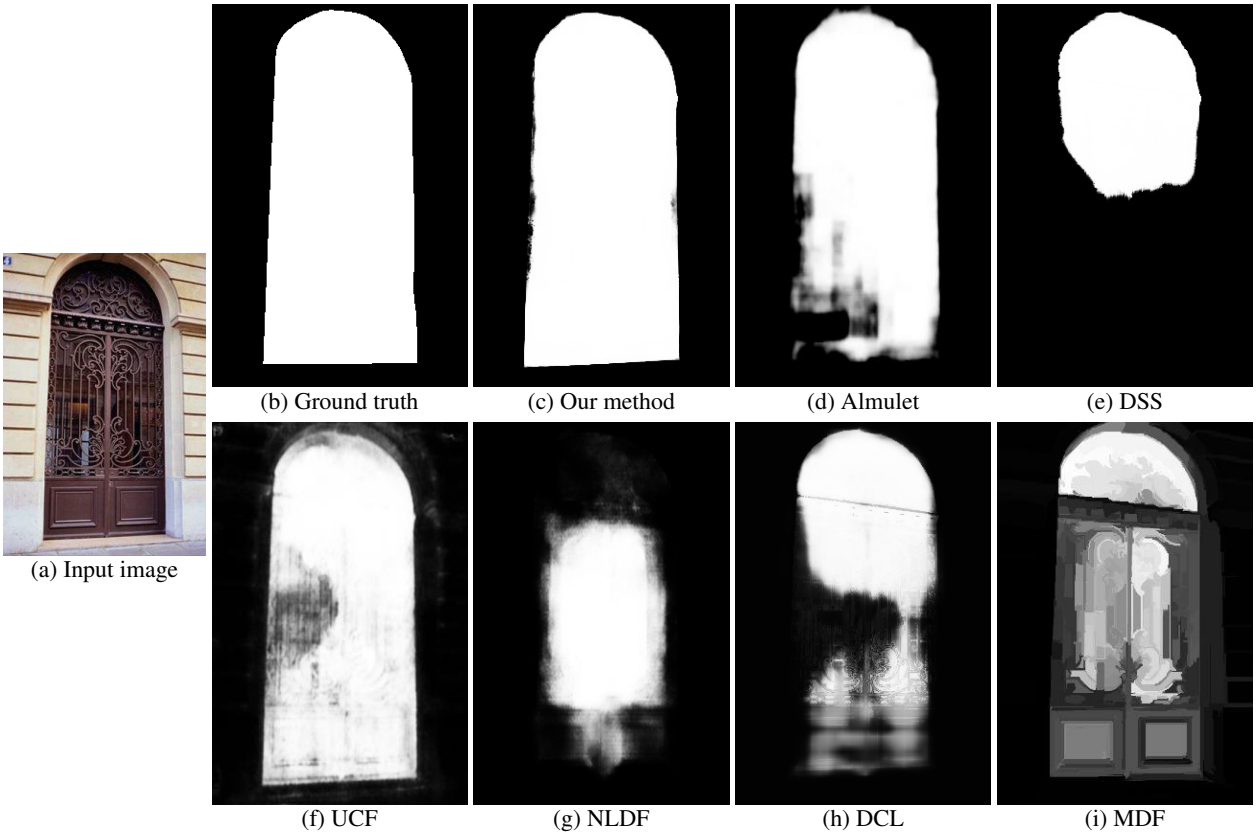
(f) UCF (g) NLDF (h) DCL (i) MDF

Figure 1: Additional comparison result of saliency maps #1. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



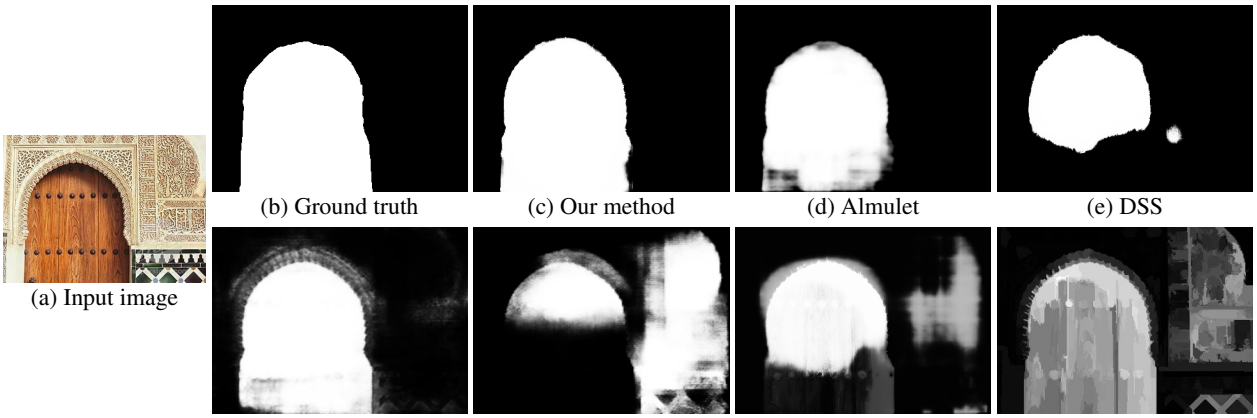
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 2: Additional comparison result of saliency maps #2. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



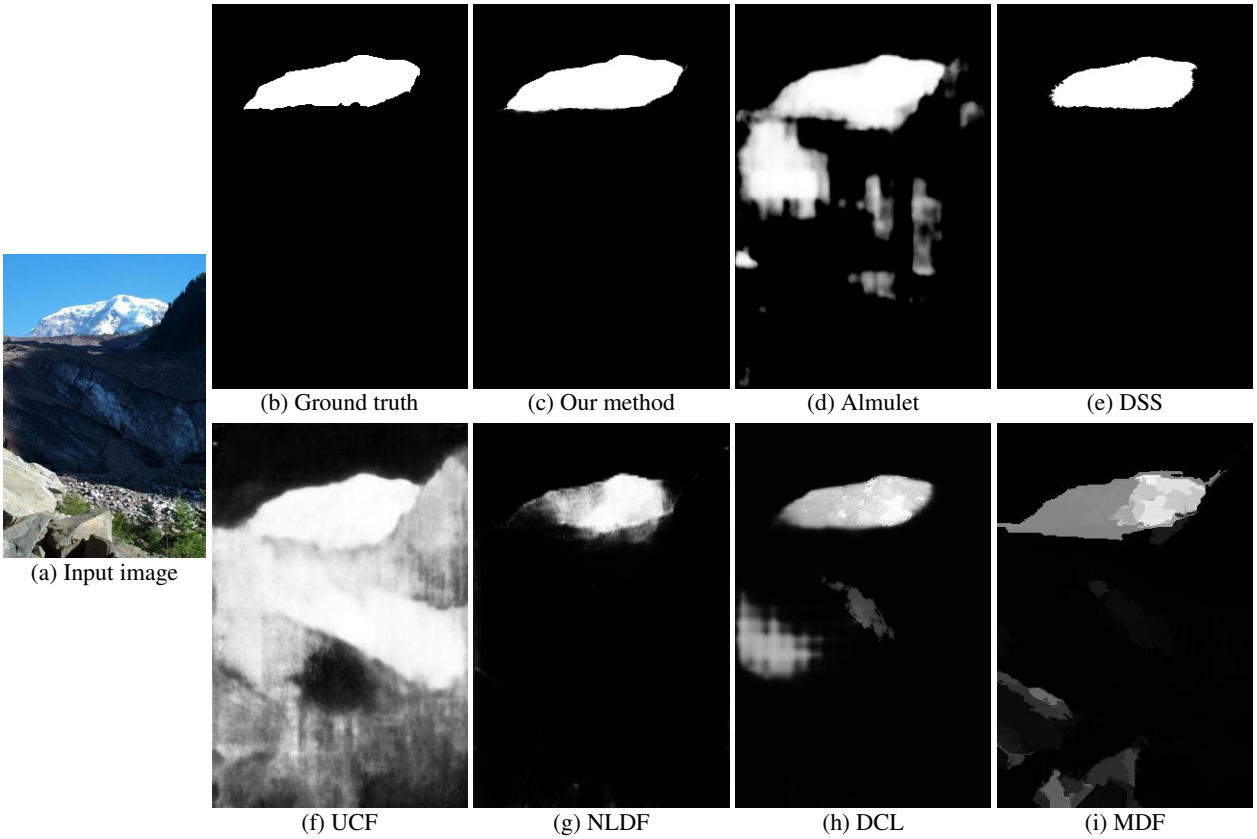
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 3: Additional comparison result of saliency maps #3. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



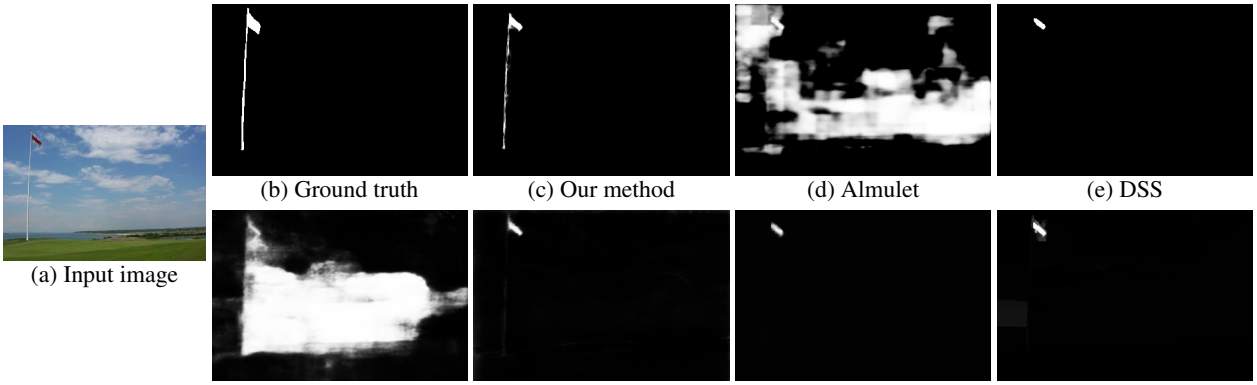
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 4: Additional comparison result of saliency maps #4. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



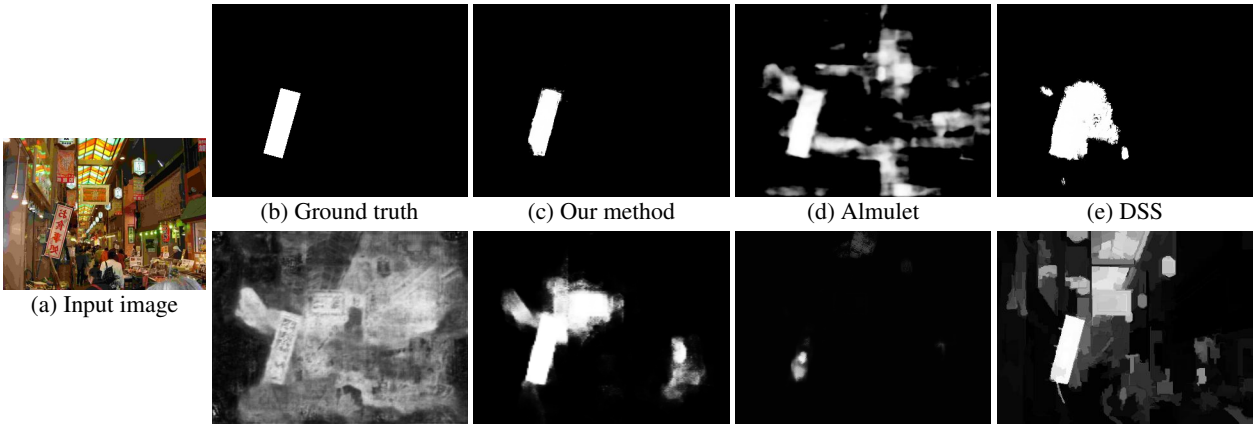
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 5: Additional comparison result of saliency maps #5. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



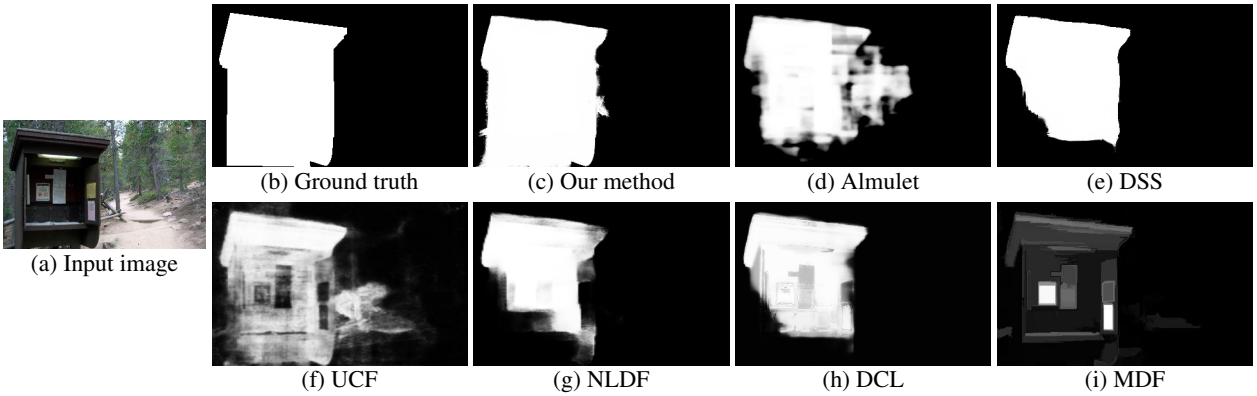
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 6: Additional comparison result of saliency maps #6. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



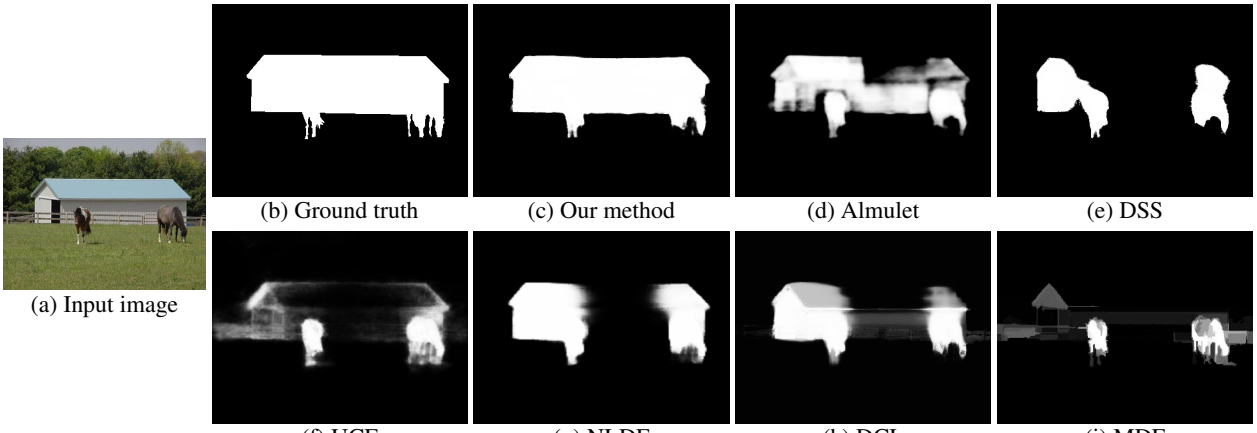
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 7: Additional comparison result of saliency maps #7. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



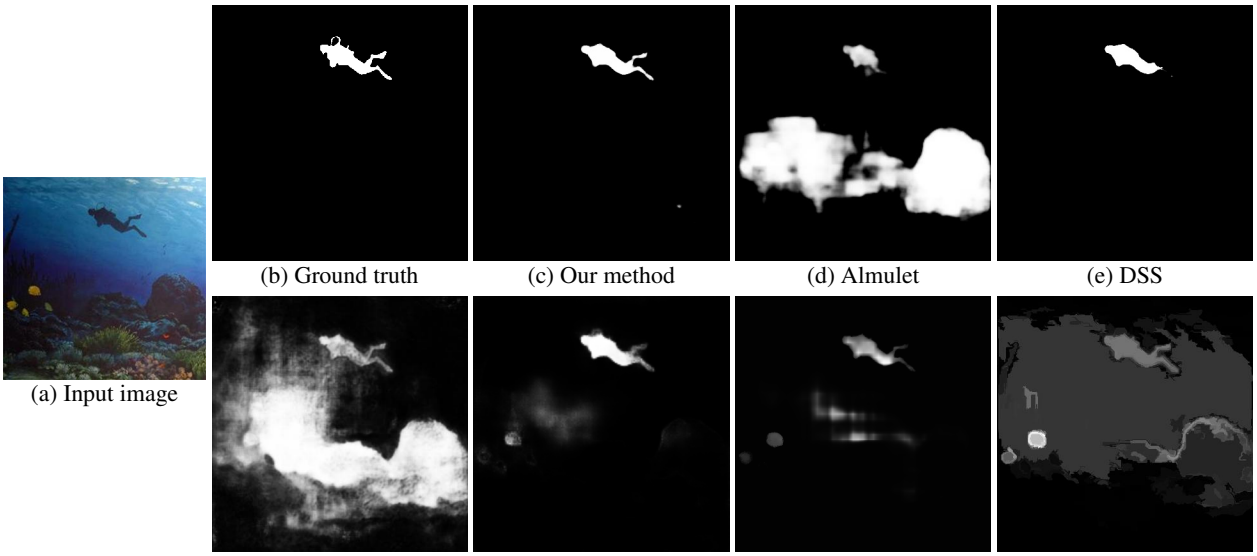
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 8: Additional comparison result of saliency maps #8. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



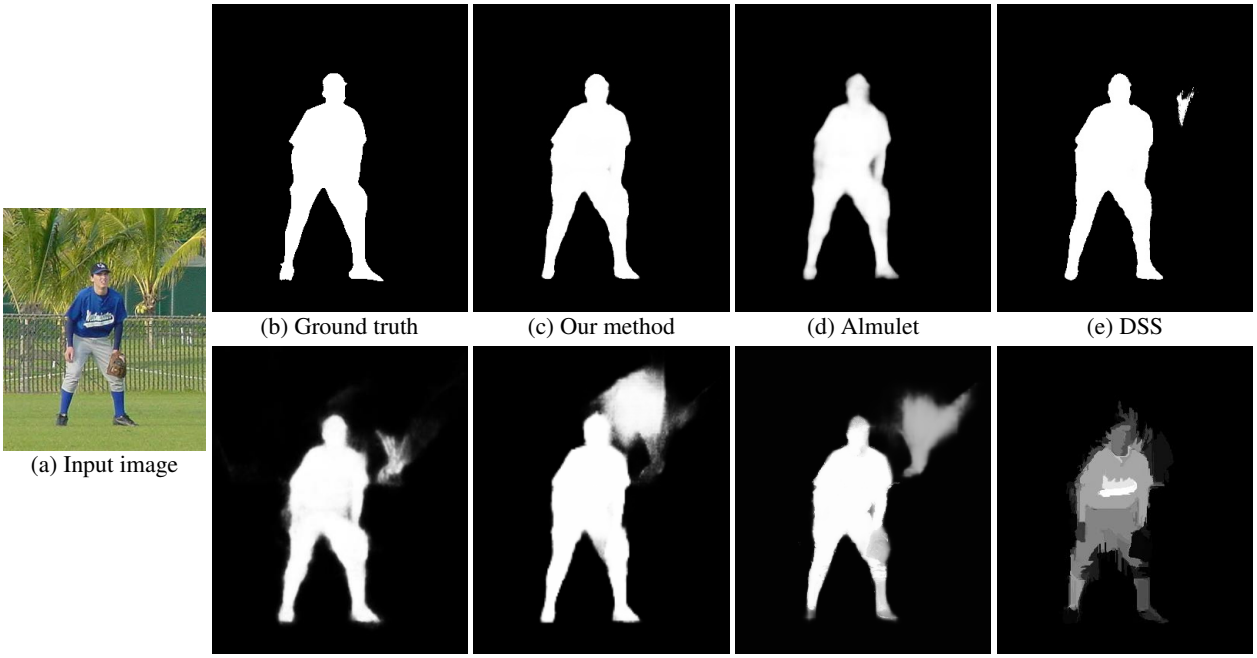
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 9: Additional comparison result of saliency maps #9. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



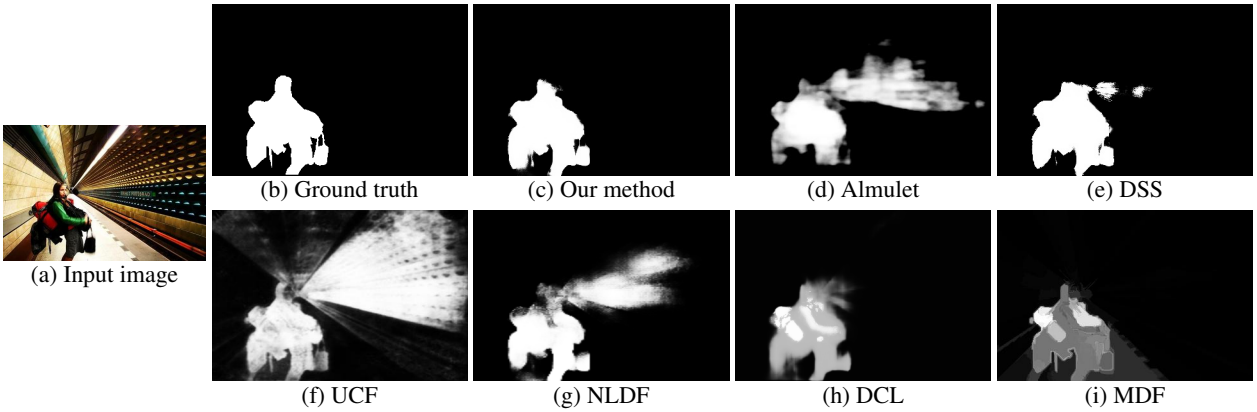
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 10: Additional comparison result of saliency maps #10. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



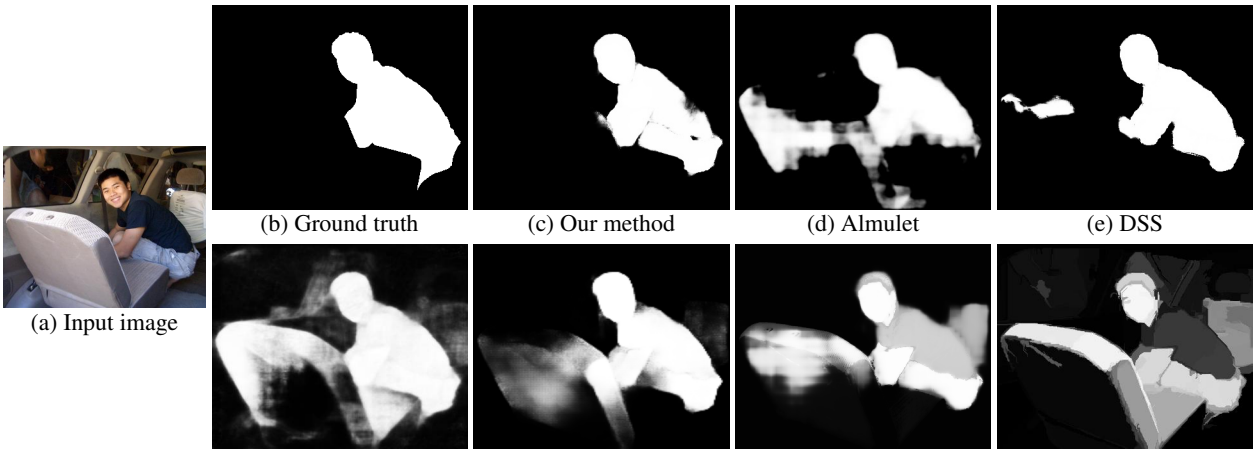
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 11: Additional comparison result of saliency maps #11. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

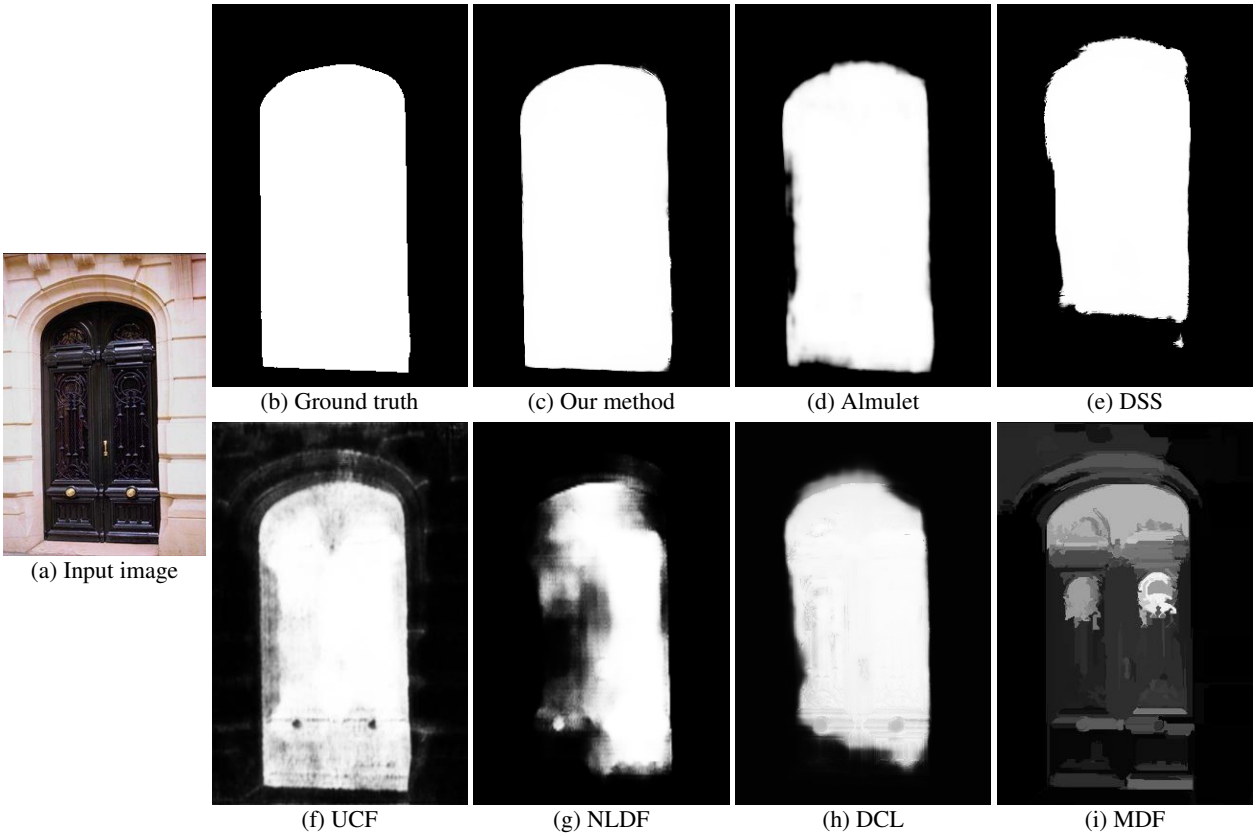
Figure 12: Additional comparison result of saliency maps #12. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS

(f) UCF (g) NLDF (h) DCL (i) MDF

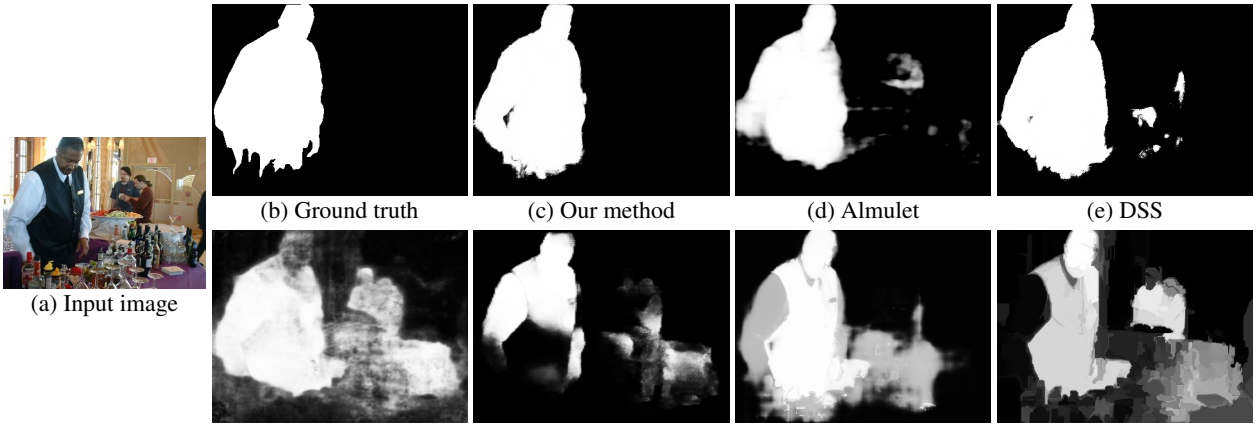
Figure 13: Additional comparison result of saliency maps #13. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS

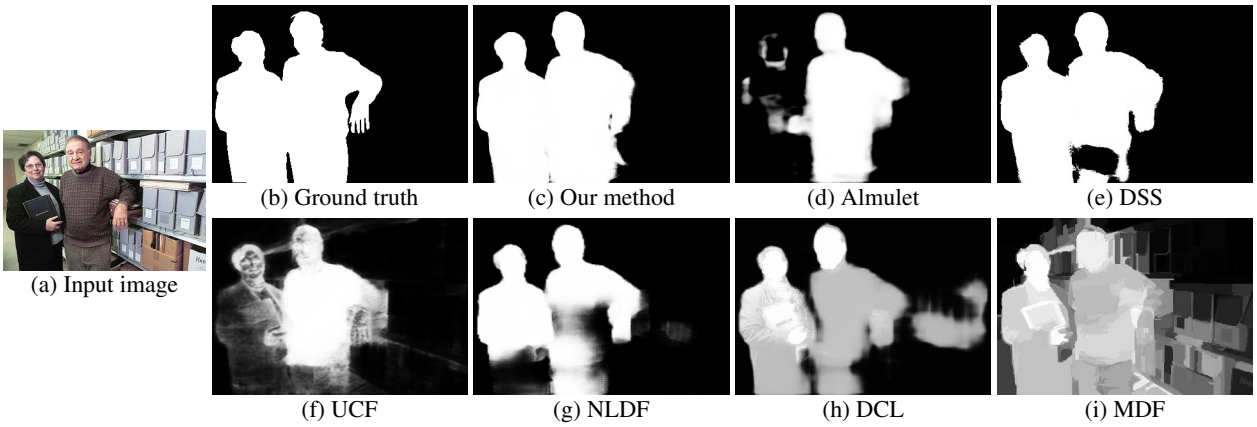
(f) UCF (g) NLDF (h) DCL (i) MDF

Figure 14: Additional comparison result of saliency maps #14. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



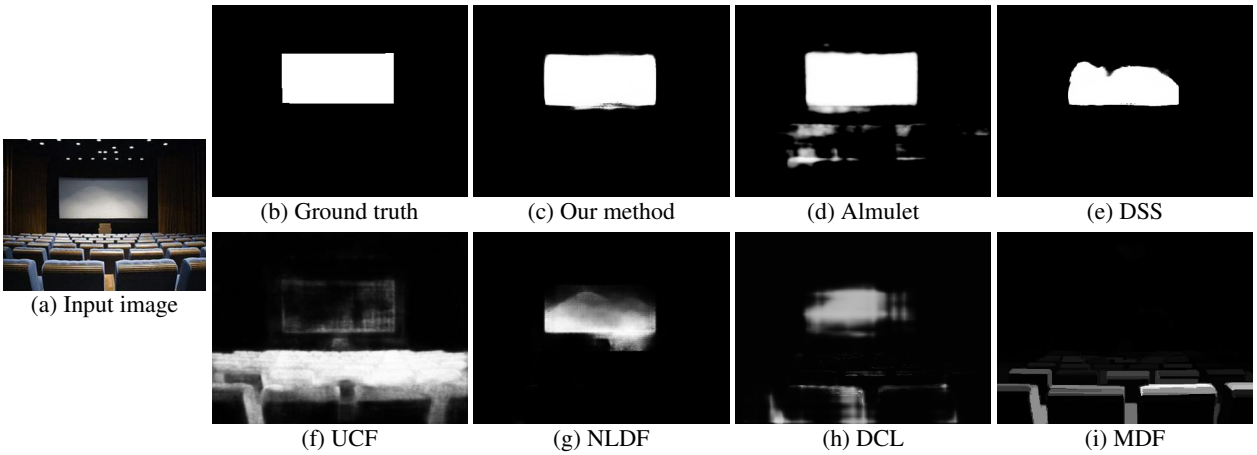
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 15: Additional comparison result of saliency maps #15. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



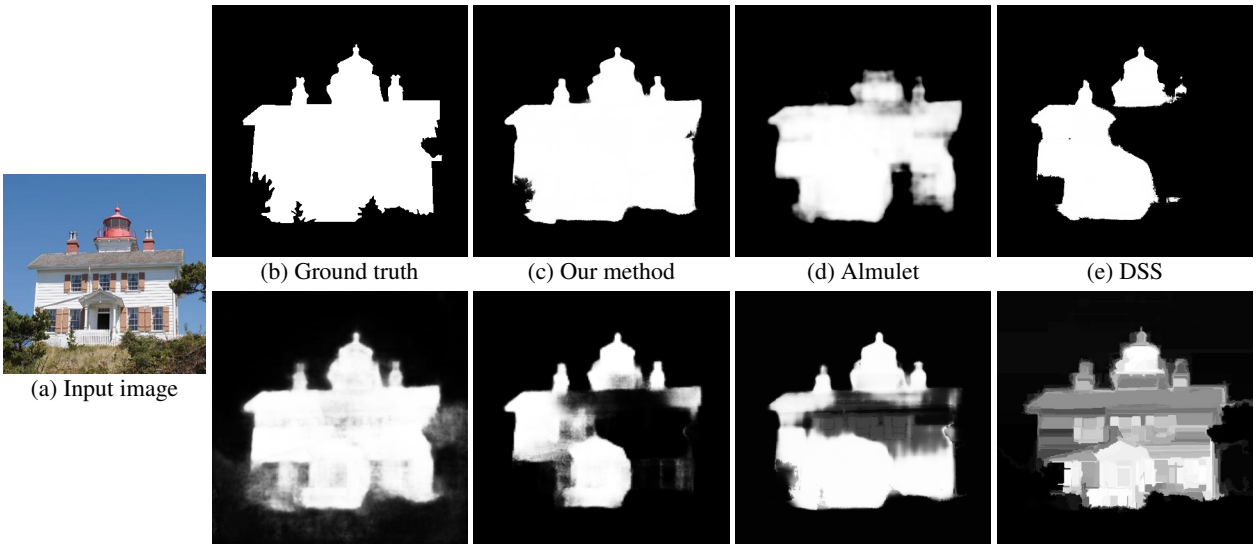
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 16: Additional comparison result of saliency maps #16. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



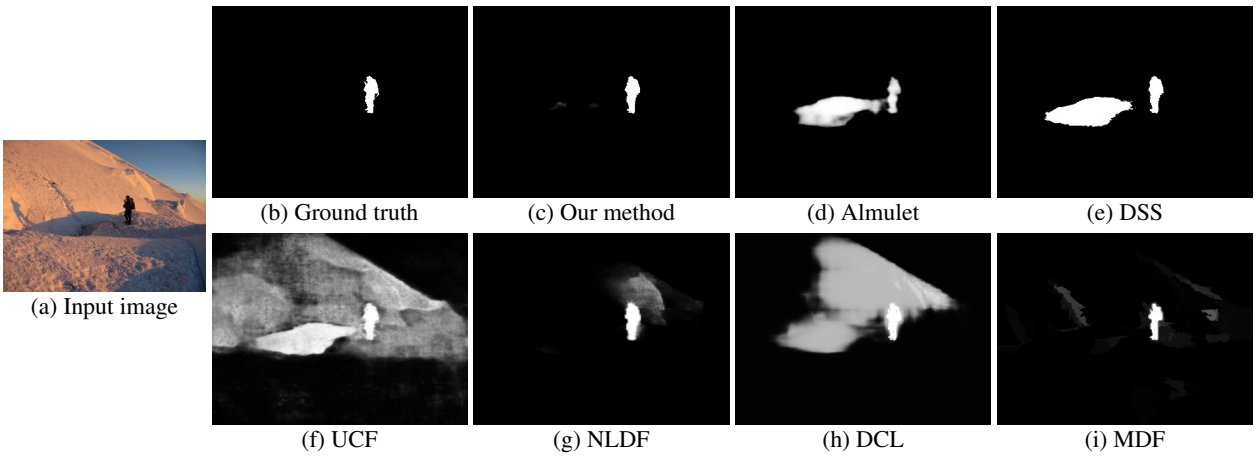
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 17: Additional comparison result of saliency maps #17. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



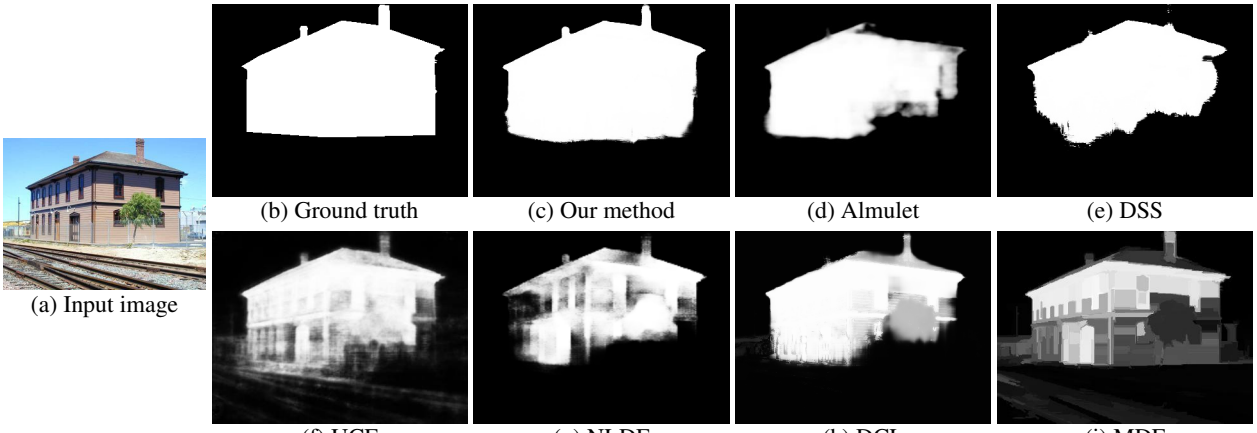
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 18: Additional comparison result of saliency maps #18. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



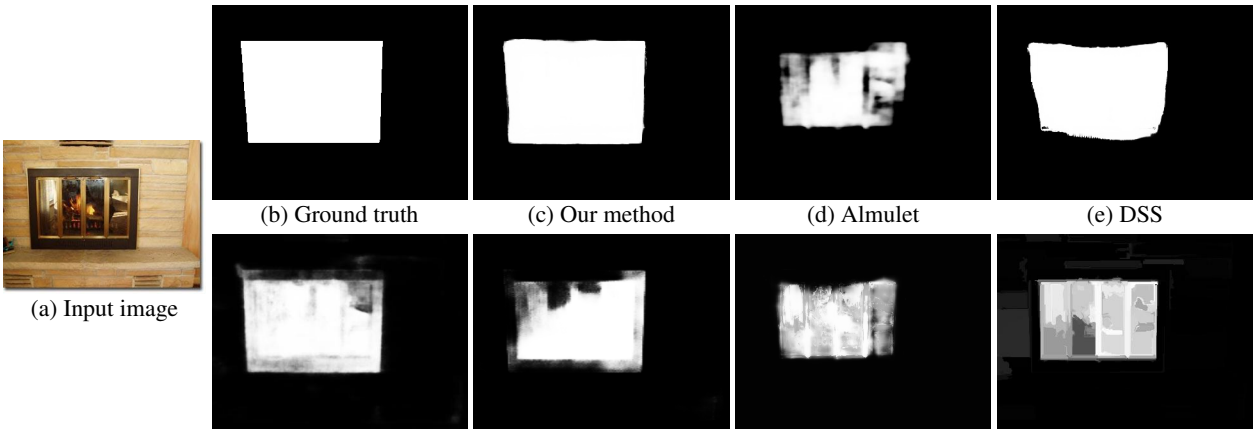
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 19: Additional comparison result of saliency maps #19. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



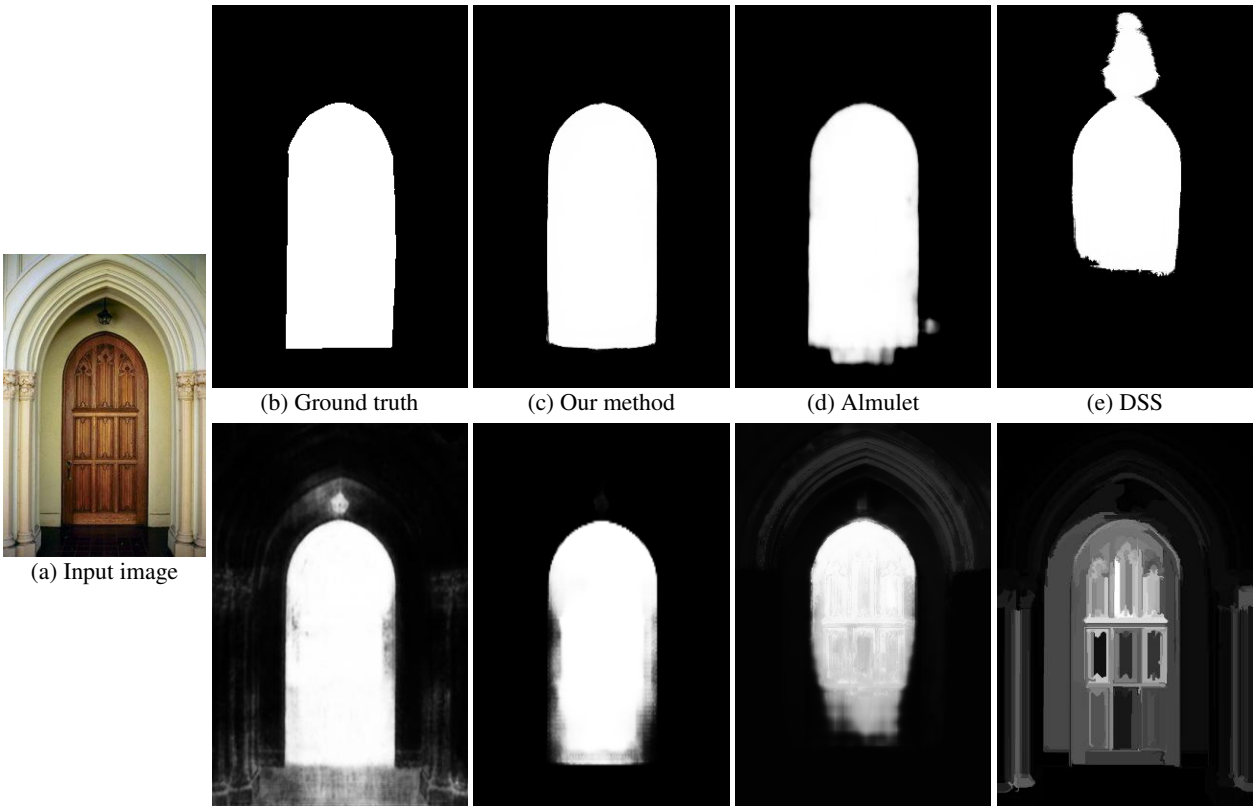
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 20: Additional comparison result of saliency maps #20. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



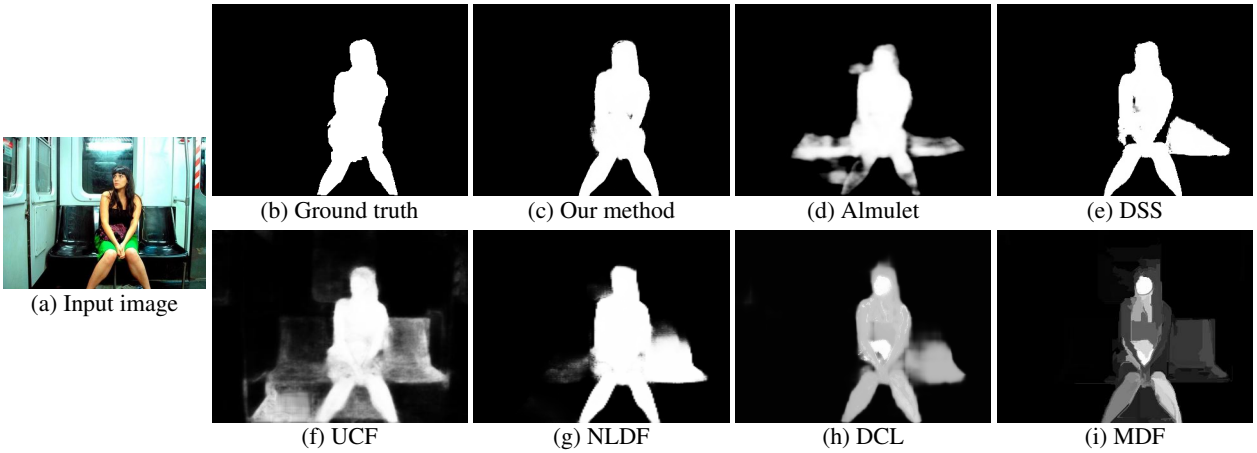
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 21: Additional comparison result of saliency maps #21. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



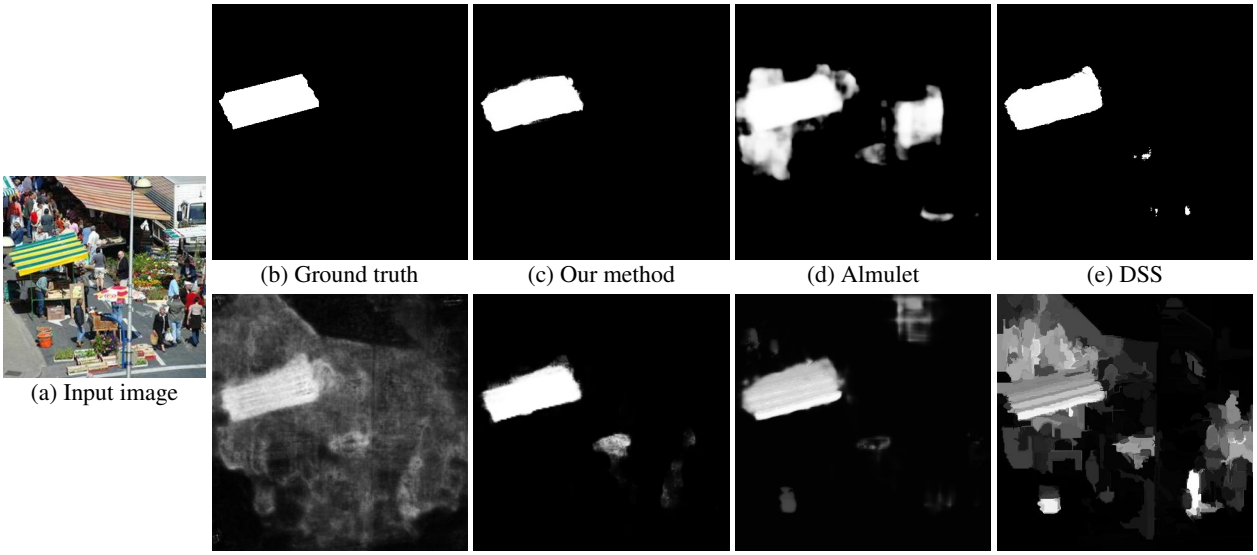
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 22: Additional comparison result of saliency maps #22. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



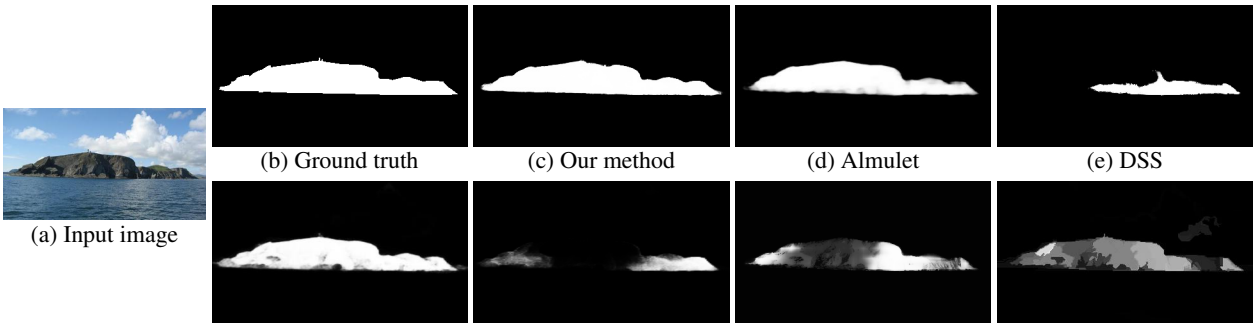
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 23: Additional comparison result of saliency maps #23. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



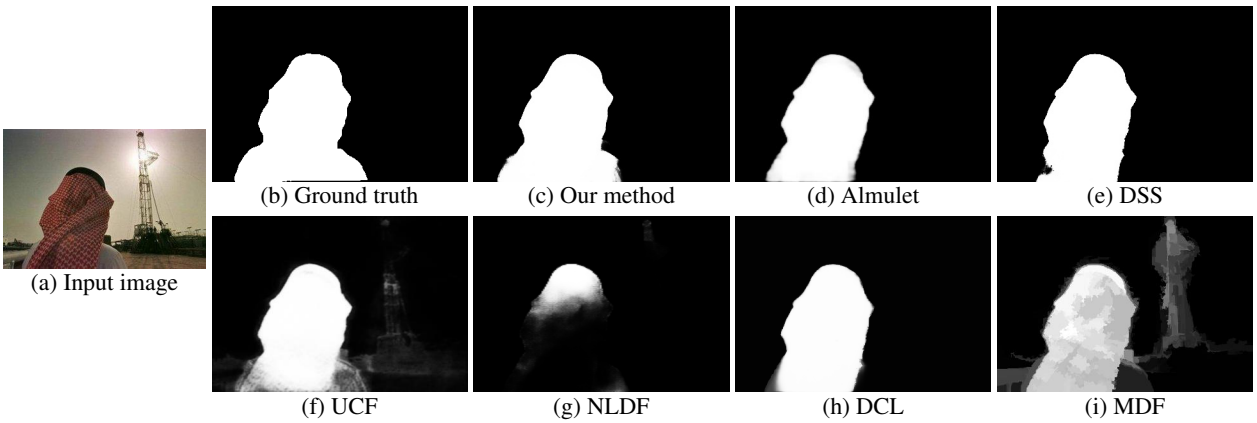
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 24: Additional comparison result of saliency maps #24. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



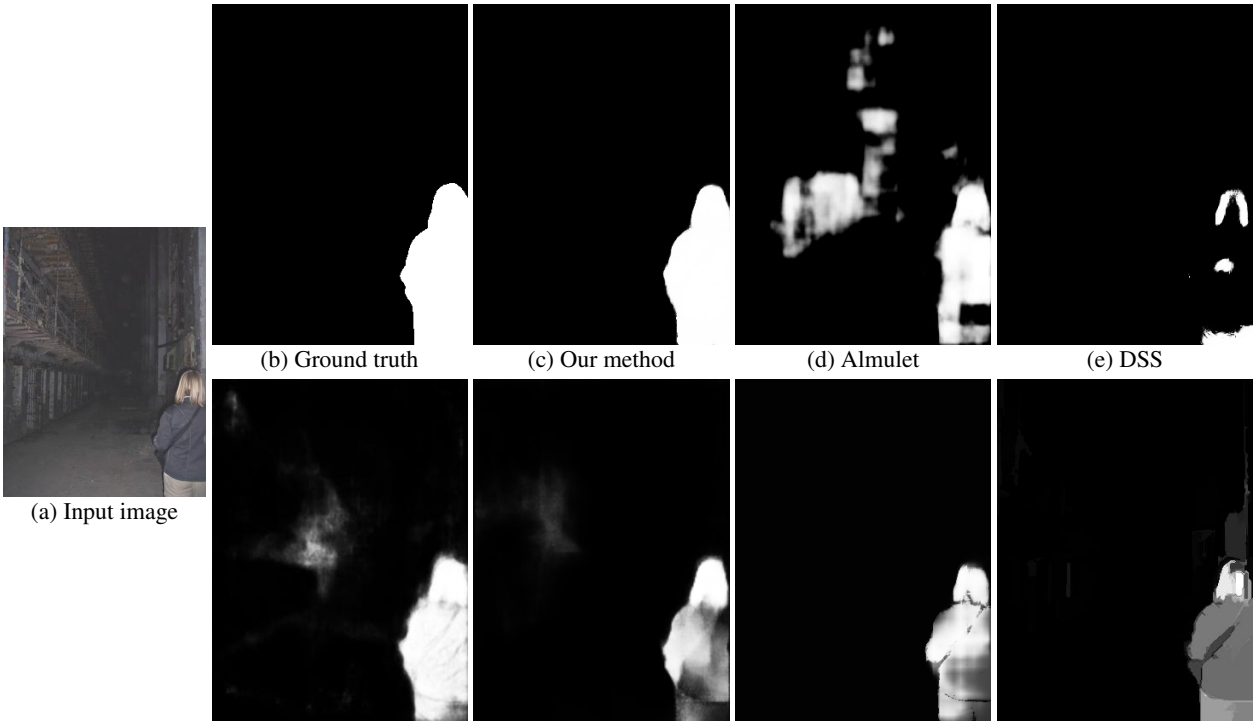
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 25: Additional comparison result of saliency maps #25. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



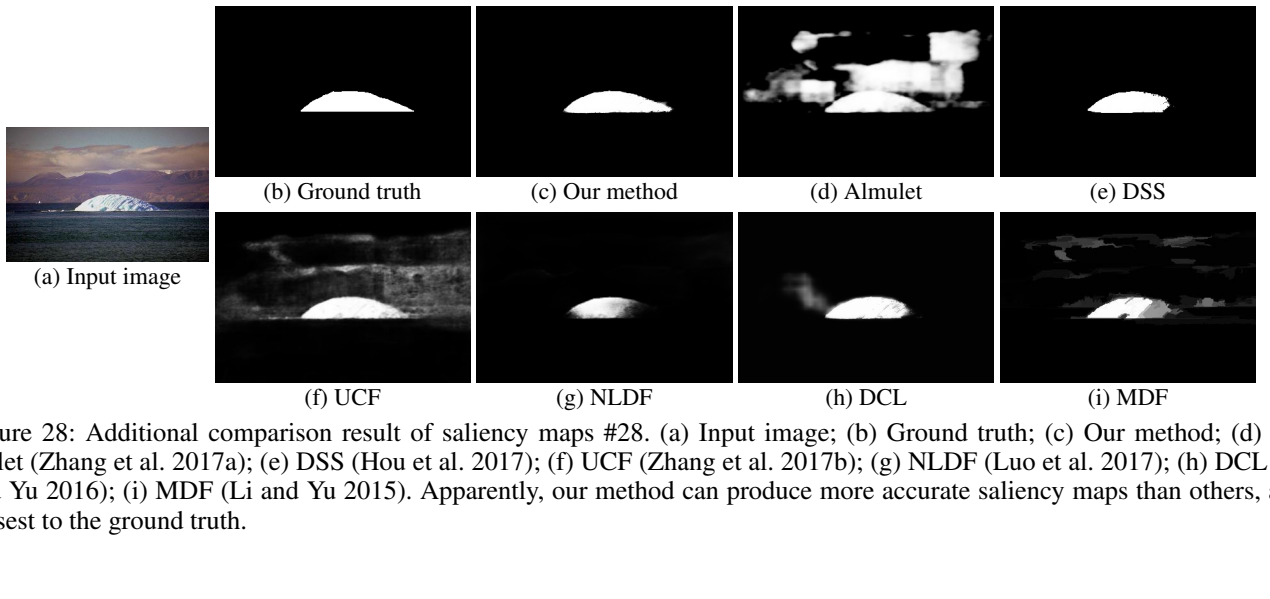
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 26: Additional comparison result of saliency maps #26. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



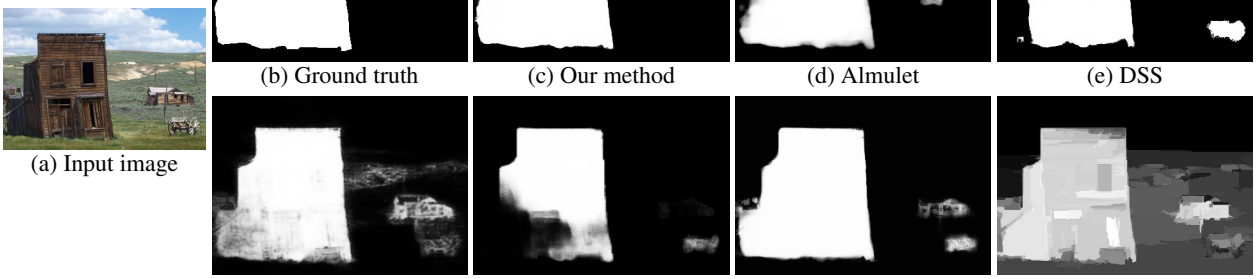
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 27: Additional comparison result of saliency maps #27. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



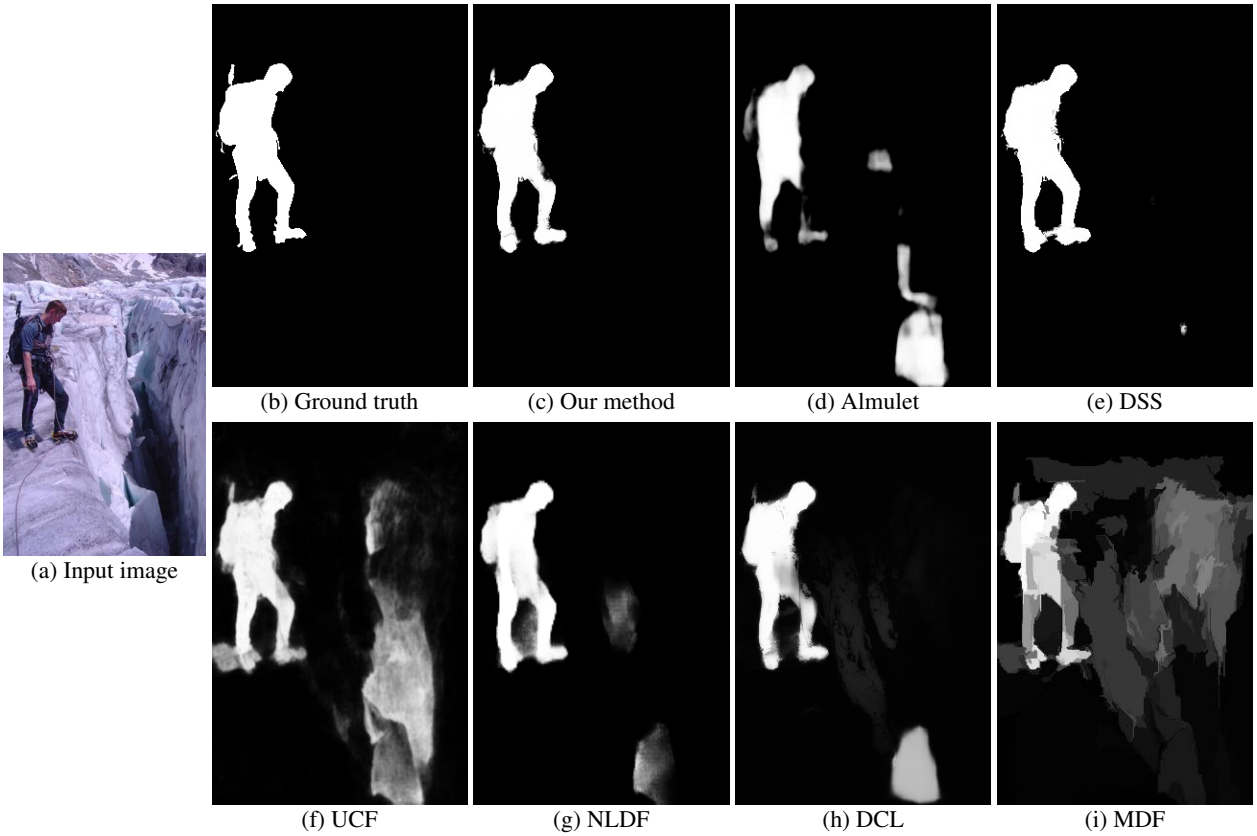
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 28: Additional comparison result of saliency maps #28. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



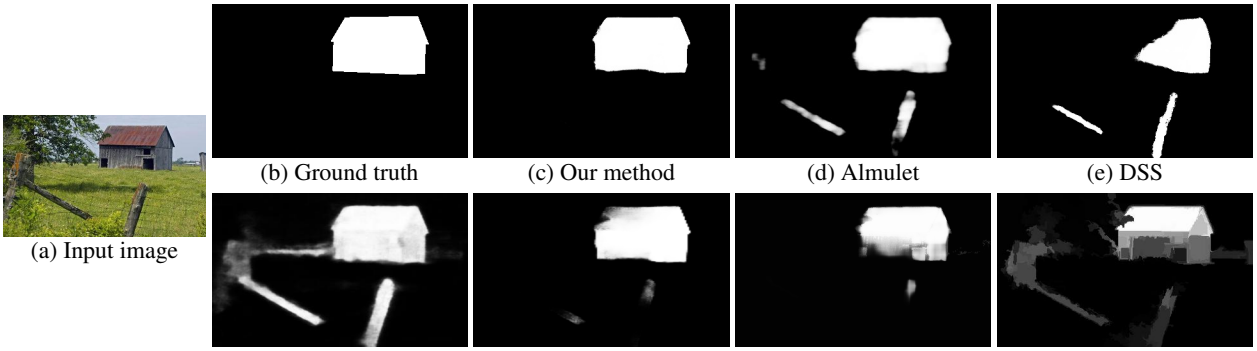
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 29: Additional comparison result of saliency maps #29. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



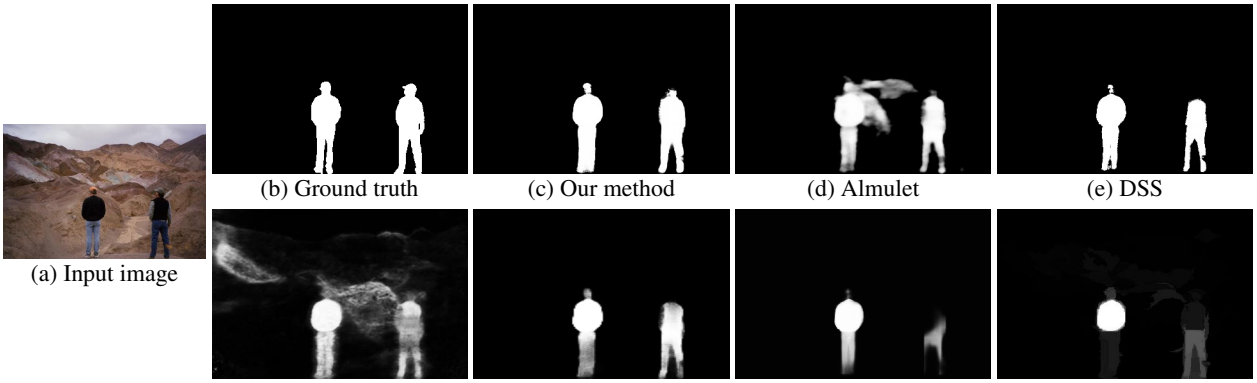
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 30: Additional comparison result of saliency maps #30. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



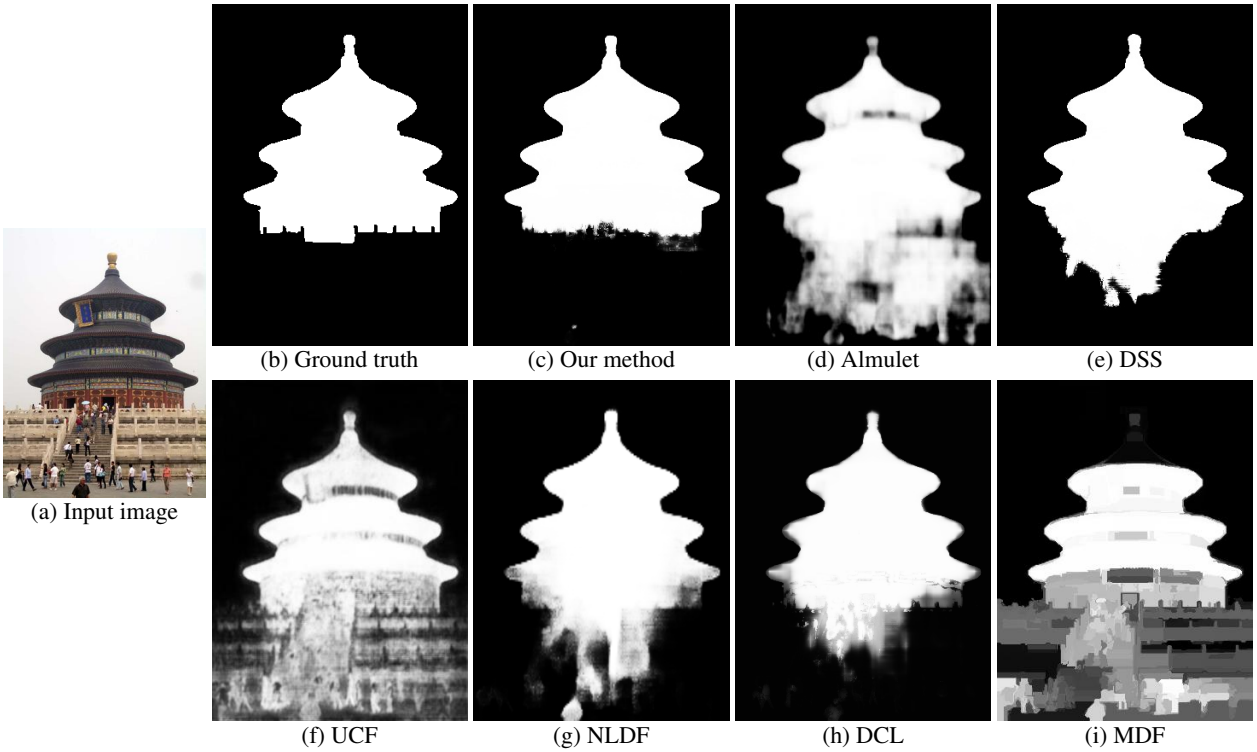
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 31: Additional comparison result of saliency maps #31. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



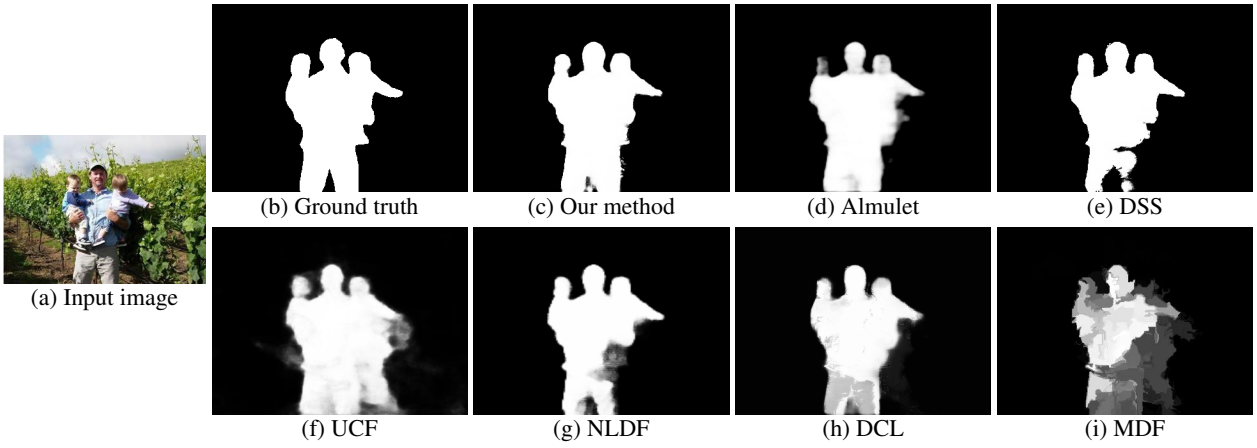
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 32: Additional comparison result of saliency maps #32. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



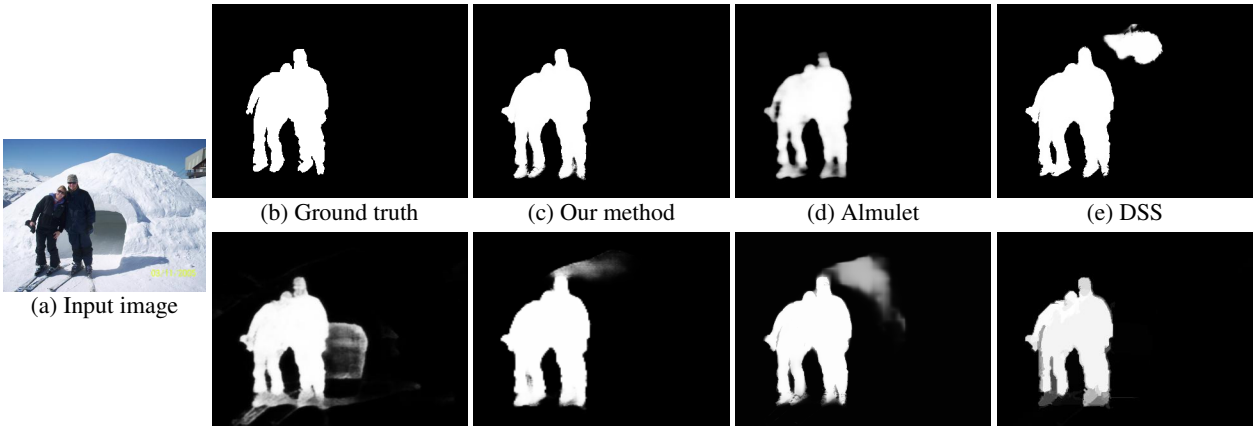
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 33: Additional comparison result of saliency maps #33. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



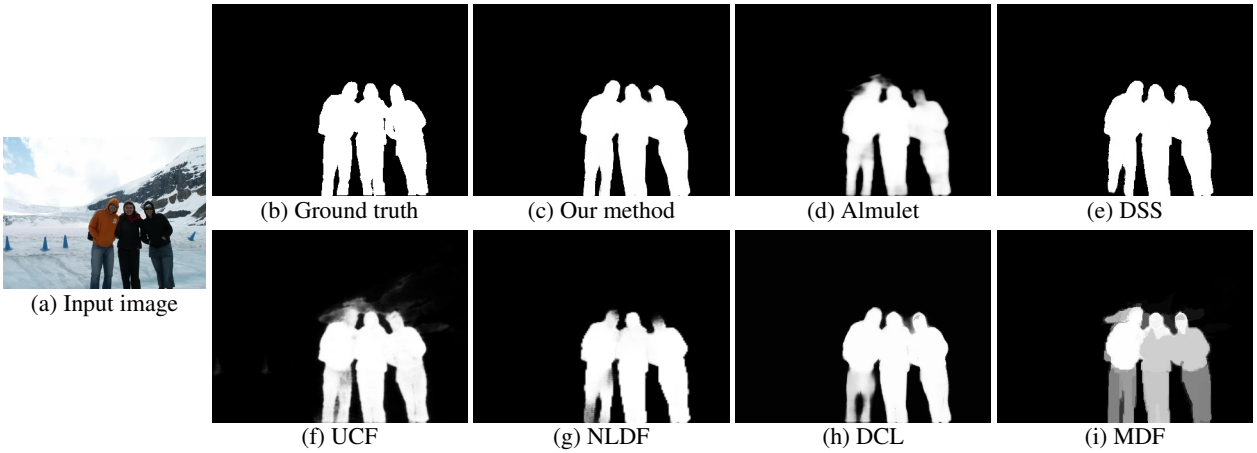
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 34: Additional comparison result of saliency maps #34. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



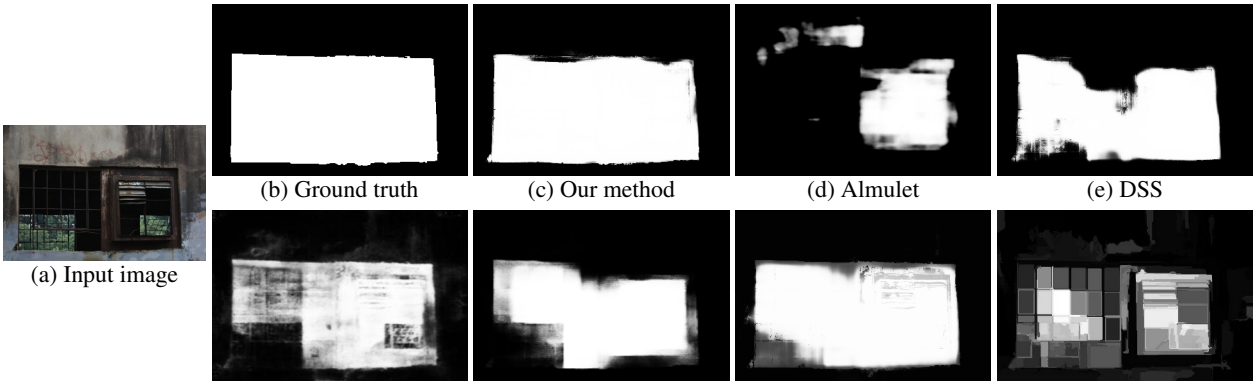
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 35: Additional comparison result of saliency maps #35. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



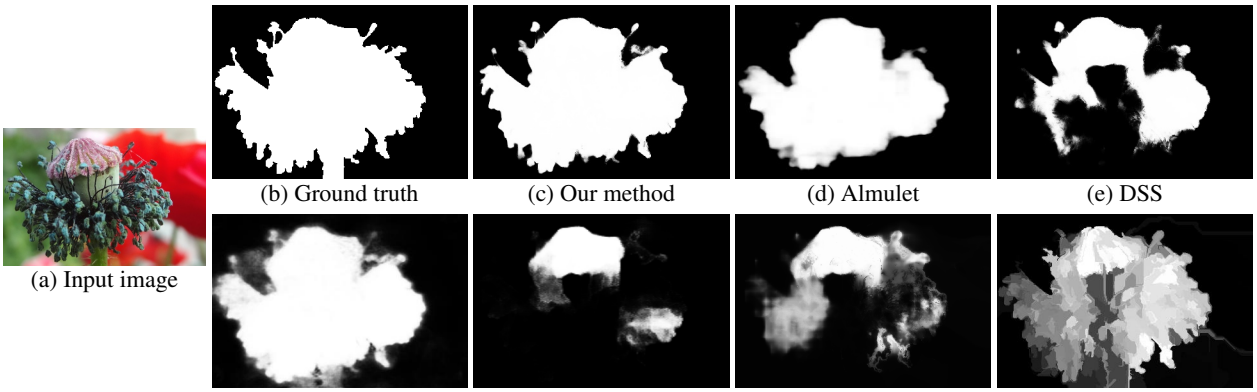
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 36: Additional comparison result of saliency maps #36. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



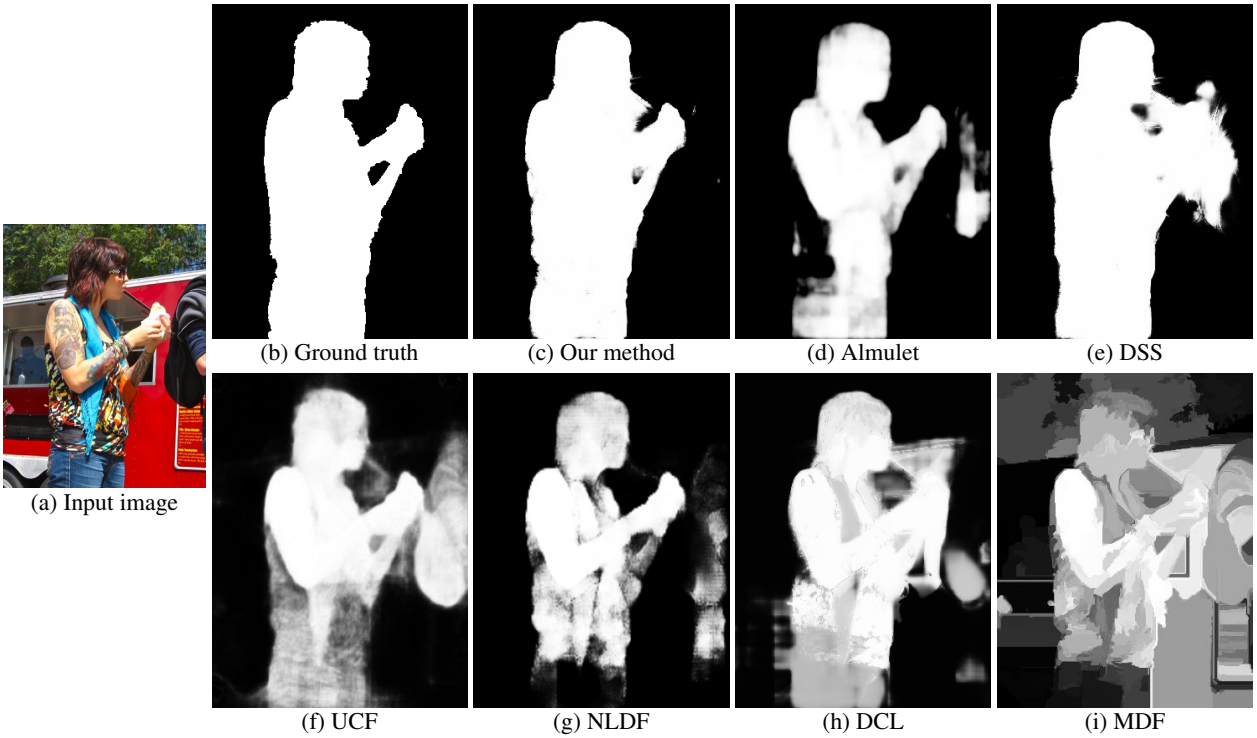
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 37: Additional comparison result of saliency maps #37. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



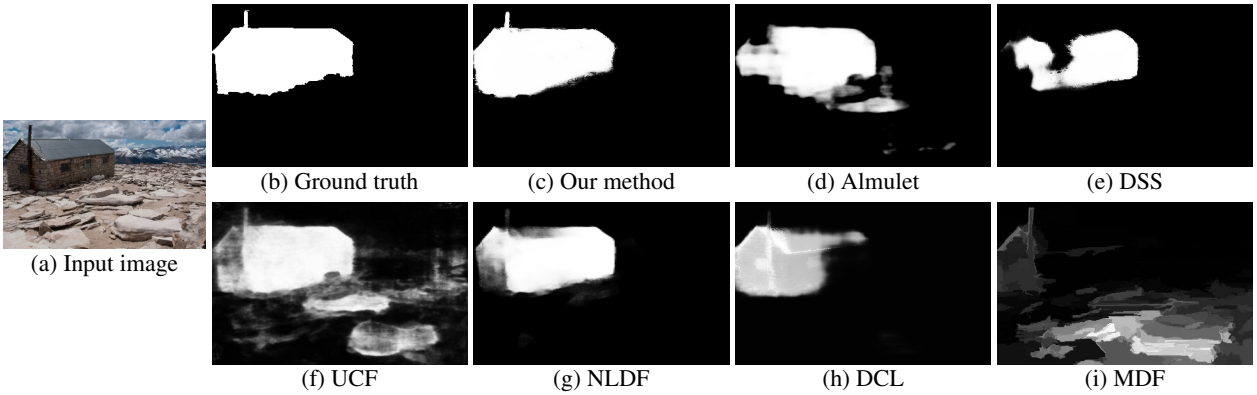
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 38: Additional comparison result of saliency maps #38. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



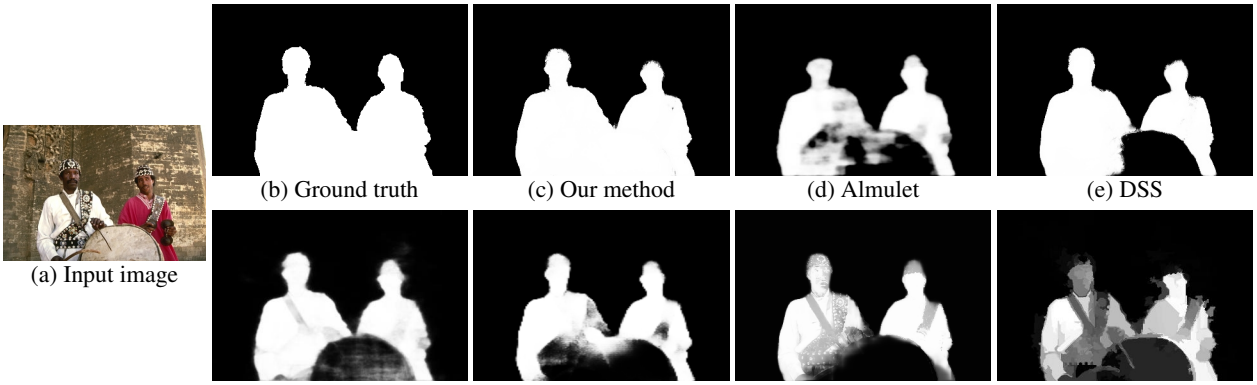
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 39: Additional comparison result of saliency maps #39. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



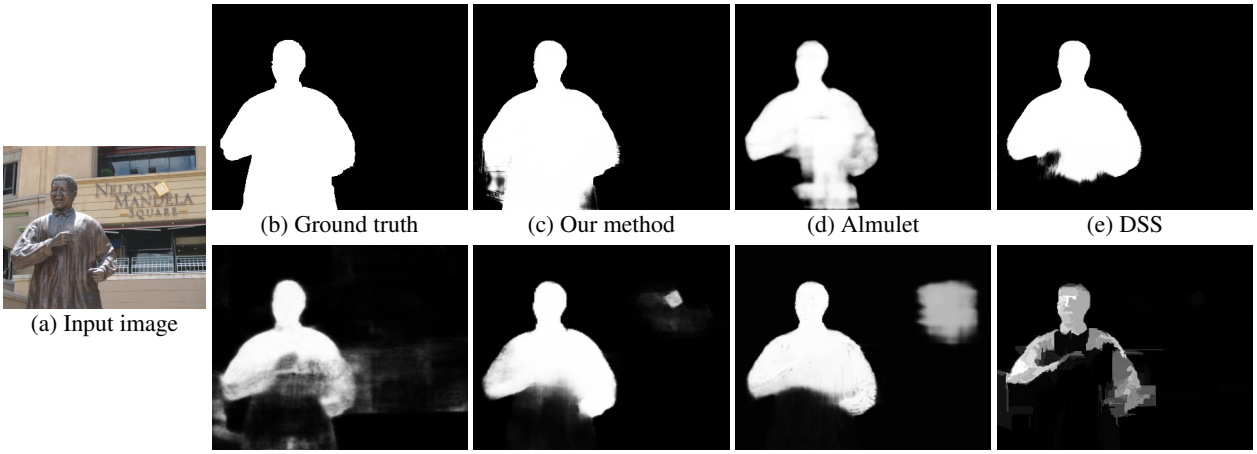
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 40: Additional comparison result of saliency maps #40. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



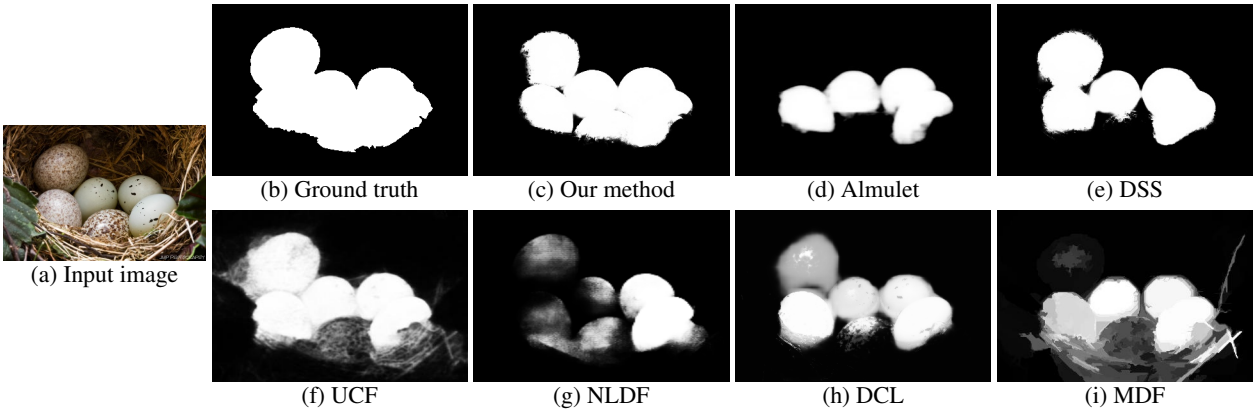
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 41: Additional comparison result of saliency maps #41. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



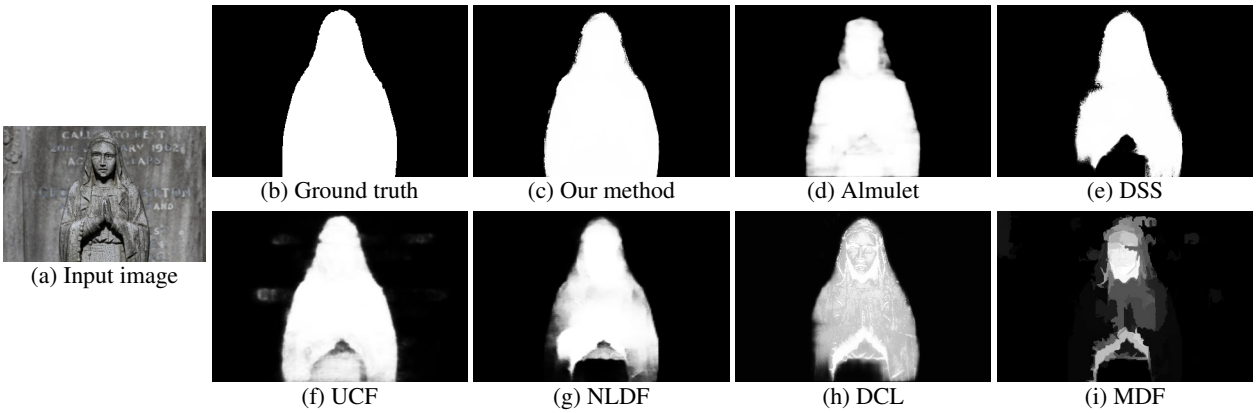
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 42: Additional comparison result of saliency maps #42. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



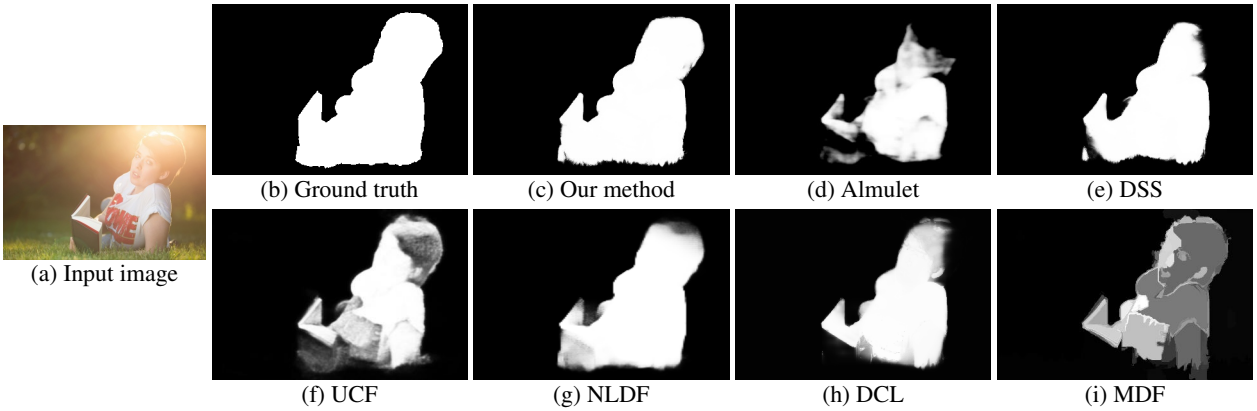
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 43: Additional comparison result of saliency maps #43. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



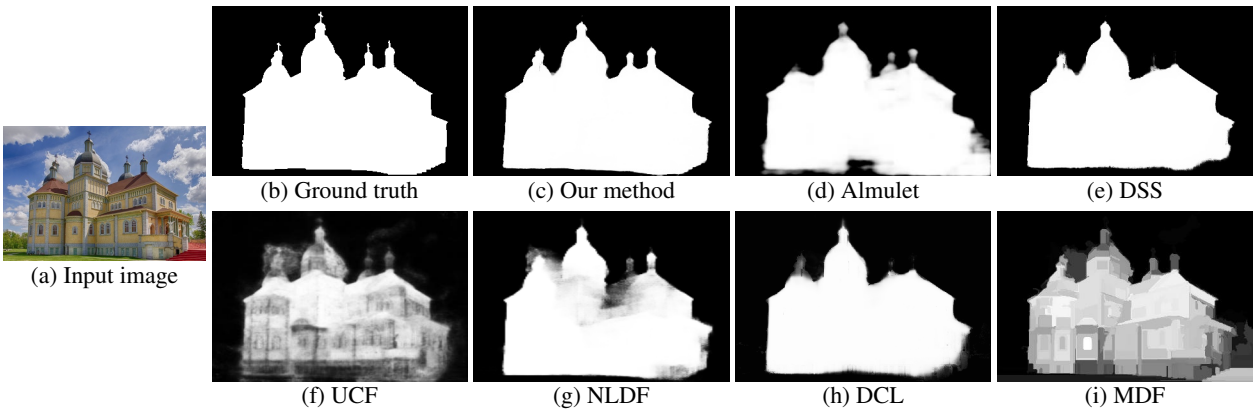
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 44: Additional comparison result of saliency maps #44. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



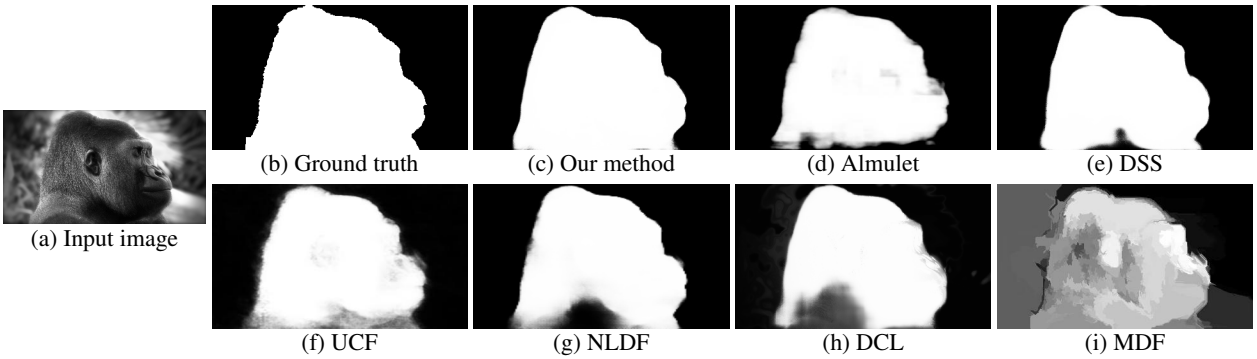
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 45: Additional comparison result of saliency maps #45. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



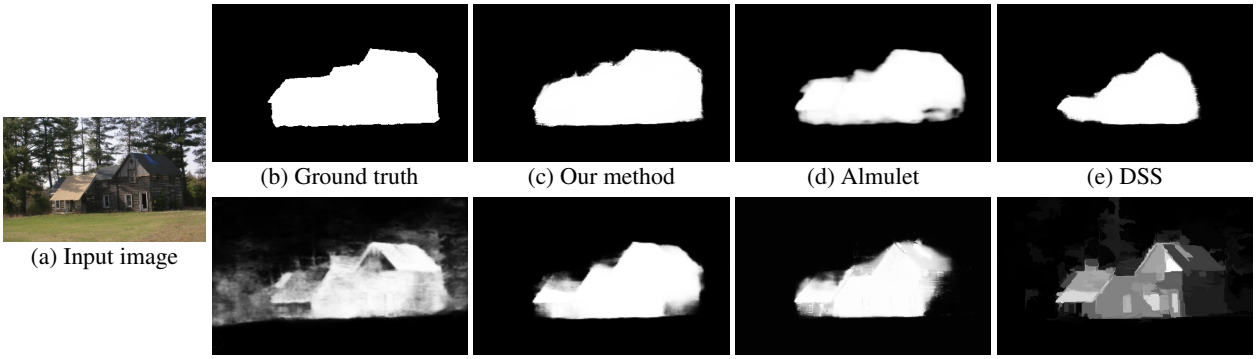
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 46: Additional comparison result of saliency maps #46. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



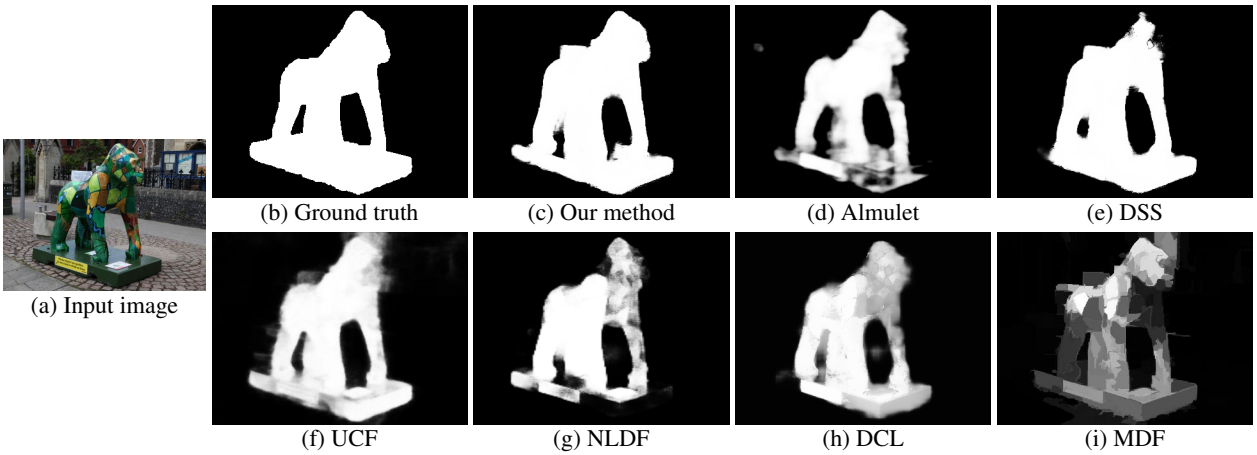
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 47: Additional comparison result of saliency maps #47. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



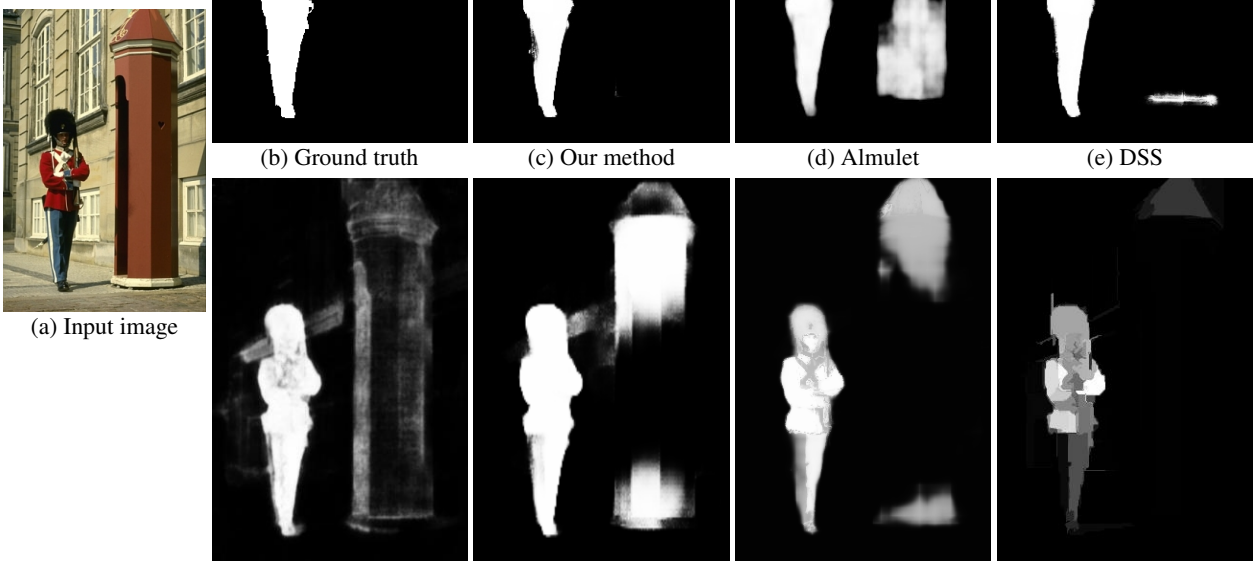
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 48: Additional comparison result of saliency maps #48. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

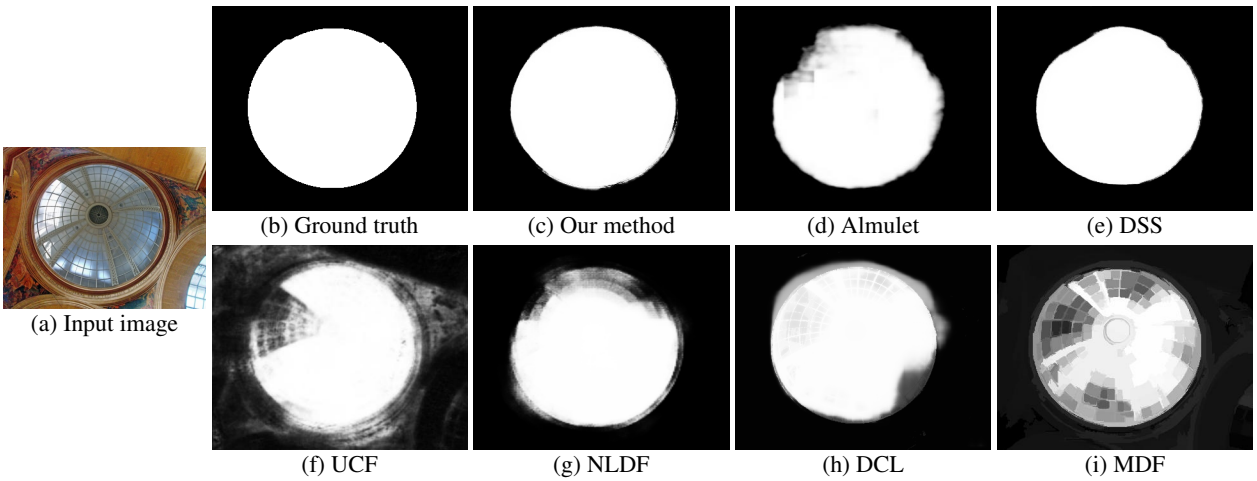
Figure 49: Additional comparison result of saliency maps #49. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS

(f) UCF (g) NLDF (h) DCL (i) MDF

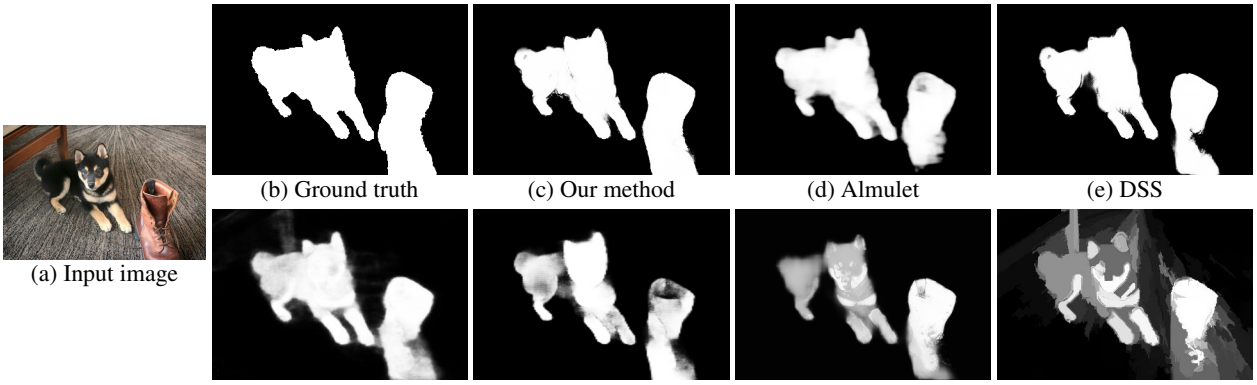
Figure 50: Additional comparison result of saliency maps #50. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS

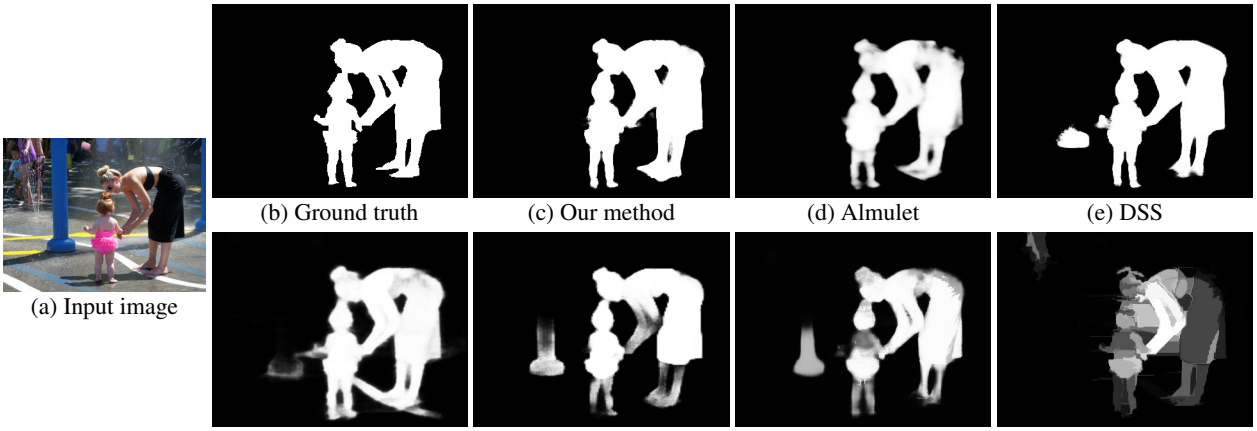
(f) UCF (g) NLDF (h) DCL (i) MDF

Figure 51: Additional comparison result of saliency maps #51. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



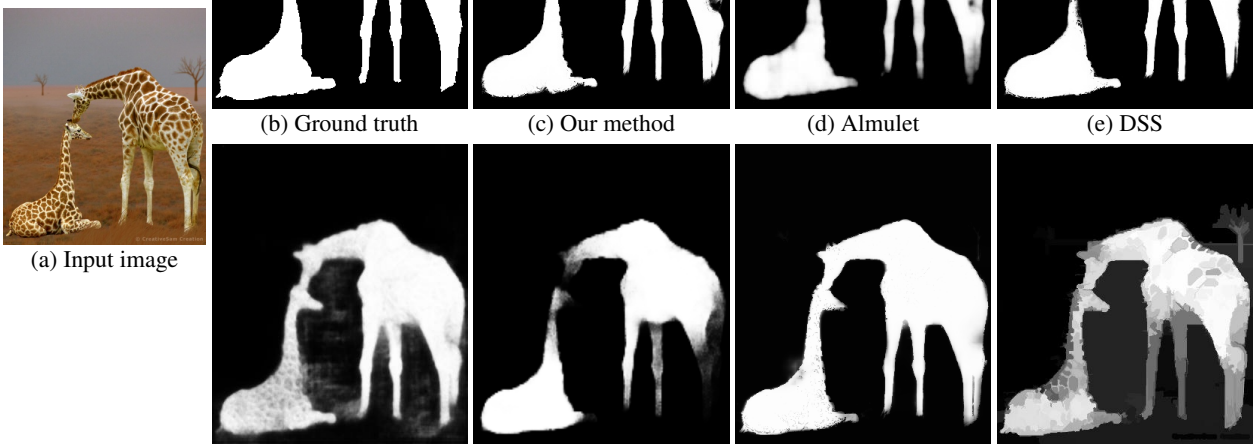
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 52: Additional comparison result of saliency maps #52. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



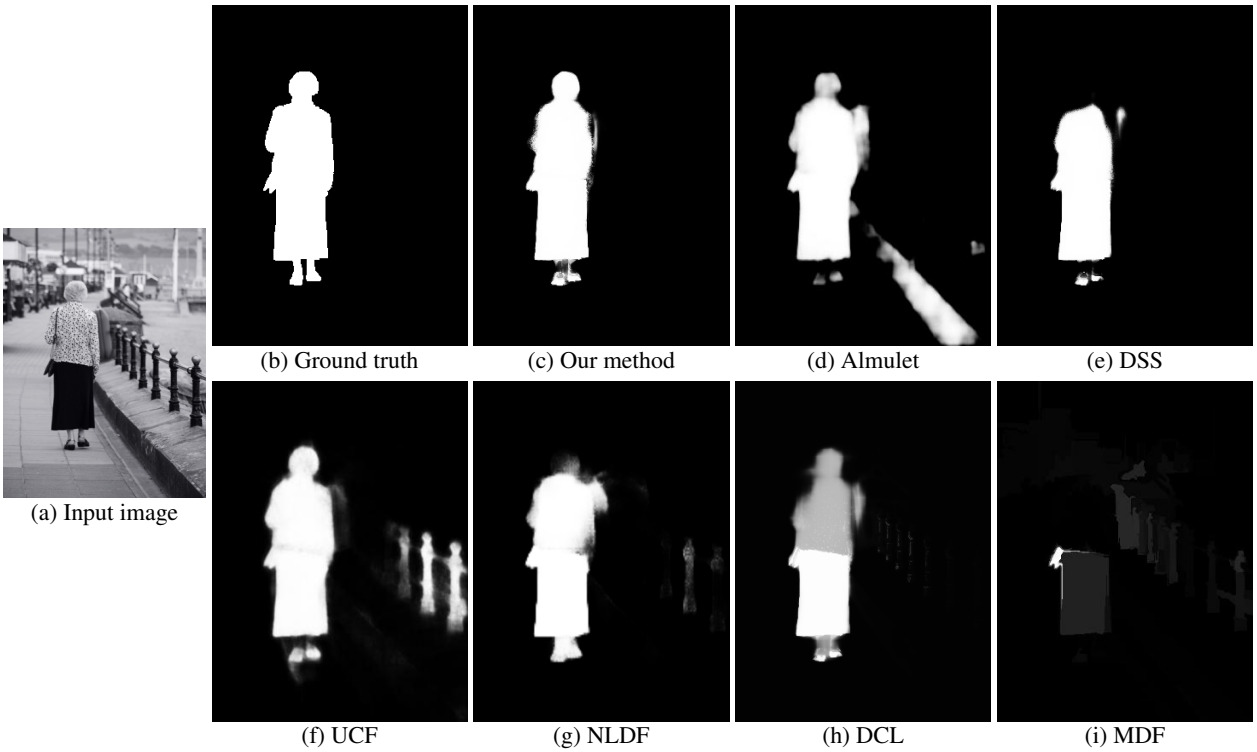
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 53: Additional comparison result of saliency maps #53. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



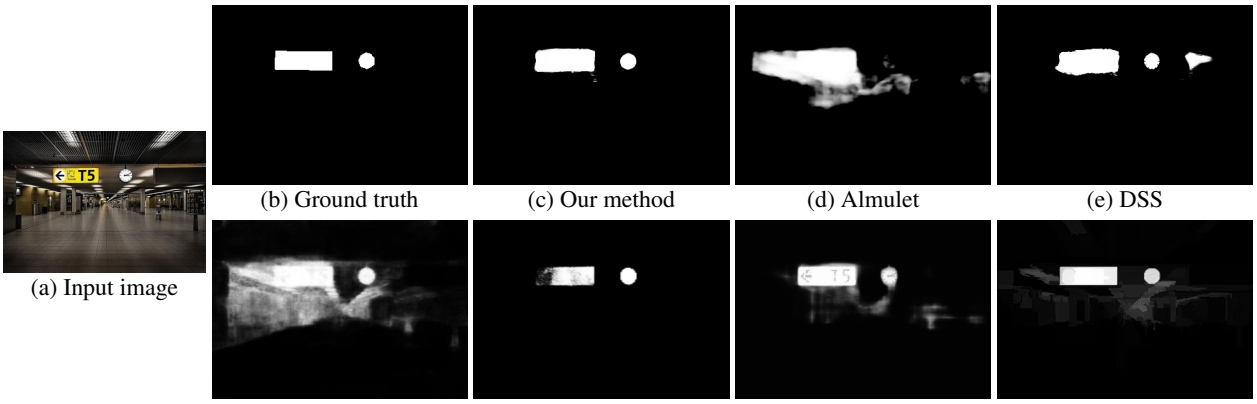
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 54: Additional comparison result of saliency maps #54. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



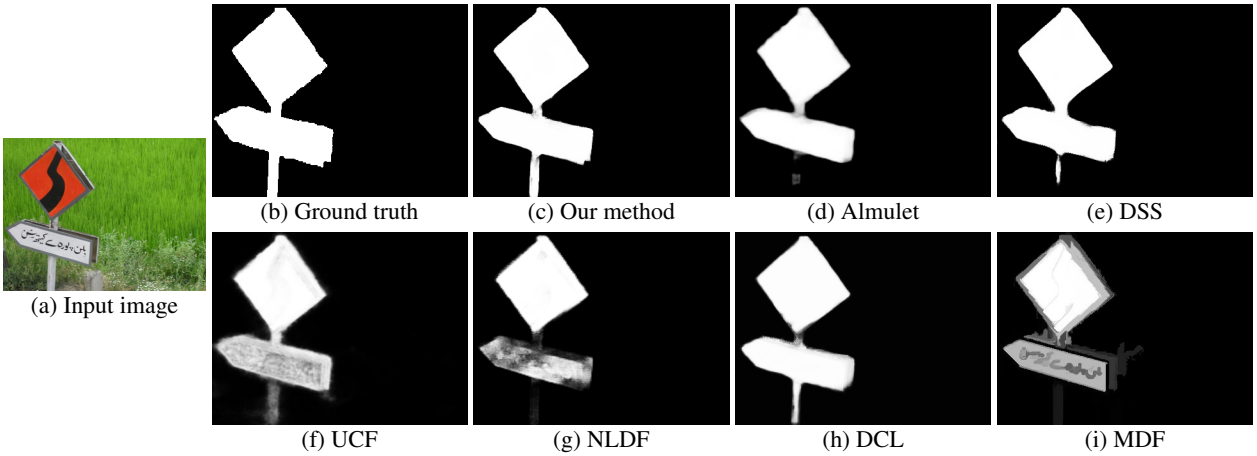
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 55: Additional comparison result of saliency maps #55. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



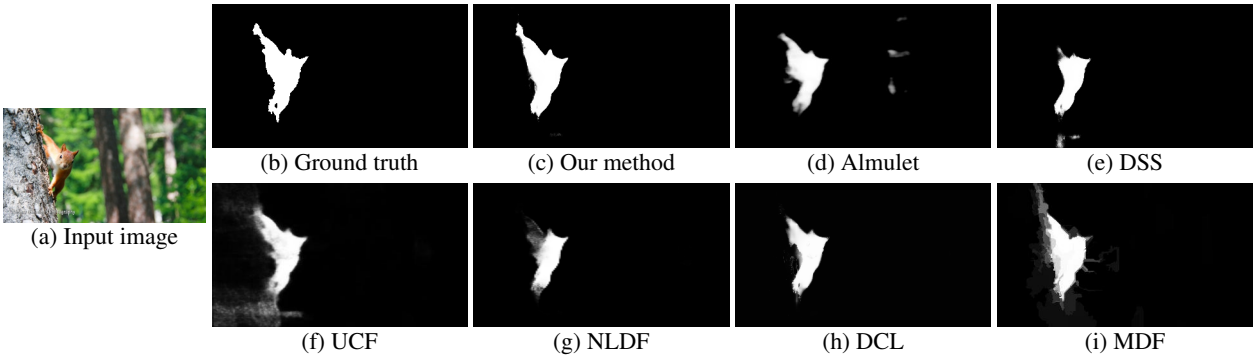
(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 56: Additional comparison result of saliency maps #56. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

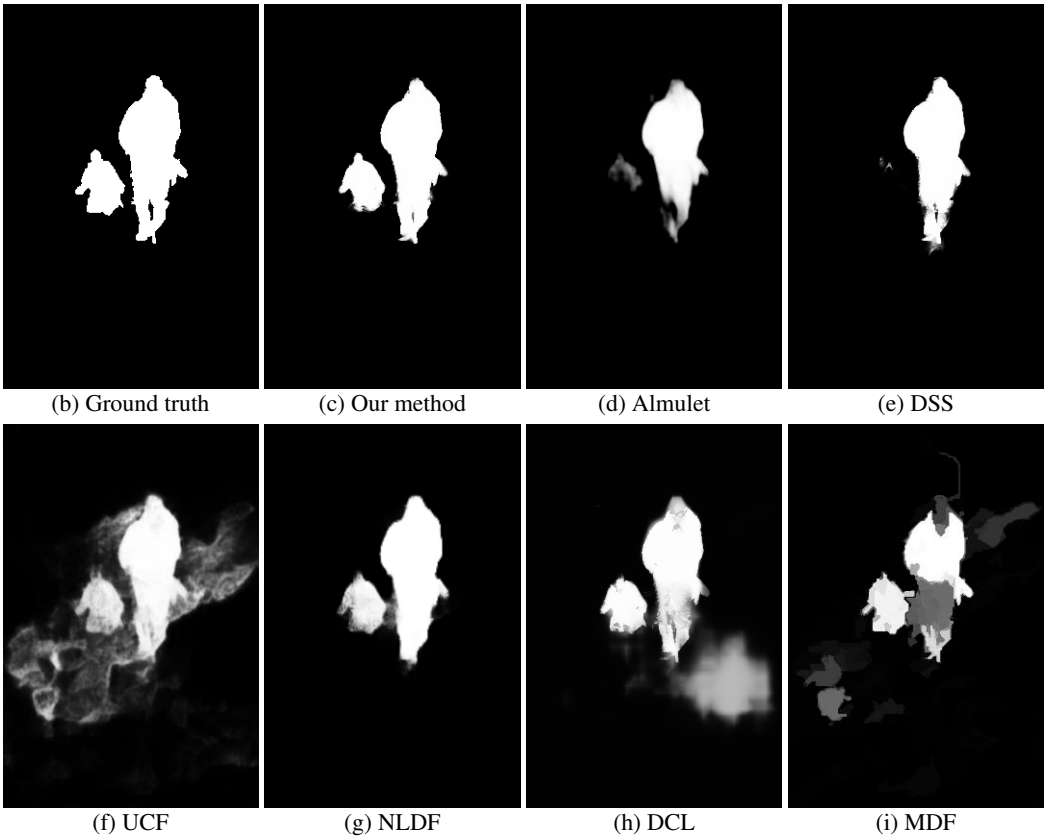
Figure 57: Additional comparison result of saliency maps #57. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.



(a) Input image (b) Ground truth (c) Our method (d) Almulet (e) DSS (f) UCF (g) NLDF (h) DCL (i) MDF

Figure 58: Additional comparison result of saliency maps #58. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.

(a) Input image

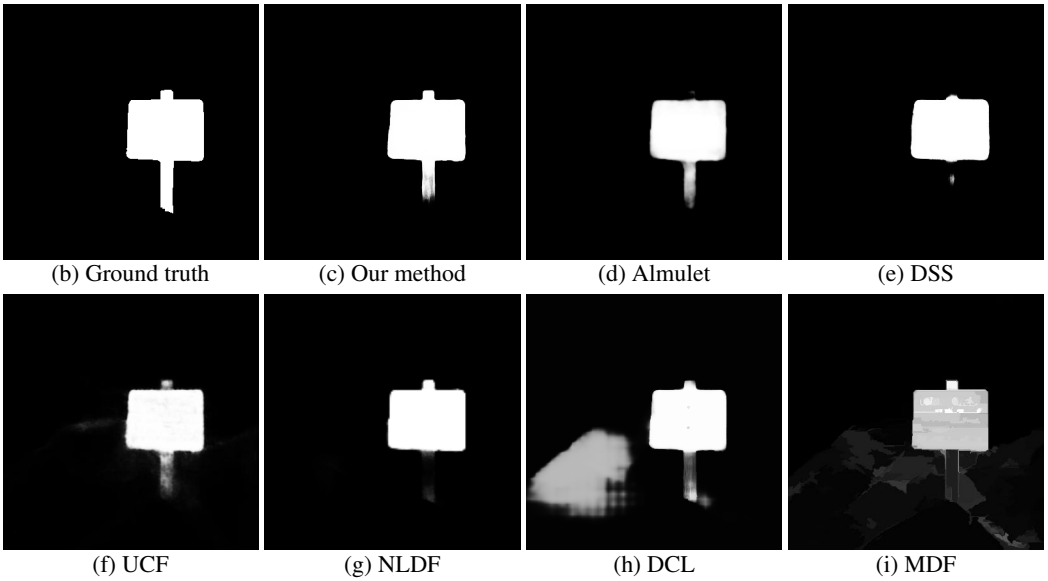


(b) Ground truth (c) Our method (d) Almulet (e) DSS

(f) UCF (g) NLDF (h) DCL (i) MDF

Figure 59: Additional comparison result of saliency maps #59. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.

(a) Input image



(b) Ground truth (c) Our method (d) Almulet (e) DSS

(f) UCF (g) NLDF (h) DCL (i) MDF

Figure 60: Additional comparison result of saliency maps #60. (a) Input image; (b) Ground truth; (c) Our method; (d) Almulet (Zhang et al. 2017a); (e) DSS (Hou et al. 2017); (f) UCF (Zhang et al. 2017b); (g) NLDF (Luo et al. 2017); (h) DCL (Li and Yu 2016); (i) MDF (Li and Yu 2015). Apparently, our method can produce more accurate saliency maps than others, and closest to the ground truth.

References

Hou, Q.; Cheng, M.-M.; Hu, X.-W.; Borji, A.; Tu, Z.; and Torr, P. 2017. Deeply supervised salient object detection with short connections. In *IEEE CVPR*.

Li, G., and Yu, Y. 2015. Visual saliency based on multiscale deep features. In *IEEE CVPR*.

Li, G., and Yu, Y. 2016. Deep contrast learning for salient object detection. In *IEEE CVPR*.

Luo, Z.; Mishra, A.; Achkar, A.; Eichel, J.; Li, S.; and Jodoin, P.-M. 2017. Non-local deep features for salient object detection. In *IEEE CVPR*.

Zhang, P.; Wang, D.; Lu, H.; Wang, H.; and Ruan, X. 2017a. Amulet: Aggregating multi-level convolutional features for salient object detection. In *IEEE ICCV*.

Zhang, P.; Wang, D.; Lu, H.; Wang, H.; and Yin, B. 2017b. Learning uncertain convolutional features for accurate saliency detection. In *IEEE ICCV*.