

Attentional saliency in images

Students pick an image and circle regions that appear to draw attention to themselves: salient regions.

The instructor runs the images through the Itti-Koch saliency algorithm, which marks pixels that ought to jump out at viewers because they represent regions that are different from their surroundings.

[Background and instructions given to students](#)

[Github page for source code](#)

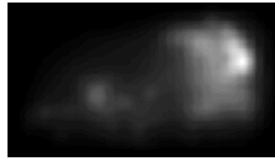
Sample results

The algorithm identifies image regions that stand out based on several basic visual features, including color, intensity and edge orientation.

original image



Itti-Koch saliency map



marked image



saliency map overlaid



most salient (95%ile) parts

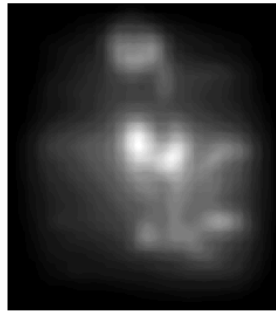


It sometimes appears that the algorithm is picking out complex objects that are similar to what humans ultimately notice ...

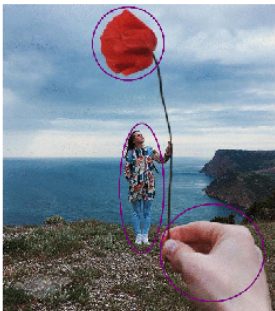
original image



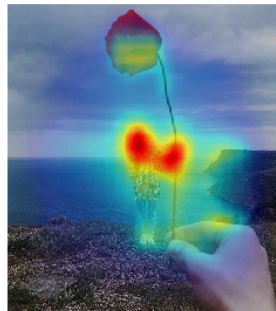
Itti-Koch saliency map



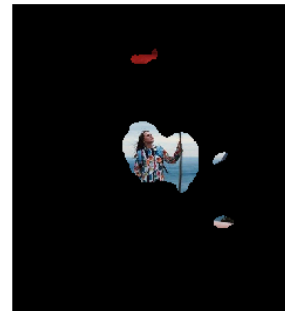
marked image



saliency map overlaid



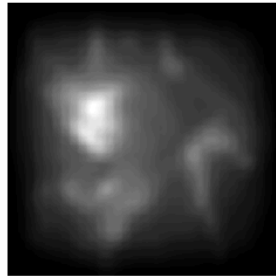
most salient (95%ile) parts



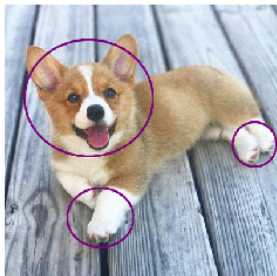
original image



Itti-Koch saliency map



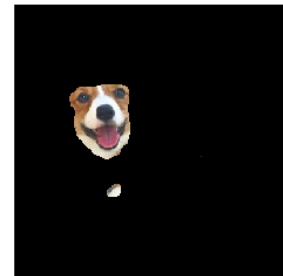
marked image



saliency map overlaid



most salient (95%ile) parts

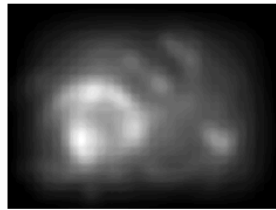


... however, the algorithm actually works in “local” fashion based on small, often meaningless visual differences.

original image



Itti-Koch saliency map



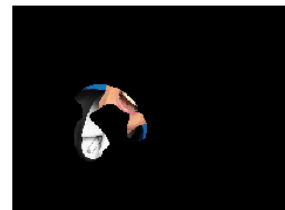
marked image



saliency map overlaid



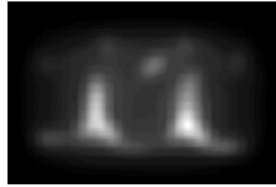
most salient (95%ile) parts



original image



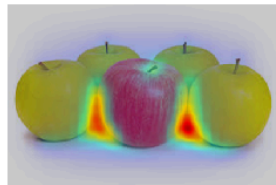
Itti-Koch saliency map



marked image



saliency map overlaid



most salient (95%ile) parts



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Last update: 2019/09/22 08:52

