Detection of partially obscured objects in an image?

Christian **Aug 25**

I'm looking for a way to detect and highlight numerous objects in an image, most of which are obscuring one another in some way. I've brainstormed a few ideas, but I'm unsure if they're worth pursuing or if there's already a reliable and accurate method that can be used to this.

Is there currently an accepted, reliable way to detect and label objects in an image even if they're 80%-90% covered up?

Thanks!

adamslucki **Aug 26**

It seems to be a common case in object detection and it's mentioned at the beginning of module 4. If you already have the whole course available you'll surely find some solutions there.

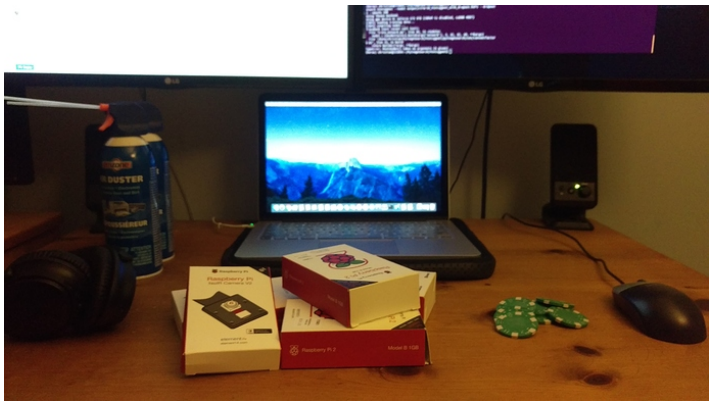
If not you can find some papers about handling occlusions, like this:
http://rodrigob.github.io/documents/2013_iccv_occlusions_with_supplementary_material.pdf

Adrian Chief PyImageSearcher **Aug 26**

Hey **@Christian** -- do you have any example images of the occlusions you're referring to? Occluded objects are by definition a real pain to deal with, so the solution normally depends on the types of objects you're trying to detect.

Christian **Aug 31**

Sorry for the super late response. Here's an example image, where there are 5 RPi boxes stacked on top of one another:



Would there be any reliable way to detect the two boxes underneath the pile?

I'm yet to read through the object detector portion of the course, so apologies if I've missed any glaringly obvious suggestions that you made there. I'm playing around with deep learning and want to find a way to segment objects from the foreground. Once I'm done with image classifiers and deep learning, I'll be moving onto object detection. Thanks!

Adrian Chief PyImageSearcher **Sep 1**

For objects that are very obscured such as the ones in your example image, I would suggest applying keypoint matching. You should have initial template images of your Raspberry Pi box under as many viewing angles as you can. And then from there, take your template and apply keypoint matching to your input image in an attempt to find each of the boxes.

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Given how much these Pi boxes overlap though, I don't think you would be able to detect more than 3 of them in that particular image.

Christian **Sep 1**

Alright, thanks! I'll definitely give that a try and let you know how it goes.