SK LEARN CANNY EDGE DETECTOR22

<https://scikit-image.org/docs/dev/auto_examples/edges/plot_canny.html>

<https://scikit-image.org/docs/dev/api/skimage.feature.html#skimage.feature.canny>

For the gradient direction, using np.arctan results in divide by zero errors, is np.arctan2 okay to use?

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[Sarmishta Velury](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [1 day ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#)

You can use either np.arctan() or np.arctan2(). Note that they many give different angles for the same set of values. If you use np.arctan(), you should find a way to deal with 0s in the denominator.



[Anonymous Poet](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [2 days ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#)

Is there a limitation as to which python modules we can use? Or are we expected to create the edge detection process ourselves?

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[Anonymous Scale](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [2 days ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#)

I believe we can use something like the canny edge detector, which was recommended in the hints section of the assignment.

[Mitchell Stasko](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [1 day ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) Is it common for gradient based circle detection to have less accuracy than when no gradient is used?

There can be slight differences in their results, but it shouldn't be big enough for one to be wrong. Could you explain a little bit about what you mean when you are talking about less accuracy? Is it in terms of the centers or radii or something else?

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[Mitchell Stasko](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [1 day ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) I can make a private Piazza post if you'd like to visualize what I'm saying but when doing circle detection on the egg with useGradient set to false, three perfect circles of the radius are detected. Whereas with useGradient set to true, with the same parameters, 14 "circles" are selected with only 4 being truly correct. (This is some of the best results I've had for the egg. Jupiter was way more in line between using gradient and not using gradient)

[Venkata Subramanian](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [3 hours ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) Yes. It can vary depending on the image.

[Mitchell Stasko](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) [3 hours ago](https://piazza.com/class/kc9rvqsx8j813d?cid=296#) Oh phew that's awesome news to hear. Thank you so much!