Numpy matrix rotation for any degrees

Asked 3 years, 1 month ago Active 1 year, 6 months ago Viewed 16k times



I try to find a way to apply a matrix rotation of any degrees on my matrix that contains three bands like RGB but values are bigger than (0-255).

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It is an example of my data its shape is (100, 100, 3):



1

```
[[ 847.5 877. 886. ... 821.5 856.5 898. ]
[ 850. 883. 969.5 ... 885. 878.5 947.5]
[ 982. 968.5 927.5 ... 909.5 958. 1037. ]
...
[ 912. 827. 893. ... 1335. 1180. 1131. ]
[ 954. 855.5 882. ... 1252. 1266. 1335. ]
[ 984. 916. 930. ... 1080.5 1278. 1385.5]
```

I found a function <code>scipy.misc.imrotate(image_array, 20)</code> but the problem is this function rescales my data to the range (0-255), thus I loose information of my original matrix. Is there a function that does the same job as the previous one without rescaling data?

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python numpy matrix Edit tags
```

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Why not implement matrix rotation - cvanelteren Nov 6 '18 at 11:55

2 Answers





You might want to try open CV's <u>warpAffine()</u>. It allows for rotation and translation of the image.





Depending on your choice of interpolation method you might have some changes to your values thoug.

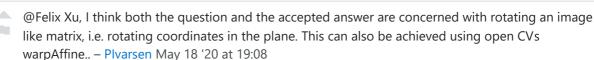


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edited May 18 '20 at 19:08

answered Nov 6 '18 at 11:48







Have you tried rotate function from scipy.ndimage.interpolation?

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import numpy as np
from scipy.ndimage.interpolation import rotate



x = np.random.randint(800, 1000, size=[100, 100, 3])
rotated = rotate(x, angle=45)



It does rotate matrix without scaling the values.

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edited Dec 26 '19 at 13:39

Mark Dickinson

26.4k 9 74 110

answered Nov 6 '18 at 12:08



- Thanks, it seems that it achieves what I want. To keep the same shape as the input i.e (100,100,3) I just need to add an extra parameter which is rotate(x, angle=45, reshape=False) Loic L. Nov 6 '18 at 13:40
 - This rotate operation from scipy changes the intensity values of objects, I just checked and compared with the ones obtained from PIL.Image.rotate. I am trying to avoid PIL. samra irshad Aug 16 '20 at 10:16