

Image Processing

Home work 04

Blure Image

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The code used for this task :

```
1 import cv2
2 import numpy as np
3 from math import pow
4
5
6 def showing(img):
7     cv2.namedWindow("test", cv2.WINDOW_NORMAL)
8     img = np.array(img, dtype=float)/float(255)
9     cv2.imshow('test',img)
10    cv2.resizeWindow('test',600,600)
11    cv2.waitKey(0)
12
13 def reading(name):
14     return cv2.imread(name,0)
15
16 #Read The image
17 mypic = reading('mypicture.jpg')
18 resized = cv2.resize(mypic,(512,512),interpolation=cv2.INTER_LANCZOS4)
19 cv2.imwrite('mypicture-resized.jpg',resized )
20 for i in range(4,10):
21     limit = int(pow(2,i))
22     imageresize = np.copy(resized)
23     imageresize[0:limit,0:limit] = cv2.GaussianBlur(resized[0:limit,0:limit] ,(5,5) ,30)
24     cv2.imwrite('blurred-piece-by-piece'+str(limit)+'.jpg',imageresize)
25
```

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The original picture :



Fig. 1: Original picture (429X592)



Fig. 2: Image after resizing (512X512) using lanczos 4 Scaled 0.9 to fit Page



Fig. 3: Only top left 16X16 blurred



Fig. 4: Only top left 32X32 blurred



Fig. 5: Only top left 64X64 blurred



Fig. 6: Only top left 128X128 blurred



Fig. 7: Only top left 256X256 blurred



Fig. 8: Only top left 512X512 blurred

Note: The home work files,images,python code etc.. exist at github