

Computer Vision Lab

Assignment 3

1. Write a program with OpenCV to load an image, implement a mouse click event, and retrieve the coordinate along with the colour values of the clicked position on the image.
2. Write a program with OpenCV to perform various geometric transformations, such as
 1. Image scaling (use different interpolations like Cubic, Linear, Nearest-neighbours, Area and sinusoidal)
3. Write a program with OpenCV to read an image, and apply an affine transformation, and display both the original and transformed images.
 - a. To translate it, 20 pixels in the x-axis and 30 pixels in the y-axis.
 - b. Rotation with 30°
4. Write a program with OpenCV to read an image and apply a Motion blur to it using the filter shown in the image below. Display both the original image and the blurred image.

	0	0	0	0	0
	0	0	0	0	0
$\frac{1}{5}$	1	1	1	1	1
	0	0	0	0	0
	0	0	0	0	0

Some Useful Commands:

`cv2.namedWindow('Image')`

`cv2.setMouseCallback('Image', own_function)`

`cv2.EVENT_LBUTTONDOWN`

`cv2.line, cv2.rectangle, cv2.polylines, cv2.circle, cv2.putText`

`interpolation=cv2.INTER_LINEAR`

`cv2.warpAffine`

`cv2.getRotationMatrix2D`