Manara university
Engineering college

Faculty of Informatics engineering

Computer vision

2025 - 2026

Lab session 1: Basics of the image

Tasks:

1. Install opencv-python
2. Install numpy
3. Install matplotlib
4. Import cv2 to python IDE
5. Read image P1 using (cv2.imread)
6. Get the dimension of the images using (img.shape)
7. Display the dimension on the screen using (print)
8. Display the image P1 using (cv2.imshow)
9. Import numpy as np
10. Import matplotlib.pyplot as plt
11. Read image P2 using (cv2.imread)
12. Display the image P2 using (plt .imshow)
13. Convert image P1 from BGR into RGB representation using cv2.cvtColor(img, cv2.COLOR_BGR2RGB) and save it as P1_rgb image
14. Convert image P2 from color into gray level using cv2.imread (path, cv2.IMREAD_GRAYSCALE) and save it as P2_g image
15. write (P1_rgb) and (P2_g) images and export them as (P1_rgb_w) and (P2_g_w) using cv2.imwrite(path, img)

syntaxes:

 # read and write an image:

cv2.imread('path\name.form', 1)

cv2.imread ('path\name.form', cv2.IMREAD_GRAYSCALE)

cv2.imwrite('path\name.form', img_array)

 # converting a color image into RGB sequence:

cv2.cvtColor(img, cv2.COLOR_BGR2RGB)

cv2.imshow()	plt.imshow(img)	To display the image
cv2.waitKey(0)	plt.waitforbuttonpress()	To keep the window opened
cv2.destroyAllWindows()	plt.close('all')	To close all windows

Code:

```
import cv2
import numpy as np
import matplotlib.pyplot as plt


img1 = cv2.imread("P1.jfif", cv2.IMREAD_COLOR)
shape = img1.shape
print(shape)
img2=cv2.imread("P2.jfif", 0)
RGB_img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
Img3 = cv2.imread(path, cv2.IMREAD_GRAYSCALE)
print(img3.shape)
cv2.imwrite(' \\P1w.jpeg', img3)
cv2.imshow("image P1", img1)
cv2.waitKey(0)
cv2.imshow('image', img3)
cv2.waitKey(0)
cv2.destroyAllWindows()
plt.imshow(img2)
plt.waitforbuttonpress()
plt.imshow(RGB_img)
plt.waitforbuttonpress()
plt.close('all')
```