Libraries for Computer Vision

Libraries

OpenCV(opencv-python)

Numpy

matplotlib

pillow(PIL)

sklearn(scikit learn)

skimage(scikit image)

scipy

Installation & import

pip install <lib name>

conda install <lib name>

find more installation instruction in their official website

```
import cv2

import numpy as np

import matplotlib.pyplot as plt
```

Image I/O

img = cv2.imread(path, arg)

cv2.IMREAD_COLOR / cv2.IMREAD_GRAYSCALE

cv2.imwrite(path,img)

shape of the image: [H, W, C](c=1 or 3)

type of the image: numpy: ndarray

Show image

cv2:

cv2.imshow(window_name, img)

cv2.waitKey(0)

pillow:

img = PIL.from_array(img)

img.show()

matplotlib:

plt.imshow(img,cmap)

plt.show()

make sure the data type and structure of your image is correct! (int[0,255])

cv2.cvtColor(img,code)

img = img.astype(np.uint8)

Reference sites

OpenCV: OpenCV modules

API Reference — Matplotlib 3.8.0 documentation

Image Module - Pillow (PIL Fork) 10.0.1 documentation