

ENGR 3421: ROBOTICS I

RaspberryPi Camera

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Outline

RaspberryPi Camera

OpenCV



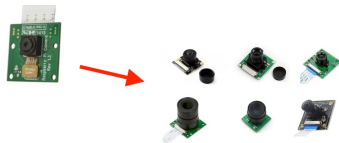
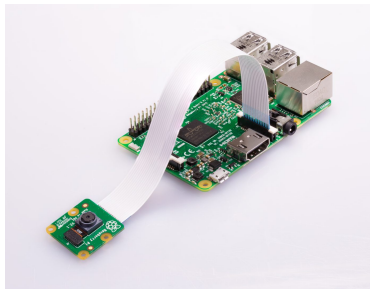
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RaspberryPi Camera



picamera Library

Refer to the [tutorial](#) and the official [documents](#).

```
from picamera import PiCamera
from time import sleep

camera = PiCamera()

camera.start_preview()
sleep(5)
camera.stop_preview()
```



Outline

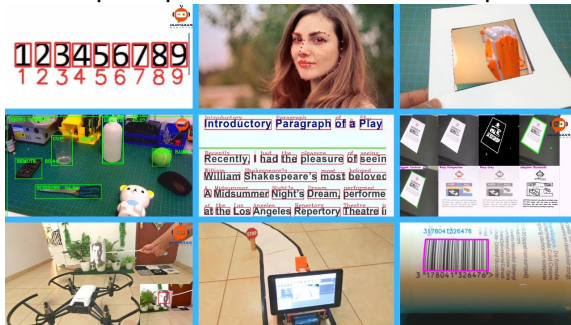
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OpenCV

OpenCV (Open Source Computer Vision Library) is an open source computer vision and machine learning software library. OpenCV was built to provide a common infrastructure for computer vision applications and to accelerate the use of machine perception in the commercial products.



OpenCV Video Capturing

```
import cv2

cap = cv2.VideoCapture(0)
cap.set(cv2.CAP_PROP_FRAME_WIDTH,640)
cap.set(cv2.CAP_PROP_FRAME_HEIGHT,480)
cap.set(cv2.CAP_PROP_FPS, 24)
for i in range(1000):
    ret, img = cap.read()
    # show the frame
    cv2.imshow("Frame", img)
    key = cv2.waitKey(1) & 0xFF
    # if the `q` key was pressed, break from the loop
    if key == ord("q"):
        break
cap.release()
cv2.destroyAllWindows()
```

