5. OpenCV pixel operation

3.1. Pixel operation

We can change the pixel color at any position to a new one. Here we first read the image and then assign an area to white.

3.2. Actual effect display

Code path:

/home/pi/DOGZILLA_Lite_class/4.Open Source CV/A.introduction/Introduction_to_OpenCV/05_OpenCV_Pixel_Ops.ipynb

```
import cv2

img = cv2.imread('yahboom.jpg',1)
(b,g,r) = img[100,100]
print(b,g,r)# bgr
#10 100 --- 110 100
i=j=0
for j in range(1,500):
    img[i,j] = (255,255,255)
    for i in range(1,500):
        img[i,j] = (255,255,255)

# cv2.imshow('image',img)
# cv2.waitKey(0) #1000 ms
```

```
#bgr8 to jpeg format
import enum
import cv2

def bgr8_to_jpeg(value, quality=75):
    return bytes(cv2.imencode('.jpg', value)[1])
```

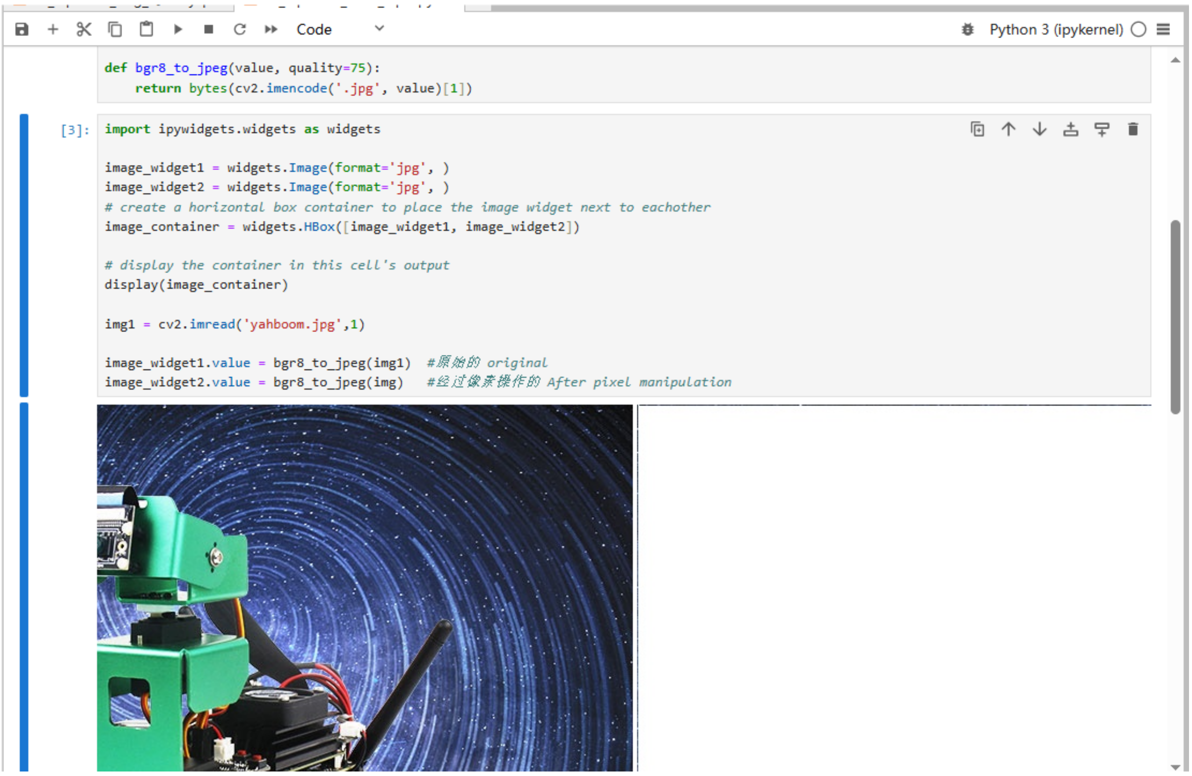
```
import ipywidgets.widgets as widgets

image_widget1 = widgets.Image(format='jpg', )
image_widget2 = widgets.Image(format='jpg', )
# create a horizontal box container to place the image widget next to eachother
image_container = widgets.HBox([image_widget1, image_widget2])

# display the container in this cell's output
display(image_container)

img1 = cv2.imread('yahboom.jpg',1)
```

```
image_widget1.value = bgr8_to_jpeg(img1)  #Original
image_widget2.value = bgr8_to_jpeg(img)   #After pixel manipulation
```



```
def bgr8_to_jpeg(value, quality=75):
    return bytes(cv2.imencode('.jpg', value)[1])
```

```
[3]: import ipywidgets.widgets as widgets

     image_widget1 = widgets.Image(format='jpg', )
     image_widget2 = widgets.Image(format='jpg', )
     # create a horizontal box container to place the image widget next to eachother
     image_container = widgets.HBox([image_widget1, image_widget2])

     # display the container in this cell's output
     display(image_container)

     img1 = cv2.imread('yahboom.jpg',1)

     image_widget1.value = bgr8_to_jpeg(img1)  #原始的 original
     image_widget2.value = bgr8_to_jpeg(img)   #经过像素操作的 After pixel manipulation
```