Image cutting

Image cutting first reads the image, and then obtains the pixel area in the array. In the following code, select the shape area X: 300-500 Y: 500-700. Note that the image size is 800*800, so the selected area should not exceed this resolution.

- Start Docker

After entering the Raspberry Pi 5 desktop, open a terminal and run the following command to start the container corresponding to Dofbot:

```
./Docker_Ros.sh
```

Access Jupyter Lab within Docker:

```
IP:9999 // Example: 192.168.1.11:9999
```

Code path:/root/Dofbot/4.opencv/2.Transform/02_cut_pic.ipynb

```python
import cv2
img = cv2.imread('yahboom.jpg', 1)
dst = img[500:700,300:500] #Select the rectangular area X: 300-500 Y: 500-700
#cv2.imshow('image',dst)

#cv2.waitKey(0)
```

The following will display two compressed image comparison displays in the jupyterLab control.

```python
#bgr8 to jpeg format
import enum
import cv2
def bgr8_to_jpeg(value, quality=75):
    return bytes(cv2.imencode('.jpg', value)[1])
```

Compare the before and after images below:

```python
import ipywidgets.widgets as widgets
image_widget1 = widgets.Image(format='jpg', )
image_widget2 = widgets.Image(format='jpg', )
# display the container in this cell's output
display(image_widget1)
display(image_widget2)
img1 = cv2.imread('yahboom.jpg',1)

image_widget1.value = bgr8_to_jpeg(img1) #Original image
image_widget2.value = bgr8_to_jpeg(dst) #Cut image
```

After the program is finished running, you can see that some parts have been cut out.