

## 20.Hough circle detection

### 20.1 Use

Source code launch file path:/opt/ros/noetic/share/opencv\_apps/launch

Step 1: Start the camera

```
roslaunch dofbot_visual opencv_apps.launch img_flip:=false
```

- img\_flip parameter: whether the image needs to be flipped horizontally, the default is false.

[usb\_cam-test.launch] file opens the [web\_video\_server] node by default, and you can directly use the [IP:8080] web page to view images in real time.

Step 2: Start the corner detection function of Opencv\_apps

```
roslaunch opencv_apps hough_circles.launch # Hough circle  
detection
```

Each functional case will have a parameter [debug\_view], Boolean type, whether to use Opencv to display images, which is displayed by default.

If no display is required, set it to [False], for example

```
roslaunch opencv_apps contour_moments.launch debug_view:=False
```

However, after starting in this way, some cases cannot be displayed in other ways, because in the source code, some [debug\_view] is set to [False], which will turn off image processing.

### 20.2 Display method

- rqt\_image\_view

Enter the following command to select the corresponding topic

```
rqt_image_view
```

- opencv

The system displays it by default, no need to do anything.

- Web viewing

(Same as under LAN) Enter IP+port in the browser, for example:

```
192.168.2.116:8080
```

For specific IP, use your current virtual machine IP.

## 20.3 Effect display

You can see an adjustable window appear on the screen, and a round frame detection appears at the same time.

