

Machine Vision

Homework#2

Deadline: 2024/04/03 23:59:59

Robot Vision Lab (Room 1421)

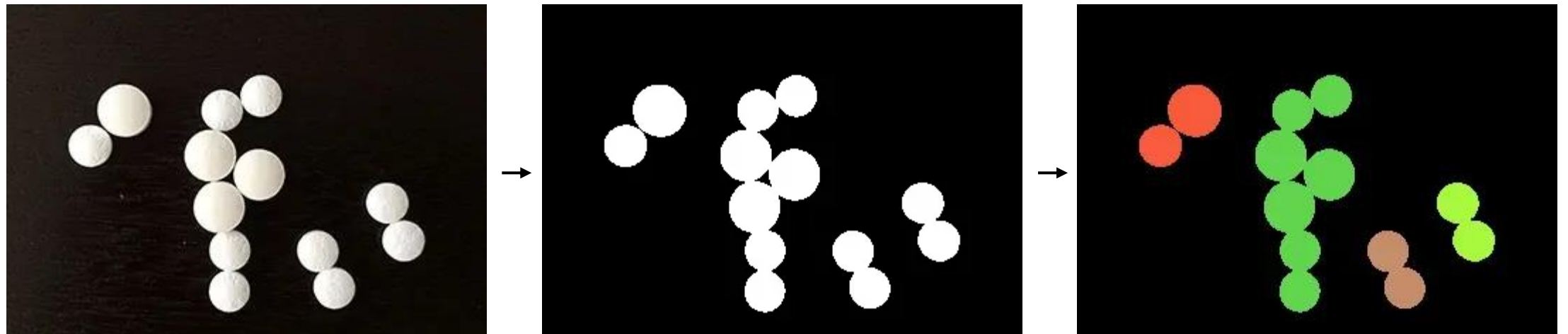
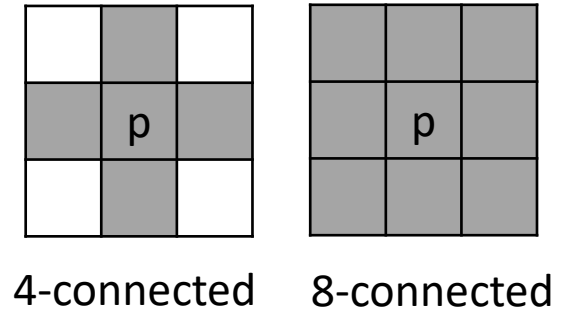
TAs: 魏士涵 t112598058@ntut.edu.tw

賴靖嫻 t112598008@ntut.edu.tw

HW#2

1. Component Labeling

- Convert the color image to a binary image.
- Labeling components using 4-connected and 8-connected.
- Output color image.



HW#2

- Report
 - Student ID
 - Name
 - Describe the main part of your method
 - Result image

HW#2

- Rules in using C/C++ OpenCV Lib

- Use [OpenCV-2.x](#) version

- **Allow use:**

1. Read, save, show image (cvLoadImage, cvShowImage, ...)
2. Define image (Mat)
3. Get image size (cvSize, cvGetSize)

- **Not Allow use:**

1. Cannot use the function of Lib to do the main part of homework.

Example: `cvtColor(image, gray, CV_RGB2GRAY);` // convert RGB to Gray

HW#2

- Rules in using Python OpenCV Lib

- **Allow use:**

1. Read, save, show image (cv2.imread, cv2.imshow, ...)
2. Define image
3. Get image size

- **Not Allow use:**

1. Cannot use the function of Lib to do the main part of homework.

Example: `cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)` // convert RGB to Gray

HW#2

- Grade
 - Program(80%)
 - Report(20%)

HW#2

- Folder Structure

- There are 8 images in the results folder.
- Write homework on the one program.

Python

```
112598008_hw1/
├── images/
│   ├── img1.jpg
│   ├── img2.jpg
│   ├── img3.jpg
│   └── img4.jpg
├── results/
│   ├── img1_4.jpg
│   ├── img1_8.jpg
│   ├── img2_4.jpg
│   ├── img2_8.jpg
│   ├── img3_4.jpg
│   ├── img3_8.jpg
│   ├── img4_4.jpg
│   └── img4_8.jpg
├── 112598008_hw1.py
├── 112598008_hw1.pdf
└── Readme.txt (Optional)
```

C/C++

```
112598008_hw1/
├── project_hw1/
│   ├── images/
│   │   ├── img1.jpg
│   │   ├── img2.jpg
│   │   ├── img3.jpg
│   │   └── img4.jpg
│   ├── results/
│   │   ├── img1_4.jpg
│   │   ├── img1_8.jpg
│   │   ├── img2_4.jpg
│   │   ├── img2_8.jpg
│   │   ├── img3_4.jpg
│   │   ├── img3_8.jpg
│   │   ├── img4_4.jpg
│   │   └── img4_8.jpg
│   ├── include/
│   │   └── func.h
│   ├── func.cpp
│   └── main.cpp
├── 112598008_hw1.pdf
└── Readme.txt (Optional)
```

HW#2

- Please compress your files.
 - Example: 112598008_hw2.zip
- Deadline: 2024/04/03 23:59:59
 - For each hour late, 10% of the total score will be deducted.
- Don't share your code and your report with other students.
Do it by yourself.