ECE332 Introduction to Computer Vision, MP#1

This MP is quite simple. The due date is 10/01/2020 (Th).

1 Connect Component Labeling

The purpose of this MP is to let you master the sequential algorithm for connect component labeling as discussed in class. This technique plays a very important role in the course project, and this algorithm is one of the tools we should make.

You are required to implement the sequential labeling algorithm. If you are using Matlab, you should implement the following function prototype:

```
function [label_img, num] = CCL(img)
```

where `img` is the input binary image, `label_img` contains the labels, and `num` is the total number of different labels.

Three images (`face.bmp, test.bmp, gun.bmp`) are given[1]. You can also create your own test images. You can run your implementation on these images and see if you've got the right result. For `gun.bmp`, you can apply *size filter* to get rid of noise.

(a) `test.bmp`

(b) `face.bmp`,

(c) `gun.bmp`

Figure 1: test images

2 What to turn in

Each individual student should turn in his/her own solution. What you need to turn in includes:

- your code;
- a short report ($\leq$ 1 page is fine);
- your results on these testing images.

[1] you can download these images from our course website