ECE332 Introduction to Computer Vision, MP#2

This MP is quite simple. The due date is 10/10/2019 (Th).

1 Morphological Operators

The purpose of this MP is to let you to have a clear understanding of basic morphological operators and algorithms as discussed in class. You will make a couple of morphological tools, and you will use them in your final project. You are required to implement five operators, i.e., `erosion`, `dilation`, `opening` and `closing`, `Boundary`. If you are using Matlab, you can use the following prototypes.
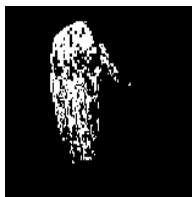
```
function img_out  =  Erosion(img_in, SE);
function img_out  =  Dilation(img_in, SE);
function img_out  =  Opening(img_in, SE);
function img_out  =  Closing(img_in, SE);
function img_out  =  Boundary(img_in);
```

where `img_in` and `img_out` are input and output images and `SE` is the structuring element.

Two images (`gun.bmp, palm.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. (Can you get rid of noise?) You should try different SE, different combinations and different schemes.

(a) `gun.bmp`   (b) `palm.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.

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