

Computer Vision HW_02:

HW_02: Here is your second homework assignment. Usually due on Sunday nights, but possibly more often. See MyCourses for the assignment date.

1. Matlab Lab the given code: (4)

You are given four different “part” files .

Run each one and answer the associate questions in the files:

a. Part 1:

Answers here...

b. Part 2:

Answers here...

c. Part 3:

Answers here...

d. Part 4:

Answers here...

2. Play with Matlab: (2)

Look through the example code in Chapter 2 of the book.

Report four things you learned that were new to you.

- a.
- b.
- c.
- d.

3. Counting Othello Pieces: (3)

Write a function called Othello_Counting.m

You are given an image of an Othello Board, with pieces on it.

Write a program that prints out:

- a. The number of white pieces on the board is:
 - b. The number of black pieces on the board is:
- REPORT THE RESULTS OF YOUR PROGRAM IN YOUR WRITE UP.
How many pieces of each type were you able to find?
What did you need to do to solve the problems?

Hints:

The pieces not on the board do not count. The board is the green part of the image. You might want to build a classifier that says the board is where the range of green values is in some limits:

```
bool_on_board = im_grn_separation ≥ 0.1 & im_grn_separation ≤ 0.4 & ...  
                im_red_separation ≥ 0.1 & im_red_separation ...
```

Other useful functions might be noise cleaning using `medfilt2()` or `ordfilt2()`, and `inpolygon()`... you can hack in the positions of the board for this assignment.

Try this command to get pixel positions:

```
doc ginput  
[uu,vv] = ginput( ); % Then click on the image and hit return....
```

(continued...)

HOW TO HAND IN HOMEWORK:

1. (Create a directory named HW_02_<FirstFirstName>_<FirstLastName>_DIR.
Use this exact naming convention. We run a script on our end that expects this.

When you turn in your homework, you will turn in this entire directory in one zip file.

The zip file must unzip to create the directory. I do not want to hunt around, sort, and re-name a hundred files.

If your submission unzips to a set of individual files in the current directory, those files will be deleted on our end, and you get a zero for the homework.

It is good practice zip up your homework, then unzip it in a temporary directory, and be sure it creates a directory that is populated. Check your work.

2. In that directory, create a word document named HW_01_<FirstName>_<LastName>.docx
Make the obvious substitutions. Again, we use a script to process your homework assignments.
3. Any code you used to solve the Othello Program.
(Put in your Othello Counting Program.)