BLG 477 E Multimedia Computing

Homework #3

1) Counting Birds

In this part of homework you are asked to count birds on the images. To do that you should use a segmentation algorithm and connected component analysis method. (Bonus: If you learn and apply any morphological filters, you will get extra bonus.)

You can use any segmentation algorithm. After converting binary image, you should use the Connected Component Analysis method to count birds. You should search the algorithms, however you should give details of the algorithms in your report. You should apply your code on the images in the folder that is given and show the outputs of each image.

2) Color Classification

In this problem you are asked to classify following colors: Red, Orange, Yellow, Green, Blue, White and Violet. You take 20 photos in your daily life and you recognize these colors from the images. You can choose the feature extraction and classification method. You can use the library functions for these. You need to report the correct classification rate you obtained on the 20 photos you have collected. (You need to send the photos you use.)

Policy: Collaboration in the form of discussions is acceptable, but you should write your own code by yourself. Cheating is highly discouraged for it could mean a zero or negative grade from the homework. If a question is not clear, please let me know via email.

Submission Instructions: Please submit your homework through the Ninova web site. Please zip and upload all your files using filename studentID_HW1.zip. You must provide all functions you wrote with your zipped file. Functions you do not submit may cause you lose a portion of your grade. Please make sure that you comment your code.

You must also write a report that contains input and output images and the usage of your program. The report must be more detailed than the other homeworks for better grades. You should also include report.pdf file with your zipped file.