CS 423/523 Computer Vision - Fall 2014

Project 4

Due: November 30th, Sunday 2014, 23:55 (sharp)

Analog Clock Reader

Description: In this project you will develop an OpenCV program that will read the time from an analog clock image. For sample images that your program is going to be tested please search images from Google with "analog clock pictures" keywords. Some of them are illustrated below. The images will always be without perspective transformation (taken at a right angle to the clock's plane). The clock will be approximately centered in the image. The clock itself will be covering at least %90 percent of the image.

Your program is going to be tested with 50 different analog clock pictures that we already know the time of. If you predict a time within 10 minutes of the correct time, it will be counted as a correct prediction. For each correct prediction, you will get 1 points. The remaining 50 points will be given to your approach to the problem, and how generic it is.

You may assume hour hand and minute hand (akrep ve yelkovan) will always be black. We are going to test with images where hour hand and minute hand are always black. You may get a 10% bonus if you make your algorithm work with colored hands. You must include at least 3 example analog clock images with colored hands in your project delivery.

Your code should be clean and easy to read by possessing the following properties;

- *Clean structure:* The overall code should be neatly organized, where the related statements are grouped together with enough spacing among them.
- *Consistent indentation:* Statements should be consistently indented according to the nesting.
- *Appropriate use of comments:* There should be comments explaining what the program, and different groups of statements are supposed to do. Don't overdo it.
- *Meaningful and consistent variable naming:* The names of variables should be meaningful with respect to the purpose and usage of these variables.

IMPORTANT:

Submission: By uploading your whole project file to the LMS as a single ZIP archive. No other methods (e.g., by e-mail) accepted. (You may resubmit as many times as you want until the deadline).

Warning: This homework is an individual assignment. DO NOT SHARE YOUR CODE WITH OTHERS. Your programs are checked and compared against each other using automated tools. Any act of cheating will be punished severely. The code that does not compile will receive 0 points.
Also:

- Name your archive file uploaded exactly as requested. Your archive file must be named as **PRJ4-STUDENTID.zip**
- Make sure that your program runs and gives the **expected output**
- The first lines of your code must include your name, surname, student number, and department as a **comment**. An example comment is as follows:
  / John Smith S0001 Department of Computer Science */*
- **Don't include** debug files such as *.obj, *.pch, *.ilk, **or your image, dataset files** in your archive. The single file that can be greater than 100KB in your archive must be the executable file.

Good luck ☺