

COM322 HW1

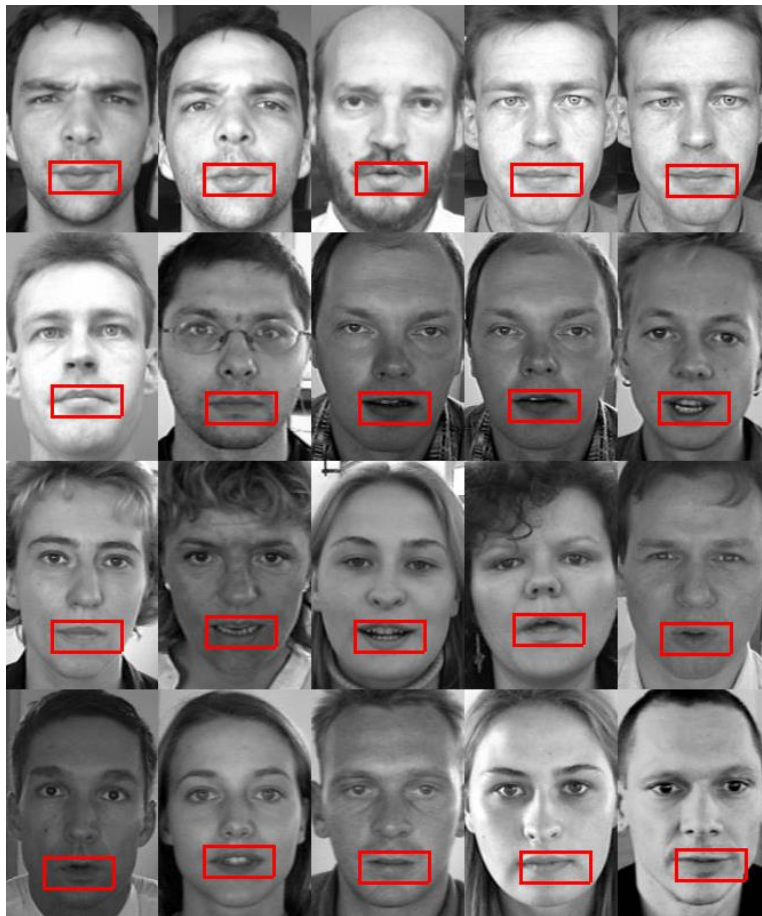
Problem 1

Write a program to find, mark and display either the left or the right eye of a person in a given picture. Your program should use template matching on each picture to find the location of the best match and mark it with a rectangle as shown in the images below. Look through all the images and decide on an image from which to extract your template. Once you have extracted the template, you can either save it to a separate file or use the matrix directly. The 20 pictures in the given dataset are cropped and made uniform size to ensure the faces are roughly the same scale. Your program should concatenate all images after detection - all 20 images must appear in the same figure in 4 rows, that is, you will need to construct one large image from the individual images after template matching has been done on each image.

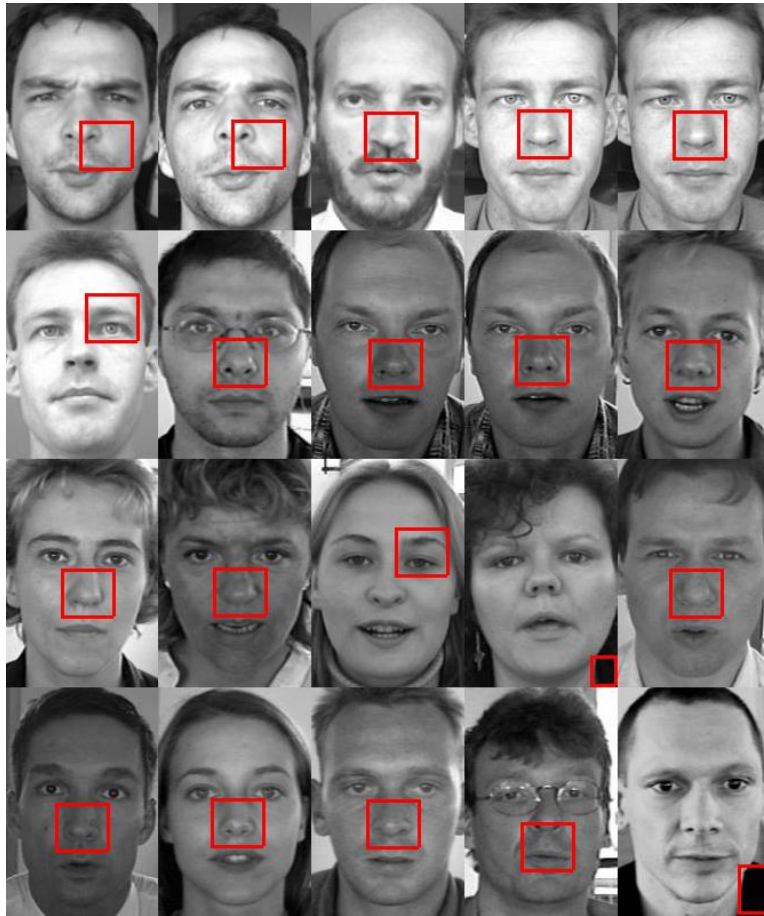


The start code and the images are provided in a zip file. Extract the contents of the zip file to a folder called HW1, develop your code in start.m and save to the file server by the due date. The starter code will go through all images in the dataset and display each picture for one second.

Repeat for the mouth and display in a new figure. An example is shown below.

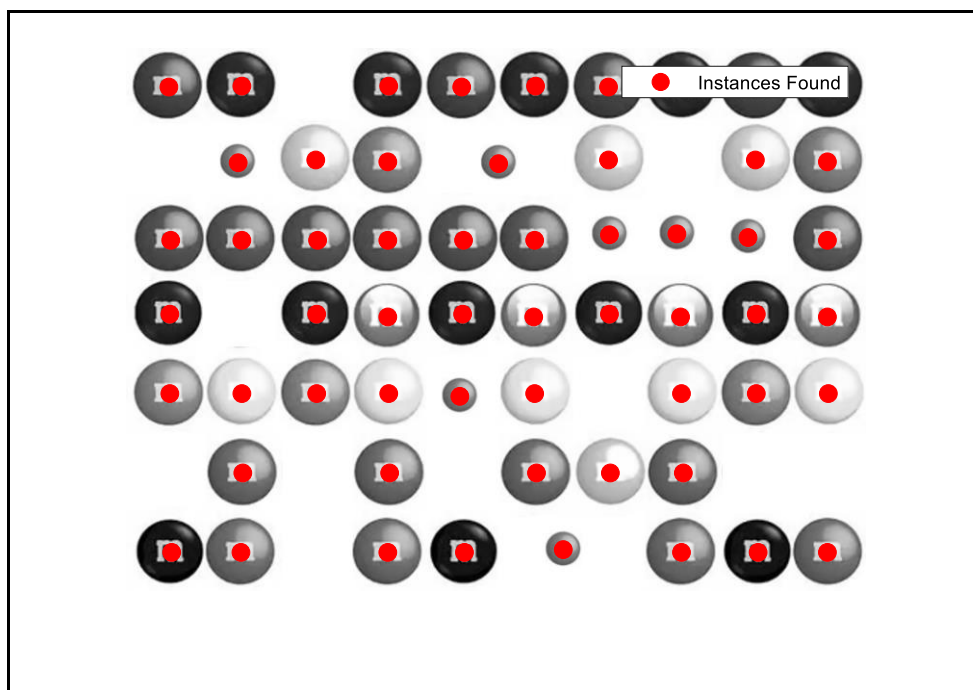
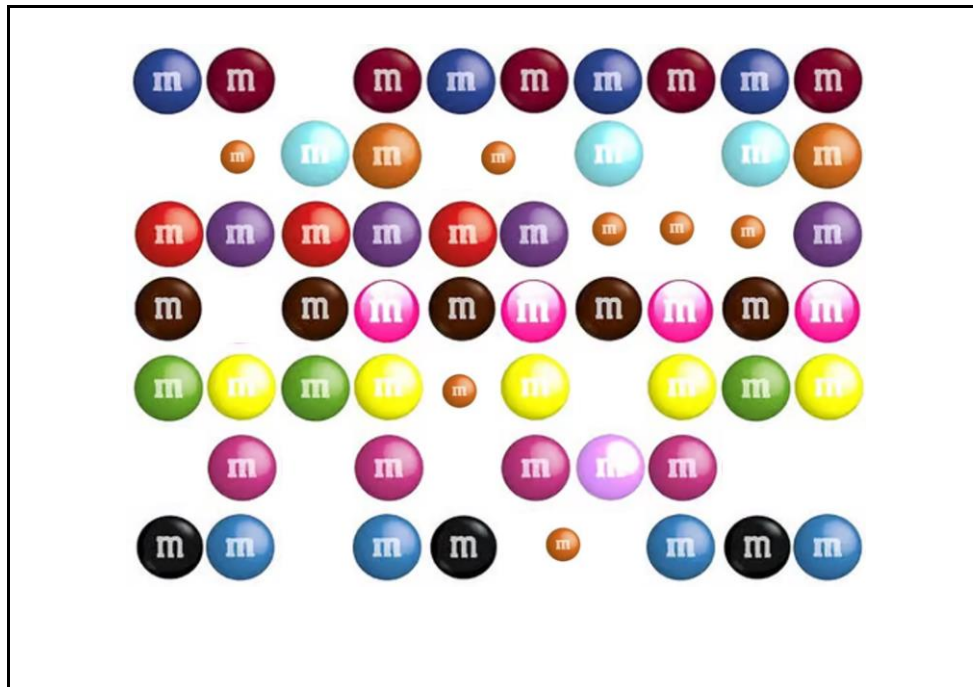


Now repeat for the nose. Note that in the example below the code does not find all of them accurately for the chosen template. See if you can do better than this!



Problem 2

Write MATLAB code that will count the number of m&ms in a given image and replace all found occurrences with a specific color m&m. Assume there are only two sizes of m&ms in the given images: full size and half size. Test for all three images. Report the different size counts separately.



7 small and 50 large instances found

