

Homework #4

- Out: Friday March 14
- Due: Wednesday April 9

*HCI/ComS 575X: Computational Perception
Iowa State University, SPRING 2008
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Part 1: Eigenfaces in OpenCV

Implement the eigenfaces algorithm in openCV. To test your algorithm you can use the same face images that were used for the matlab demo during the lecture (posted on the class web site).

Part 2: Seinfeld Face Recognition

- Use the eigenfaces algorithm from part 1 to recognize the four characters from the show Seinfeld in sample images.
- For each image, draw a box around all detected faces and label the face as Jerry, George, Elaine or Kramer
- Face images of each character and test images are posted on the wiki.

Part 2: Hint

- You can use the Viola & Jones cascades face detection algorithm in OpenCV to find where the faces are in the images before you attempt to recognize them.
- You may have to rescale the faces detected by the cascades algorithm to match the size of the images used to train the eigenfaces.

Part 3: Extra Credit

- Use the algorithm from part 2 to recognize the four Seinfeld characters in sample movie clips from the show.
- In each frame, draw a box around all detected faces and label the face as Jerry, George, Elaine or Kramer.
- Face images of each character and movie clips are posted on the wiki.

That's it.

Good Luck!