

Name: _____

Score: /8

CSE 5524

Computer Vision for HCI

Homework Assignment #7

Due: See Carmen for due date

- 1) Download a color image from the web. Run the SLIC superpixel segmentation algorithm provided in Matlab or Python and experiment with the target number of superpixels and compactness. Display and discuss your results. [3 pts]

Matlab: **[L, NumLabels] = superpixels(img, N, Name, Value)**

Python: **from skimage.segmentation import slic**
segments_slic = slic(img, n_segments=250, compactness=10)

- 2) There's an elephant in the room. Can you find it? Search for the "template" **template.png** in the "search image" **search.png** using color-based NCC (make sure the standard deviation is "unbiased" with N-1). (Note: the template did NOT come from the search image.) Assume the origin is in the center of the template image for each approach (Note: there should be a border around the search image where the metrics cannot be computed).

Sort the resulting scores from best to worst. Plot all of the sorted scores (1-D plot) and show the patches corresponding to the 1st, 2nd, 5th, 10th, 100th, and 500th closest matches. Compare the results. [5 pts]

- 3) As usual, submit your material to Carmen.