

Mathew Seedhom

CS 558

Homework 3

I pledge my honor that I have abided by the Stevens Honor System.

1. Image Classification

In order to classify test images between the classes of “coast”, “forest”, “insidecity”, and “sky” (which was an optional inclusion as it was never required in the assignment), I first took the training images and created their corresponding histograms, which counted how many occurrence of a pixel’s different color channel intensities were in the picture. In order to verify that I processed each color channel of each color pixel I checked if 3 times the pictures height times the pictures width was equivalent to the sum of all histogram bin values for that picture. I repeated this process for each picture, and then I computed which k histograms overlapped the most using a Euclidean distance function. To do this I iterated over every image and test image and remembered the k images and labels with closest distance. I then checked which label occurred the most frequently, and used that as the prediction for the image class.