Hi Ofer,

Again, here is my logic to do the operations that I am doing:



Si is a given state

What we want to estimate for Viterbi is the probability of being in a state given the observable data (D)

Using bayes rule, I get the expression above.

Since the Prior on being in any given state P[Si] is 1/24 we get:



Which is why I am normalizing each column in the likelihood matrix to the sum of that column.

We are now left to estimate the individual state likelihood (i.e., the nominator)

The first step is to assume that each image patch is independent of the others. This is how we get:



My interpretation of this is what is the probability of getting a certain HOG value (x), given that that value was obtained from true identity Si[j], which is, the positive distribution that I am estimating during the training.

Originally, what I had here, was indeed the normalized histogram of the hog features, which was my estimate of 

However, what pietro suggested was something completely different.

Pietro was talking about:



What I did wrong, was to plug this value. Therefore, I incorrectly mixed 

And 

Proposed solution ?

I am not sure about this. We can relate the two, again using Baye’s rule:



The first component will be the class probability, as pietro has suggested. The demoniator is obvious ¼. The question now is how to estimate  ?

I am not sure about this. We always obtained the data under the assumption of a specific classifier (this is how we projected)