

HISTOGRAM OF ORIENTED GRADIENTS (HOG) FEATURES BASED DIGIT CLASSIFICATION

1. Classify the digits using Histogram of Oriented Gradients (HoG) features.

Guidelines for the Classification Process:

- a. Use the Digital Data Set; Segregate as Training and Testing datasets – if you are using a classifier.
- b. Extract HOG features from the images
- c. Perform pattern matching using a distance metric of your choice or use a classifier like SVM for classification process. Do training and evaluation.
- d. Show the CBIR process (Image search engine based on Query Digit Image and matching against a digit image base) or just show the classification results as a Confusion Matrix.

References :

1. <https://in.mathworks.com/help/vision/examples/digit-classification-using-hog-features.html>
2. <http://in.mathworks.com/help/vision/ref/extracthogfeatures.html?requestedDomain=in.mathworks.com>
3. <http://mccormickml.com/2013/05/09/hog-descriptor-in-matlab/>