

Measuring Image Distances via Embedding in a Semantic Manifold

Supplementary material

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An interesting question to study is the sensitivity of the approach to the size of the auxiliary dataset N and the graph connectivity k . We report the results of this study in figure 1, where we show how the accuracy of the NN classifier changes when varying these two parameters. For this experiment we used GIST features and 10 training examples per class. We reduced the size of the auxiliary data set by randomly removing images from the initial 10M set using, for each target size, a constant elimination factor for each synset. As expected, these results suggest that the classification accuracy of the method monotonically increases with the size of the data set. Furthermore we see that the best value of k is correlated with the size of the graph.

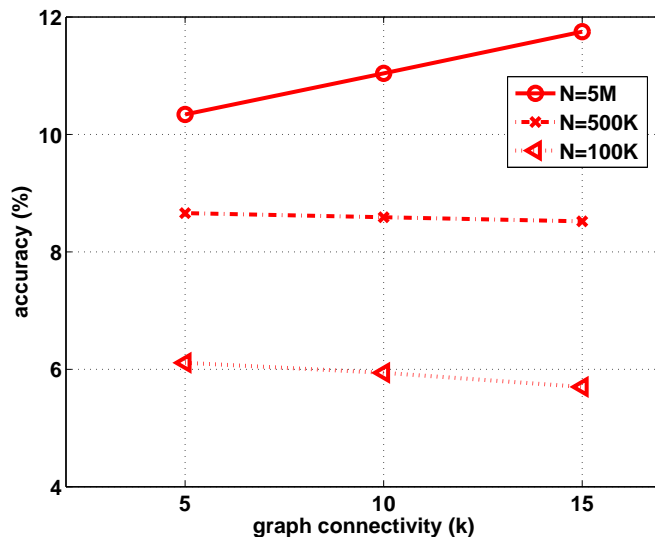


Figure 1: Parameter sensitivity study using GIST features on the Caltech256 dataset. The plot shows the accuracy of the NN classifier based on the RW metric as a function of the graph connectivity k . Each curve shows performance for a different graph size N .