tbl01 =

10×2 table

Label Count

0 5923

1 6742

2 5958

3 6131

4 5842

5 5421

6 5918

7 6265

8 5851

9 5949

tbl02 =

10×2 table

Label Count

0 5421

1 5421

2 5421

3 5421

4 5421

5 5421

6 5421

7 5421

8 5421

9 5421

Creating Bag-Of-Features.

\* Image category 1: 0

\* Image category 2: 1

\* Image category 3: 2

\* Image category 4: 3

\* Image category 5: 4

\* Image category 6: 5

\* Image category 7: 6

\* Image category 8: 7

\* Image category 9: 8

\* Image category 10: 9

\* Selecting feature point locations using the Grid method.

\* Extracting SURF features from the selected feature point locations.

\*\* The GridStep is [8 8] and the BlockWidth is [32 64 96 128].

\* Extracting features from 54210 images...done. Extracted 3469440 features.

\* Keeping 80 percent of the strongest features from each category.

\* Using K-Means clustering to create a 500 word visual vocabulary.

\* Number of features : 2775550

\* Number of clusters (K) : 500

\* Initializing cluster centers...100.00%.

\* Clustering...completed 29/100 iterations (~16.26 seconds/iteration)...converged in 29 iterations.

\* Finished creating Bag-Of-Features

Training an image category classifier for 10 categories.

--------------------------------------------------------

\* Category 1: 0

\* Category 2: 1

\* Category 3: 2

\* Category 4: 3

\* Category 5: 4

\* Category 6: 5

\* Category 7: 6

\* Category 8: 7

\* Category 9: 8

\* Category 10: 9

\* Encoding features for 54210 images...done.

\* Finished training the category classifier. Use evaluate to test the classifier on a test set.

tbl01 =

10×2 table

Label Count

\_\_\_\_\_ \_\_\_\_\_

0 980

1 1135

2 1032

3 1010

4 982

5 892

6 958

7 1028

8 974

9 1009

Evaluating image category classifier for 10 categories.

-------------------------------------------------------

\* Category 1: 0

\* Category 2: 1

\* Category 3: 2

\* Category 4: 3

\* Category 5: 4

\* Category 6: 5

\* Category 7: 6

\* Category 8: 7

\* Category 9: 8

\* Category 10: 9

\* Evaluating 10000 images...done.

\* Finished evaluating all the test sets.

\* The confusion matrix for this test set is:

PREDICTED

KNOWN | 0 1 2 3 4 5 6 7 8 9

--------------------------------------------------------------------------------

0 | 0.98 0.00 0.00 0.00 0.00 0.00 0.01 0.00 0.01 0.00

1 | 0.00 0.99 0.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00

2 | 0.01 0.00 0.95 0.02 0.00 0.00 0.00 0.01 0.00 0.00

3 | 0.00 0.00 0.01 0.95 0.00 0.01 0.00 0.01 0.01 0.00

4 | 0.00 0.00 0.00 0.00 0.96 0.00 0.00 0.00 0.00 0.02

5 | 0.00 0.00 0.00 0.02 0.00 0.95 0.01 0.00 0.01 0.00

6 | 0.01 0.00 0.01 0.00 0.01 0.01 0.96 0.00 0.00 0.00

7 | 0.00 0.01 0.01 0.01 0.01 0.00 0.00 0.91 0.00 0.05

8 | 0.01 0.00 0.00 0.01 0.01 0.01 0.01 0.01 0.92 0.02

9 | 0.01 0.00 0.00 0.01 0.01 0.00 0.00 0.02 0.01 0.92

\* Average Accuracy is 0.95.