Project Report

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Paper : Learning Globally-Consistent Local Distance Functions for Shape-Based Image Retrieval and Classification[link]

How to run code:

1. Main script is in main.m
2. Set test and train data path.
3. All the parameter have been set such that whole pipeline of code can run within 30-35 minutes and not for optimal performance.
4. Some parts have used parallel for loops,use matlabpool to

Libraries used:

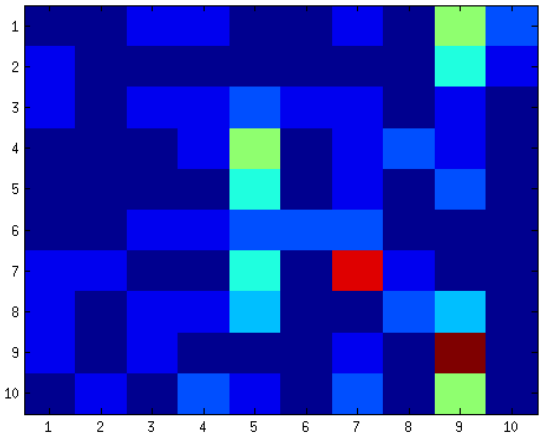
1. For calculating SIFT features I have used vl_feat library,add it to path before running main.m
2. For solving the optimization problem I have used matlab quadratic programming function quadprog() .

Dataset:

This paper has used cifar-10 dataset.
link : http://www.cs.toronto.edu/~kriz/cifar.html
Download matlab version and update the path in the main.m file.

Accuracy : With training set of 8 image per category accuracy of 31% was achieved.

Confusion matrix for cifar-10:



Authors have used caltech101 dataset and could achieve 66% recognition rate using 20 images per category, with training time of 10 hours by using custom dual solver and early stopping.Because of memory and time constraints I have choosen cifar and less number of images per category for training.