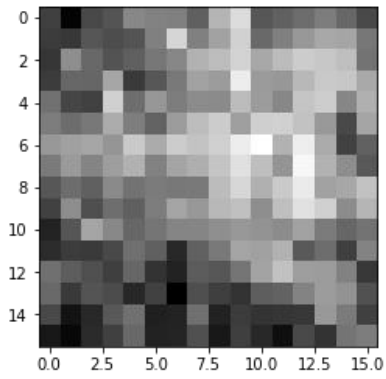
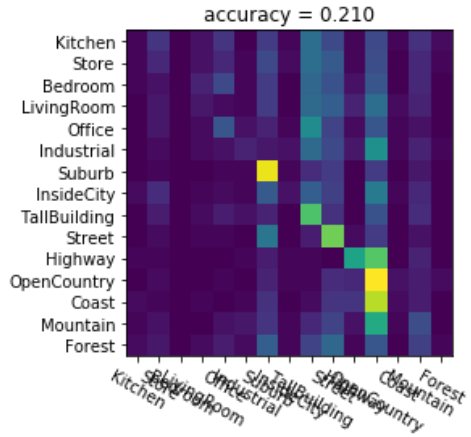
Summary
Nanxun Huang

The get tiny image will take an image and return as the following:

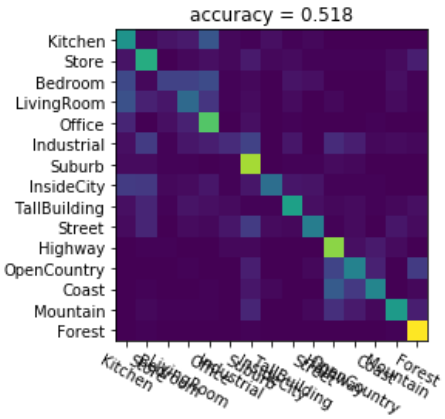


The default output size is 16 by 16 and each block equal to the average of all the pixels contained in the block.



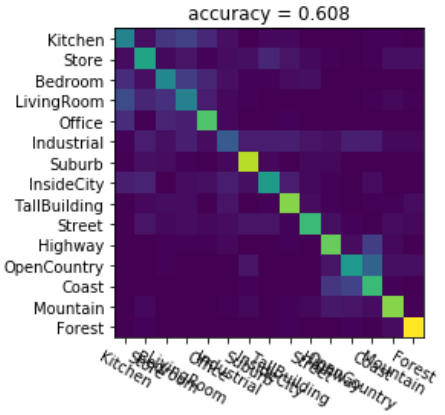
Based on Tiny + KNN, the visualized confusion matrix shows that the accuracy is 0.210 which reach the required 0.18.

I set the default value for build_visual_dictionary function to 50 as asked in the homework but use the value 150 to create my model. My Kmeans function take n_init = 3 and max_iter=300.



Based on BoW + KNN, the visualized confusion matrix shows that the accuracy is 0.518 which reach the required 0.5.

Again, I use dictionary size 150 and LinearSVC with l2 penalty, squared hinge loss and not solving the dual.



Based on BoW + SVM, the visualized confusion matrix shows that the accuracy is 0.608 which reach the required 0.6.