

QUIZ – Object Recognition: BoF vs ConvNets

Hard deadline: 28/10/2020

INSTRUCTIONS

The goal of this quiz is to implement two object recognition approaches:

1. *A classifier based on bag of features:*
 - a) Use Random Forest as classifiers.
 - b) Try different sizes for the dictionary.
2. *A classifier using ConvNet implemented in Pytorch:*
 - a) Use an architecture inspired in the LeNet5

Your code must be implemented on a notebook python and you must use the CIFAR-10 (<https://www.cs.toronto.edu/~kriz/cifar.html>) for training and testing:
https://pytorch.org/tutorials/beginner/blitz/cifar10_tutorial.html

The notebook must present a confusion matrix and the average accuracy for each approach. You also have to report both training and test accuracies.

References:

- [1] <http://people.csail.mit.edu/fergus/iccv2005/bagwords.html>
- [2] <http://machinelearningmastery.com/object-recognition-convolutional-neural-networks-keras-deep-learning-library/>