Neha M

Reg. No: 14CO127

8095299474

[nehamohan1996@gmail.com](mailto:nehamohan1996@gmail.com)

**Vehicle Color Recognition with Spatial Pyramid Deep Learning**

Work supposed to be done

* Collection of dataset : Training set and testing set
* Creating a CNN architecture consisting of 5 convolution layers and 3 fully connected layers.
* After each convolution layer, contrast normalization, max pooling and non-linear functions should be applied.
* Implementation of SP strategy in CNN
* The features obtained as an output are fed to SVM classifier for training.

Work Done so far

* Stanford’s car dataset has been used. The dataset contains 16,185 images of 196 classes of cars. The data is split into 8,144 training images and 8,041 testing images.
* All the images are normalized and resized to 227 X 227 X 3.
* A CNN architecture is built using Caffe’s python binding.
* The CNN takes the resized images as input.
* The number of outputs of each layer :

1. First Layer : 55 X 55 X 96
2. Second Layer : 27 X 27 X 256
3. Third Layer : 13 X 13 X 384
4. Fourth Layer : 6 X 6 X 256

* The Caffe’s pooling techniques, normalization and non linear functions have been applied after each layer.

Work to be done

* Integrating SP strategy with the saved CNN model.
* Training the SVM classifier using the features obtained from CNN model.
* The outputs obtained will be the colors of the vehicle. Eg., Green, Yellow,etc.