Title

author

date

# 1 Feature Extraction

lda

# 2 Data pre-processing

Resize & shuffle, Extract the principle components for 6 classes,

Parameter setting, Random brightness/saturation/contrast, Random lighting,

# 3 Model

cnn introduction, model structure

Input layer [45x37x3] will hold the raw pixel values of the image, in this case an image of width 45, height 37, and with three color channels R,G,B;

Convolutional layer will compute the output of neurons that are connected to local regions in the input, each computing a dot product between their weights and the region they are connected to in the input volume.

ReLU layer will apply an elementwise activation function with the threshold of zero;

Maxpooling layer will perform a downsampling operation along the spatial dimensions (width, height);

Fully connected layer will compute the class scores, resulting in volume of size [1x1x6], where each of the 6 numbers correspond to a class score, such as among the 6 categories of dataset. Each neuron in this layer will be connected to all the numbers in the previous volume;

# 4 Details of Learning

hardware, sgd, batch size, epoch, time

predicted accurary

# 5 Results

with/without metalearning

# 6 Deconvolutional Neural Nerwork

pass

# 7 Discussion

“Discuss how you would change your approach now that you have seen the other approaches and now that you know how well you did.”