

Mid-Term Report

Submitted by:

Srihith Alwala

Nachiappan Chockalingam

In this project, we performed image-classification, one of the shining features of Deep Learning. We used Pytorch, which is very unique.

Organizing Data:

- Pytorch expects the data to be organized in folders divided into training, validation and testing with folders of each class.
- This organizing is done using a python script 'split.py' which divides the given training dataset into required format of data structure. i.e.,

```
data/  
  train/  
    gossiping  
    isolation  
    .  
    .  
    .  
    .  
    .  
  Valid/  
    gossiping  
    isolation  
    .  
    .  
    .  
    .  
    .  
  test/  
    gossiping  
    isolation  
    .  
    .  
    .  
    .  
    .
```

- We prefer using GPU in the interest of faster execution, but it can also be done on CPU.
- Model is constructed using Five Convolutional layer:
Conv-1: The First convolutional layer consists of 96 kernels of size 11×11 applied with a stride of 4 and padding of 0.
- **MaxPool-1:** The maxpool layer following Conv-1 consists of pooling size of 3×3 and stride 2.
- **Conv-2:** The second conv layer consists of 256 kernels of size 5×5 applied with a stride of 1 and padding of 2.
- **MaxPool-2:** The maxpool layer following Conv-2 consists of pooling size of 3×3 and a stride of 2.
- **Conv-3:** The third conv layer consists of 384 kernels of size 3×3 applied with a stride of 1 and padding of 1.
- **Conv-4:** The fourth conv layer has the same structure as the third conv layer. It consists of 384 kernels of size 3×3 applied with a stride of 1 and padding of 1.
- **Conv-5:** The fifth conv layer consists of 256 kernels of size 3×3 applied with a stride of 1 and padding of 1.
- **MaxPool-3:** The maxpool layer following Conv-5 consists of pooling size of 3×3 and a stride of 2.
- This is the model and it is trained on ImageNet dataset of humans and this model is used as a pretrained model to train on cyber-bullying dataset.