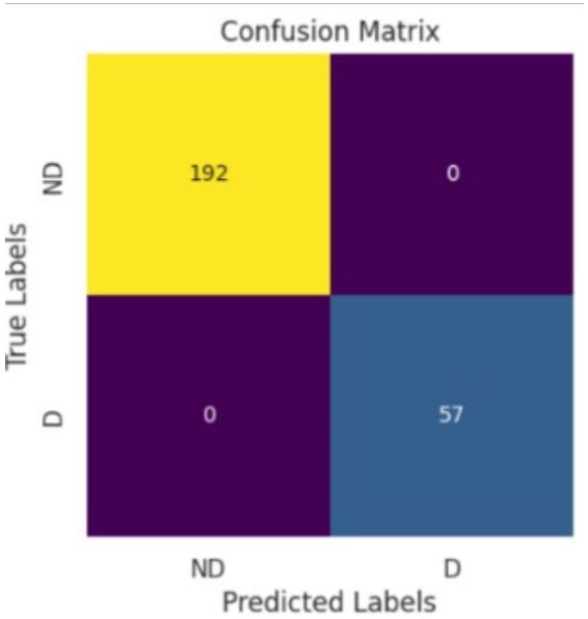
Minutes of the last meet

- Modulation Spectrogram Approach : CV approach
- SSIM and Resnet Models : Accuracy from both end to end training and from pre trained weights
- Task assigned : Analyse the SSIM considering all the images to set a benchmark value for classification

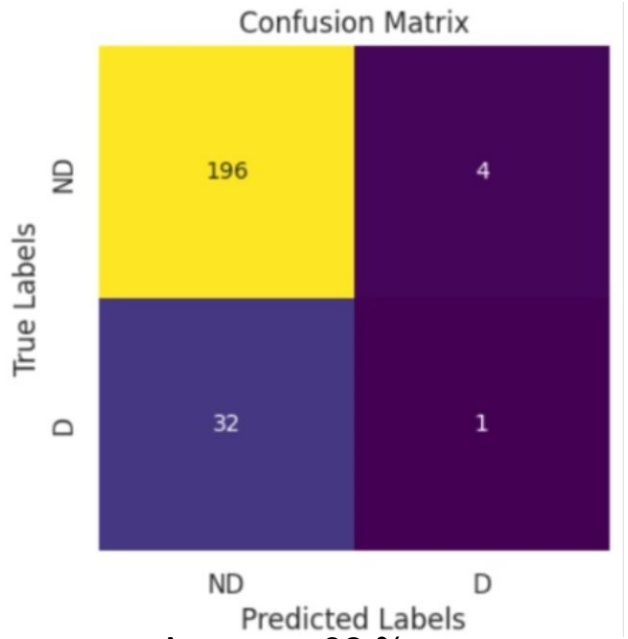
RESNET 50 Confusion Matrix (pretrained = True)

TRAIN SET



Accuracy 96 %

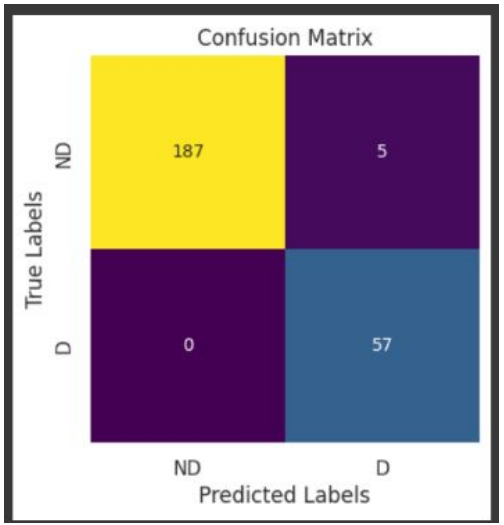
TEST SET



Accuracy 82 %

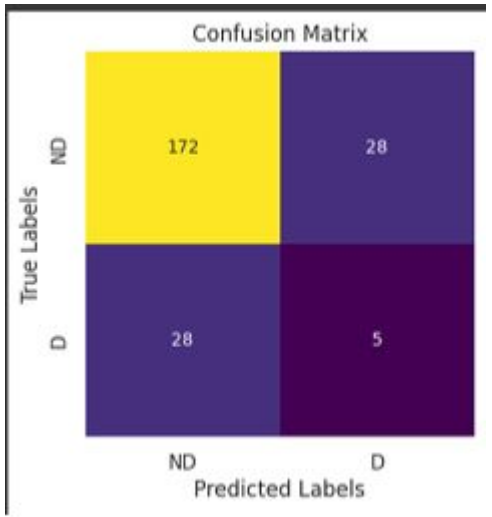
RESNET 50 Confusion Matrix (pretrained = False)

TRAIN SET



Accuracy 97 %

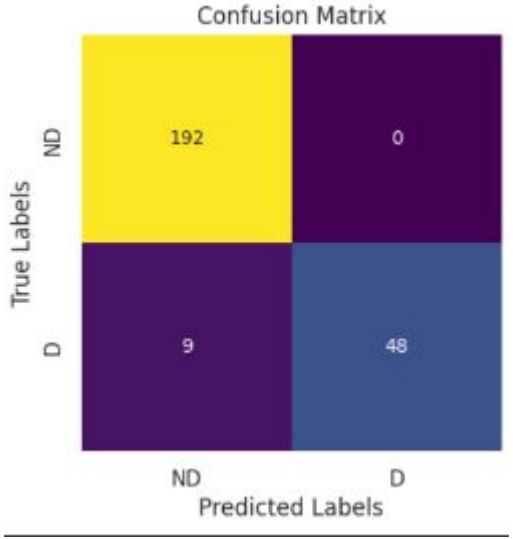
TEST SET



Accuracy 75 %

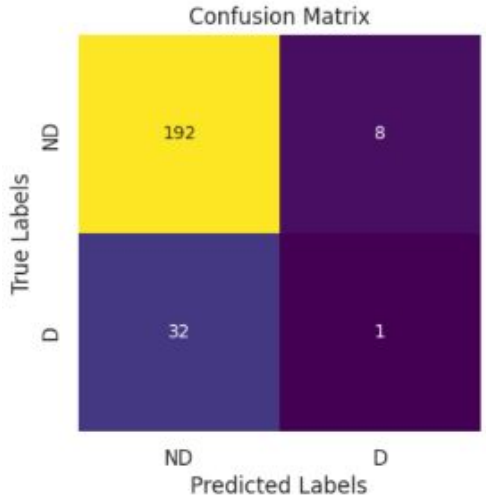
RESNET 152 Confusion Matrix (pretrained = False)

TRAIN SET



Accuracy 96 %

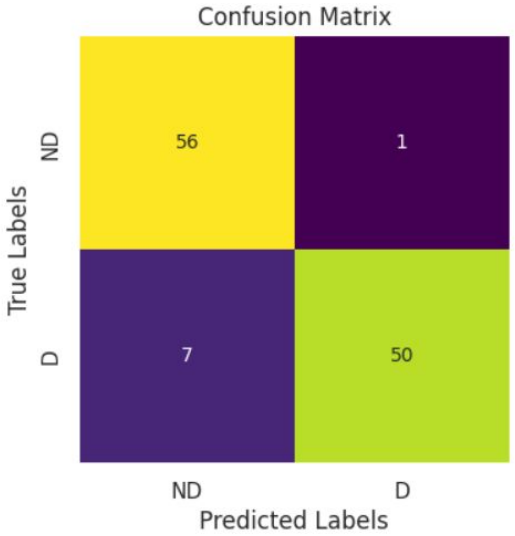
TEST SET



Accuracy 82 %

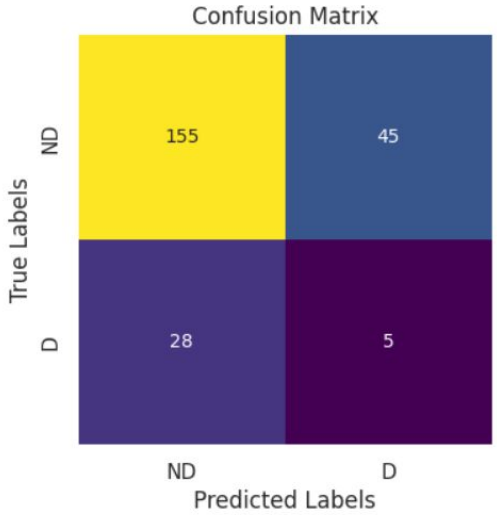
RESNET 50 Confusion Matrix (pretrained = True)
Balanced train data

TRAIN SET



Accuracy 92 %

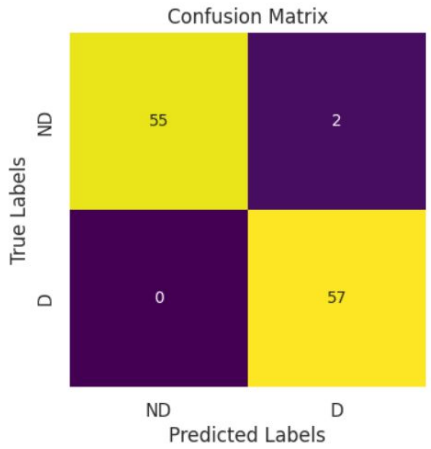
TEST SET



Accuracy 68 %

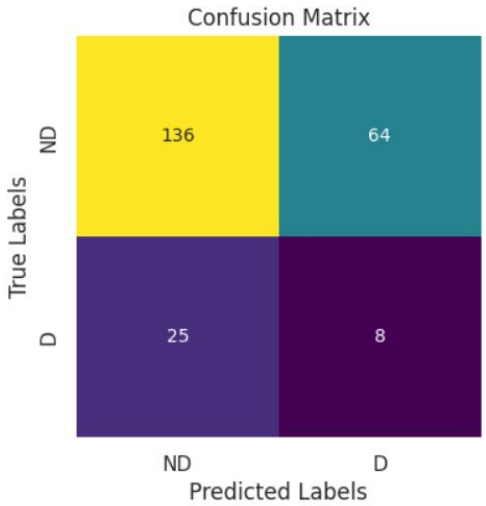
RESNET 152 Confusion Matrix (pretrained = True)
Balanced dataset training

TRAIN SET



Accuracy 96 %

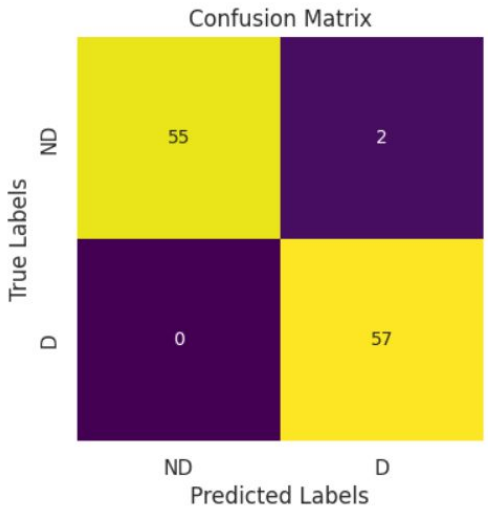
TEST SET



Accuracy 61 %

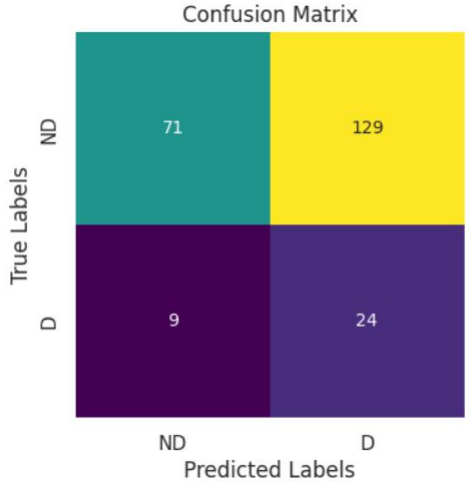
RESNET 18 Confusion Matrix (pretrained = True)
Balanced dataset

TRAIN SET



Accuracy 98 %

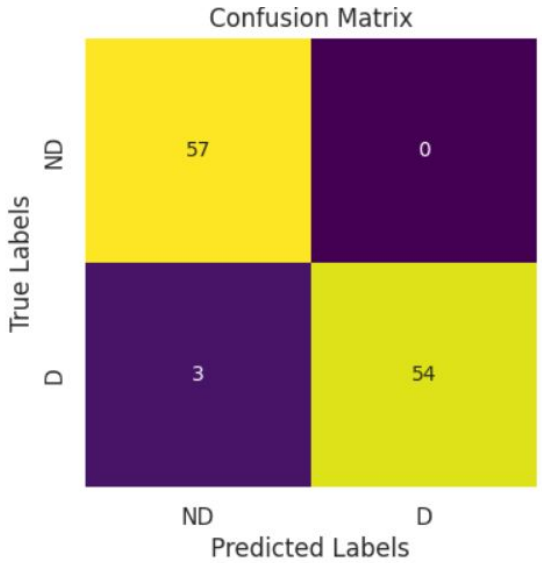
TEST SET



Accuracy 40 %

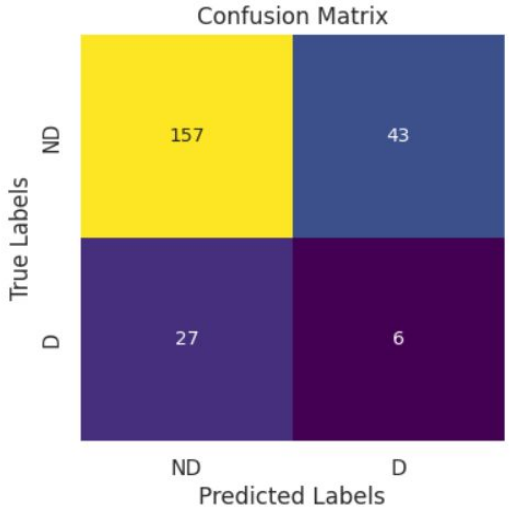
RESNET 18 Confusion Matrix (pretrained = False)
Balanced dataset training

TRAIN SET



Accuracy 97 %

TEST SET



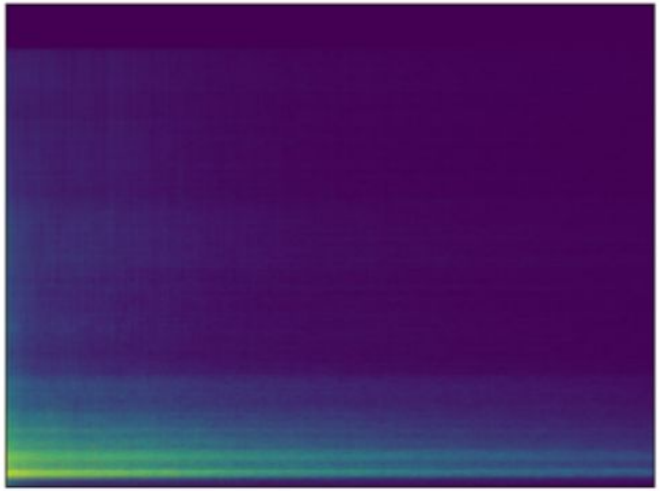
Accuracy 69 %

SSIM SCORE ANALYSIS
AND
VGG 16

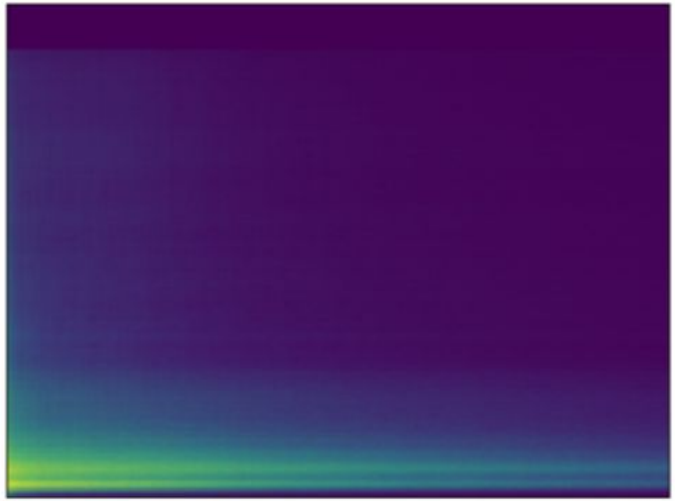
- DATASET : EDTA
- Average pixels by pixel calculation was made with both Depressed and Non Depressed data from training data.

IMAGE FROM AVERAGED ARRAY

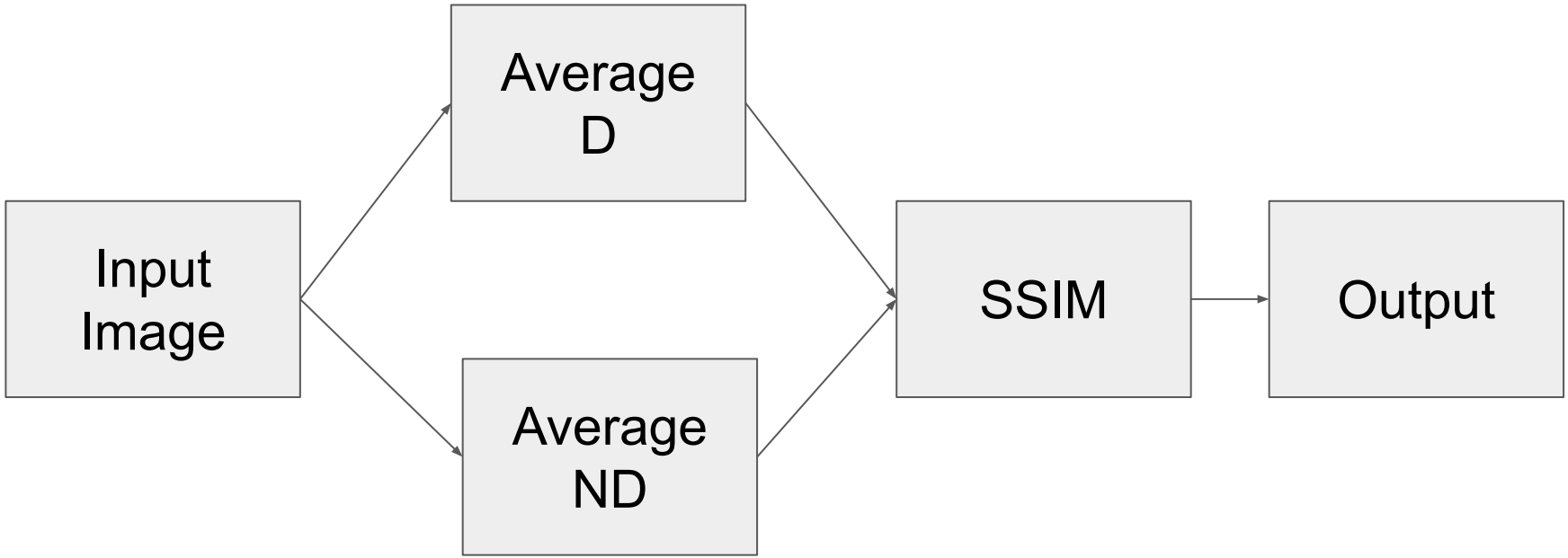
Depressed



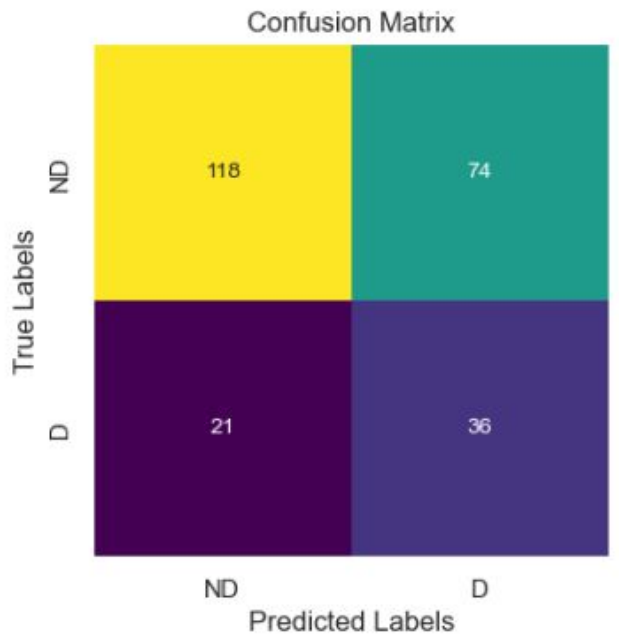
Non Depressed



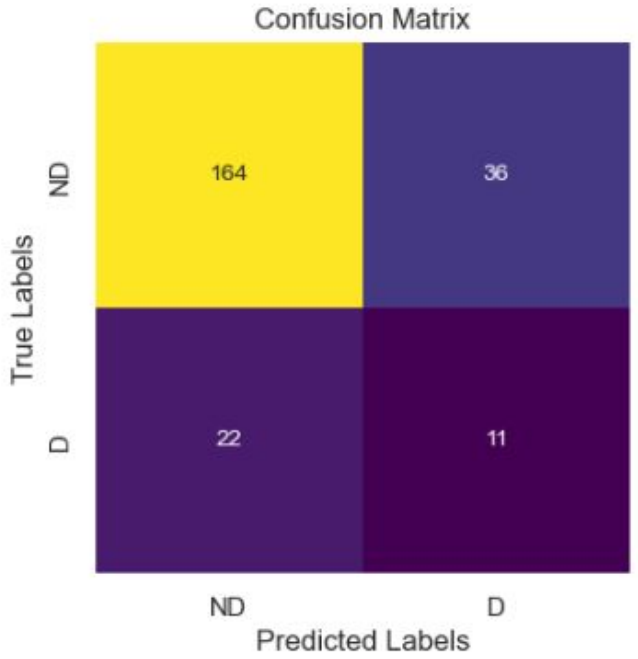
CLASSIFICATION METHODOLOGY



Train Data
61% Accuracy



Test Data
75.10 % Accuracy



Observations and Future work

- **SSIM gives different accuracies with different window size. Window size analysis should be made.**
- SSIM worked well with test data however not much with train data.
- VGG 16 was trained
- Bottleneck : OOM error
- Needs to be trained on GPU
- Training ResNet model with balanced data set.