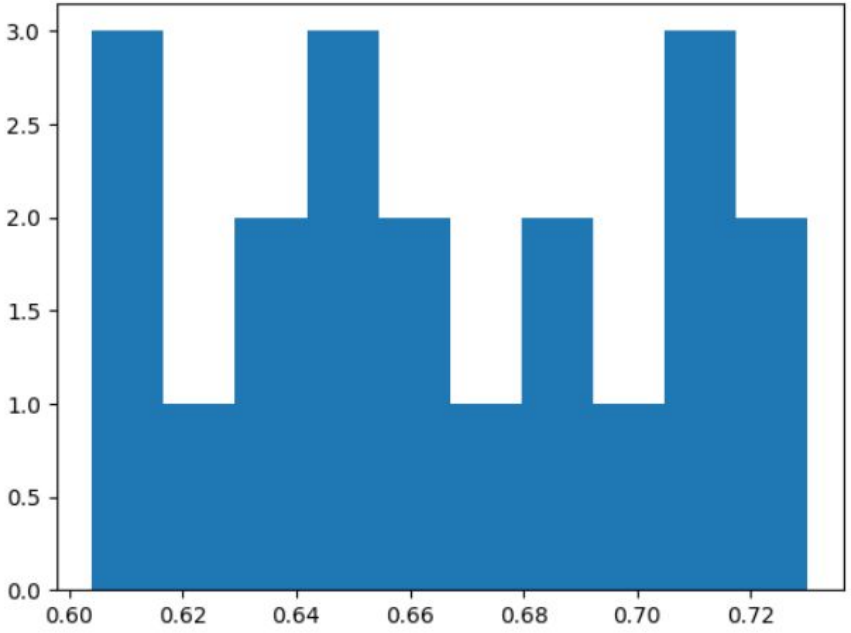
SSIM SCORE ANALYSIS

- DATASET : EDTA
- 20 Samples from both Trained and Test data for each Depressed and Non Depressed Classes.

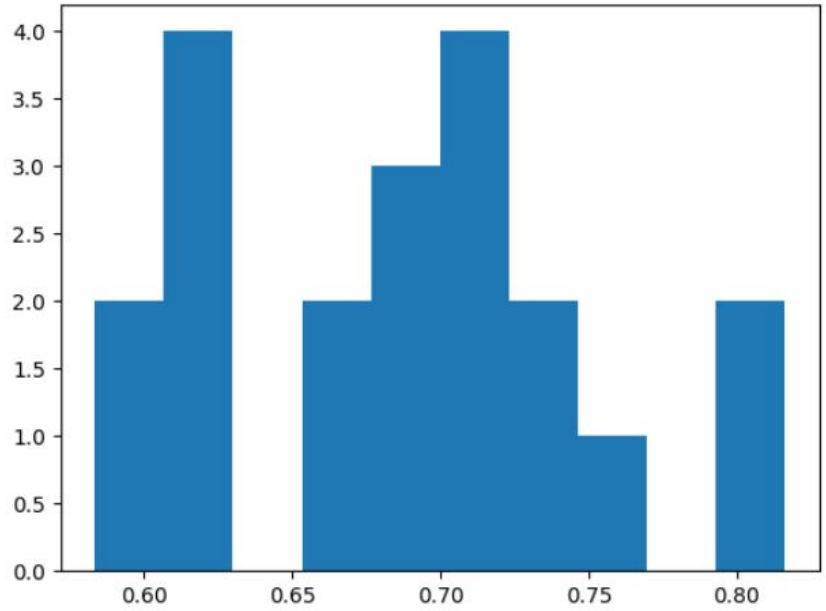
EATD TRAIN DATA
DEPRESSED VS NON DEPRESSED

Mean SSIM score : 0.66624



EATD TEST DATA
DEPRESSED VS NON DEPRESSED

Mean SSIM score : 0.684



ResNet

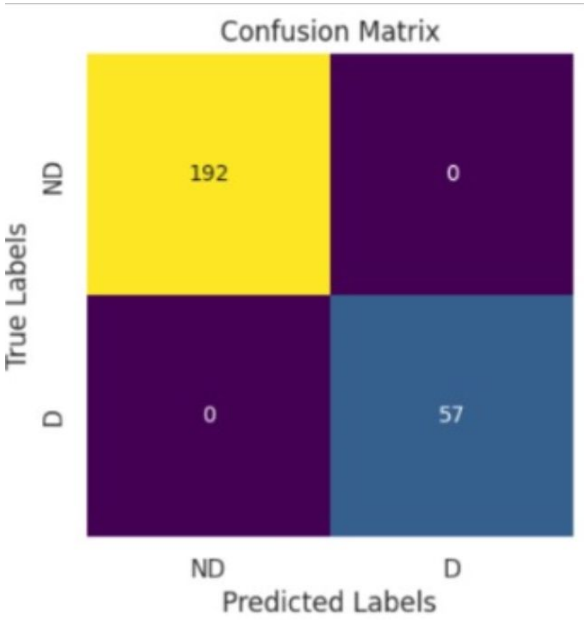
- Trained the data with Resnet Architectures with different number of layers using GPU.
- Used Pytorch’s implementation of Resnet architecture
- Trained with Resnet 50 and Resnet 125

Observations

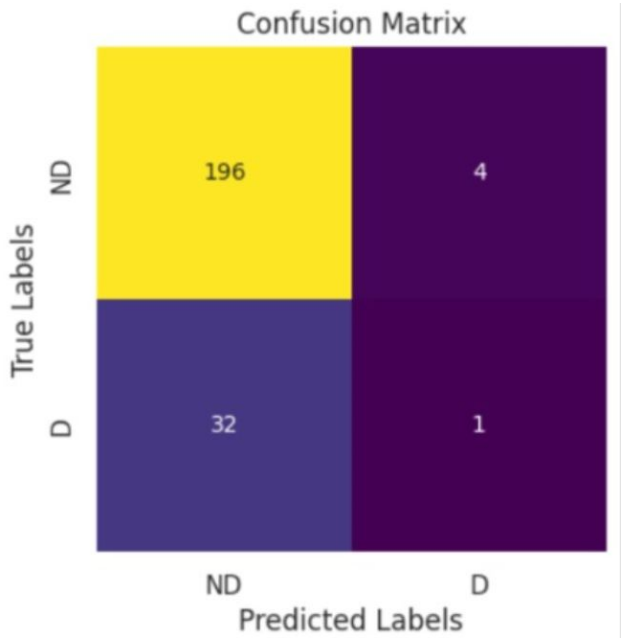
- Accuracy is better with Resnet 50 architecture compared to others
- Set pretrained = True
- Training Accuracy : 100%
- Test Accuracy : 84 %

RESNET 50 Confusion Matrix (pretrained = True)

TRAIN SET

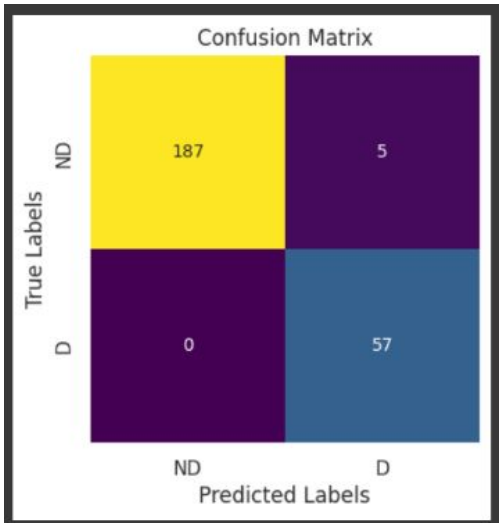


TEST SET



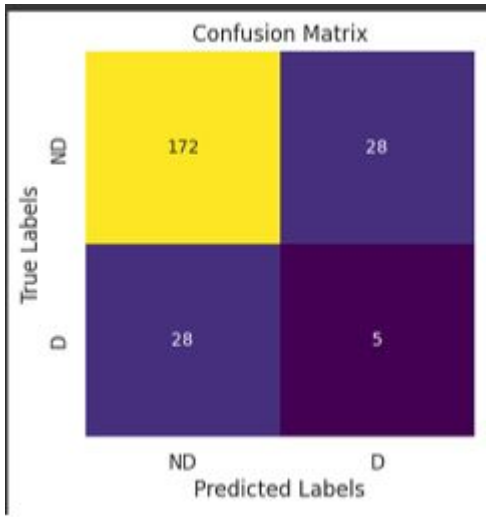
RESNET 50 Confusion Matrix (pretrained = False)

TRAIN SET



Accuracy 97 %

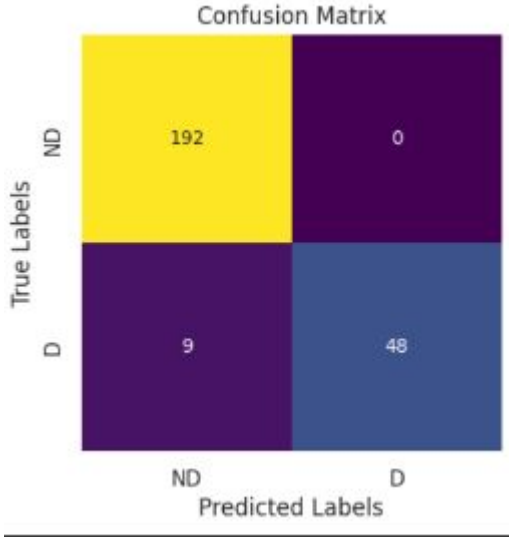
TEST SET



Accuracy 75 %

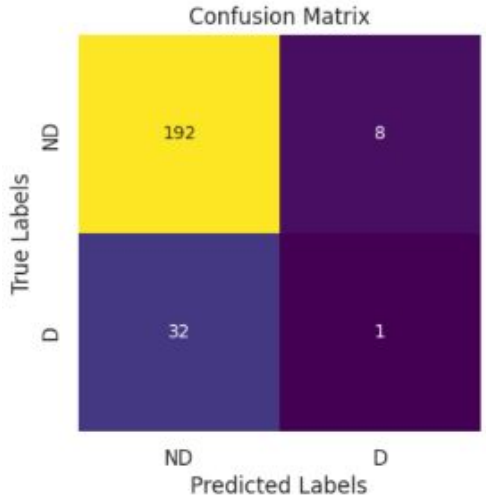
RESNET 152 Confusion Matrix (pretrained = False)

TRAIN SET



Accuracy 96 %

TEST SET



Accuracy 82 %

Summary and Future Work

- Although the model is working good with Test Data, Accuracy could be higher due to unbalanced dataset.
- Model is biased towards Non Depressed Class.
- Similar analysis on DAIC dataset.
- Dataset needs to be made balanced.
- Data augmentation
- Fine tuning the model