

ALZHEIMER'S CLASSIFIER USING TRANSFER LEARNING



GROUP #5:

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01 PROBLEM DEFINITION

Classifying Alzheimer's disease from brain MRI images

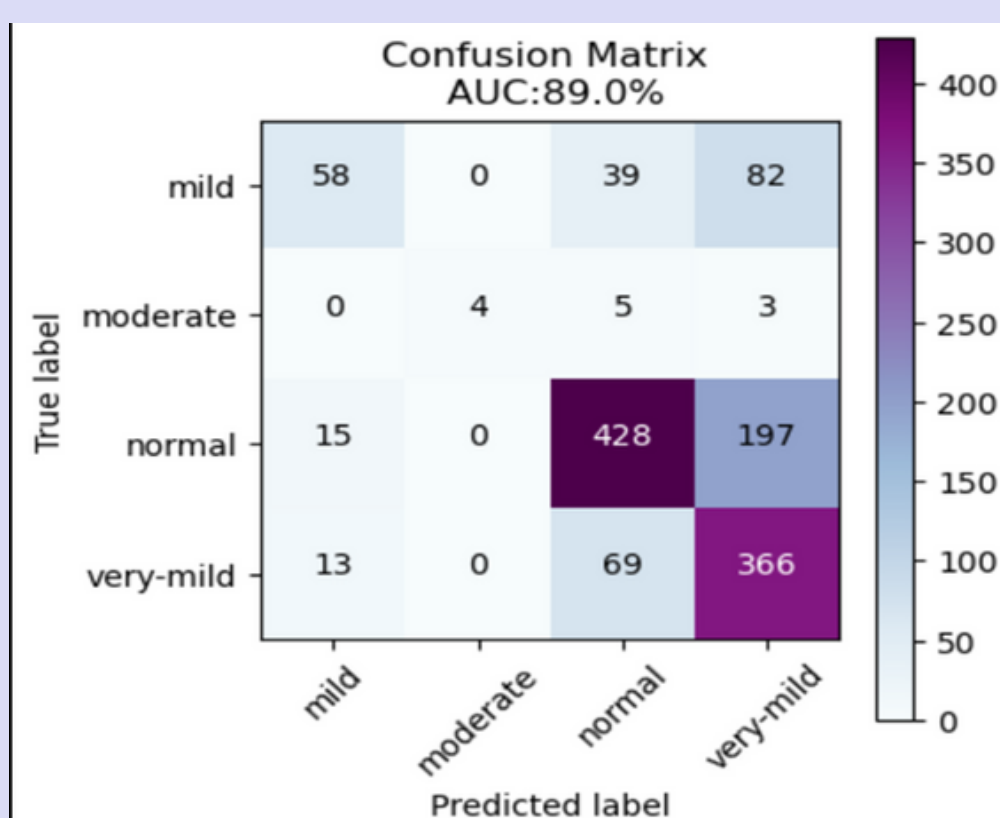
02 LITERATURE REVIEW

- Alzheimer Disease Classification through Transfer Learning Approach
- Transfer Learning with DenseNet for Multi-class Classification of Alzheimer's Disease Stages

06 PARAMETERS OF MODEL

- VGG19 PRE-TRAINED ON IMAGENET
- TRAINABLE_LAYERS -> FALSE
- EPOCHS =10
- optimizer ='adam'
- Loss is cross entropy
- learning rate=0.001
- callback: code will stop the training process if the model's 'validation loss' does not improve for 8 epochs

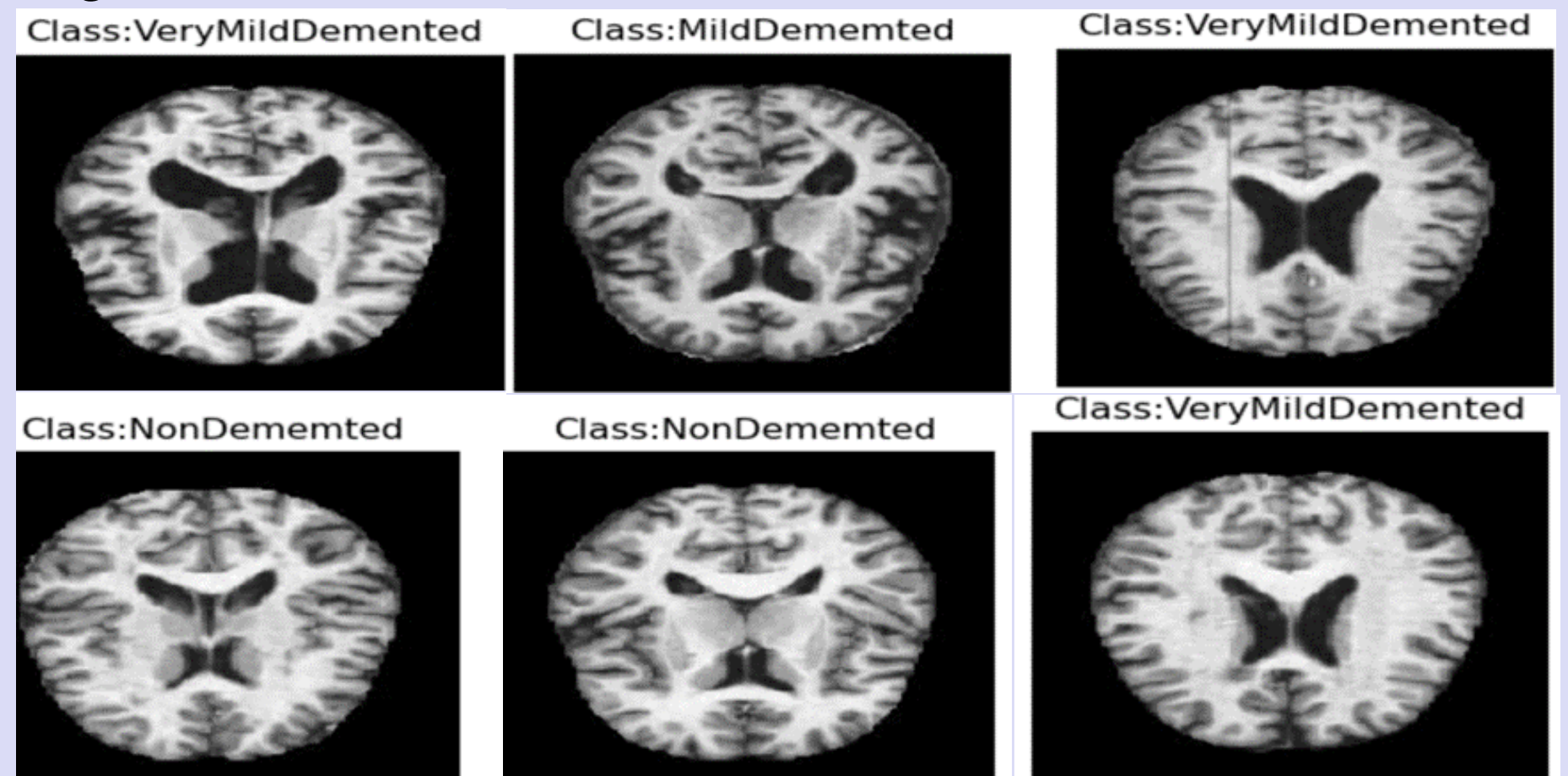
07 CONFUSION MATRIX



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03 DATASET & VISUALIZATION

Our dataset is ADNI and It comprises MRI scans from individuals at different stages of Alzheimer's disease



04 DATA PRE-PROCESSING

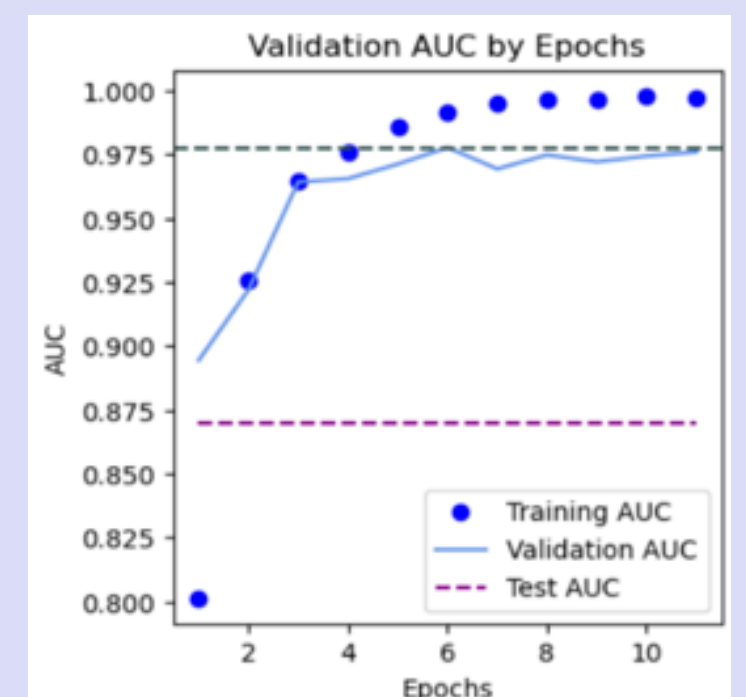


05 DIFFERENT MODEL RESULTS

WE TRIED DIFFERENT MODELS

- 1-INCEPTION MODEL
- 2-INCEPTION + ADDITIONAL CAPACITY
- 3-INCEPTION + DATA AUGMENTATION
- 4-XCEPTION
- 5-VGG19

**THE BEST MODEL WAS VGG19 AND ITS
ACCURACY 67% AND AUC 89%**



08 SCHEMATIC DIGRAM

