**Source code**

Dataset

Raw\_Test

Refined\_Test

Model

Checkpoint

Python\_Code

Test\_code\_ensemble2.py

Test\_code\_ensemble3.py

Before running the program one has to keep all the folders and files (Dataset, Model, and Python\_Code) in the same folder

**Dataset:**

Test Data : (change the dataset if you have new X-ray image to classify)

Normal; Pneumonia; Covid

**Model:**

checkpoint\_D1.pt (classify normal vs disease)

checkpoint\_D2.pt (classify pneumonia vs non-pneumonia)

checkpoint\_D3.pt ( classify covid or not)

checkpoint\_ensemble<D1D2D3>.pt (classify covid or not)

(Either any 2 or all 3 checkpoints can be combined; for e.g., if D1 and D2 is combined the model will be checkpoint\_ensemble12.pt )

combine 3 checkpoints, it will be checkpoint\_ensemble123.pt )

**Python program:**

*Test\_code\_ensemble2.py*

This the main program to check our model’s performance for combining 2 checkpoints

1. Load the checkpoints which models you want to combine and then ensemble them.

For example, if you want to combine D2 and D3 then in Test\_code\_ensemble2.py

modelA.load\_state\_dict(torch.load('checkpoint\_D2.pt'))

modelB.load\_state\_dict(torch.load('checkpoint\_D3.pt'))

model = MyEnsemble(modelB, modelC)

……

model.load\_state\_dict(torch.load('Model\checkpoint\_ensemble23.pt'))

1. Run the Test\_code\_ensemble2.py code

*Test\_code\_ensemble3.py*

1. Load the 3 checkpoints and then ensemble them

modelA.load\_state\_dict(torch.load('checkpoint\_D1.pt'))

modelB.load\_state\_dict(torch.load('checkpoint\_D2.pt'))

modelC.load\_state\_dict(torch.load('checkpoint\_D3.pt'))

model = MyEnsemble(modelA, modelB, modelC)

model.load\_state\_dict(torch.load('Model\checkpoint\_ensemble123.pt'))

1. Run the Test\_code\_ensemble3.py code