clc;

clear all;

close all;

matlabpath='C:\Users\Acer\Desktop\Pretrained Network'

data=fullfile(matlabpath,'F\_dataset\_299 size')

data=imageDatastore(data,'IncludeSubfolders',true,'LabelSource','foldernames');

[train]=splitEachLabel(data,0.8,'randomize');

count=train.countEachLabel;

net=vgg19;

layers=[imageInputLayer([299 299])

net(2:end-3)

fullyConnectedLayer(5)

softmaxLayer

classificationLayer()

]

opt=trainingOptions('adam','Maxepoch',100,'InitialLearnRate',0.001,'plots','training-progress');

trainednet=trainNetwork(train,layers,opt);

a=imread('COVID-1\_output.jpg')

out=classify(trainednet,a);

figure,imshow(a)

title(string(out))

msgbox(string(out))

[testData]=splitEachLabel(data,5);

allclass=[]

for ii=1:length(testData.Labels)

I=readimage(testData,ii);

class=classify(trainednet,I)

allclass=[allclass class]

figure(2)

subplot(30,31,ii)

imshow(I)

title(char(class))

end

Predicted=allclass

figure,plotconfusion(testData.Labels,Predicted')