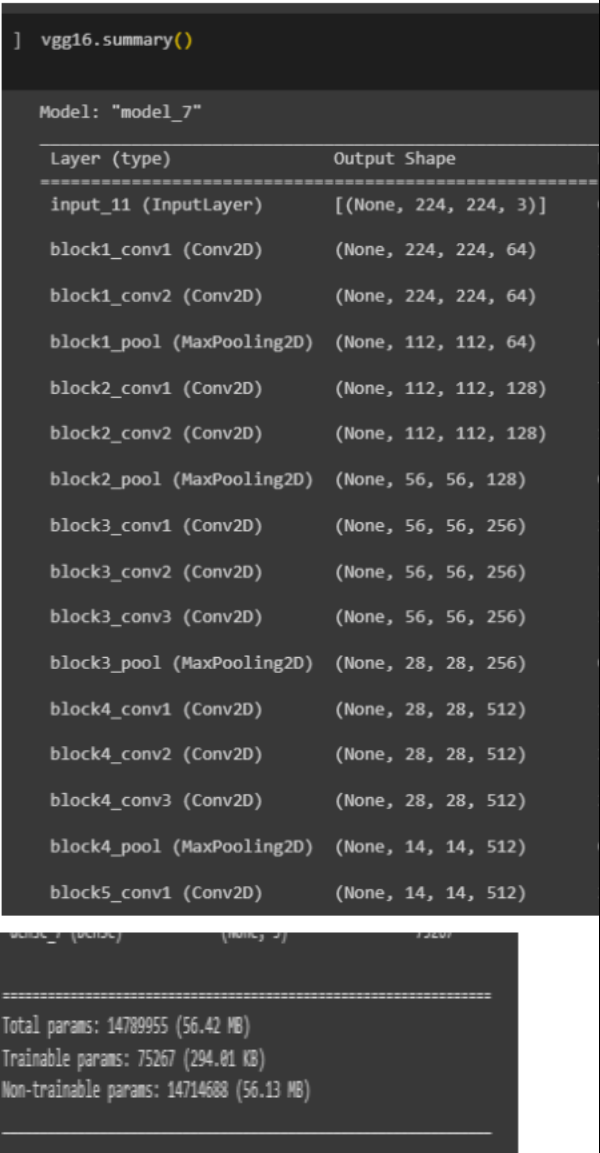


Project Development Phase Model Performance Test

Date	8 nov 2023
Team ID	Team-592597
Project Name	Project - Detecting COVID-19 From Chest X-Rays Using Deep Learning Technique
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No	Parameter	Values	Screenshot
1.	Model Summary	Total params: 14789955 Trainable params: 75267 Non-trainable params: 14714588	 <pre>] vgg16.summary() Model: "model_7" ----- Layer (type) Output Shape ----- input_11 (InputLayer) [(None, 224, 224, 3)] block1_conv1 (Conv2D) (None, 224, 224, 64) block1_conv2 (Conv2D) (None, 224, 224, 64) block1_pool (MaxPooling2D) (None, 112, 112, 64) block2_conv1 (Conv2D) (None, 112, 112, 128) block2_conv2 (Conv2D) (None, 112, 112, 128) block2_pool (MaxPooling2D) (None, 56, 56, 128) block3_conv1 (Conv2D) (None, 56, 56, 256) block3_conv2 (Conv2D) (None, 56, 56, 256) block3_conv3 (Conv2D) (None, 56, 56, 256) block3_pool (MaxPooling2D) (None, 28, 28, 256) block4_conv1 (Conv2D) (None, 28, 28, 512) block4_conv2 (Conv2D) (None, 28, 28, 512) block4_conv3 (Conv2D) (None, 28, 28, 512) block4_pool (MaxPooling2D) (None, 14, 14, 512) block5_conv1 (Conv2D) (None, 14, 14, 512) Total params: 14789955 (56.42 MB) Trainable params: 75267 (294.81 KB) Non-trainable params: 14714588 (56.13 MB) </pre>

2.	Accuracy	<p>Training Accuracy – 93%</p> <p>Validation Accuracy – 94.9%</p>	<pre>[] vgg16.fit(train,validation_data=test,epochs=2,steps_per_epoch=len(train),validation_steps =len(test)) epoch 1/2 32/32 [=====] - 180s 54ms/step - loss: 0.2772 - accuracy: 0.9018 - val_loss: 0.2377 - val_accuracy: 0.9208 epoch 2/2 32/32 [=====] - 158s 49ms/step - loss: 0.1446 - accuracy: 0.9493 - val_loss: 0.1509 - val_accuracy: 0.9433 <keras.src.callbacks.History at 0x78049434be80> [] # saving the model</pre>

3.	Confidence Score (Only Yolo Projects)	Class Detected - NA Confidence Score - NA	Not Applicable
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Screenshot:

Model Summary

```
] vgg16.summary()

Model: "model_7"
-----
Layer (type)                Output Shape                Param #
-----
input_11 (InputLayer)       [(None, 224, 224, 3)]      0
block1_conv1 (Conv2D)        (None, 224, 224, 64)       1792
block1_conv2 (Conv2D)        (None, 224, 224, 64)       36928
block1_pool (MaxPooling2D)   (None, 112, 112, 64)       0
block2_conv1 (Conv2D)        (None, 112, 112, 128)      73856
block2_conv2 (Conv2D)        (None, 112, 112, 128)     147584
block2_pool (MaxPooling2D)   (None, 56, 56, 128)        0
block3_conv1 (Conv2D)        (None, 56, 56, 256)       295168
block3_conv2 (Conv2D)        (None, 56, 56, 256)       590080
block3_conv3 (Conv2D)        (None, 56, 56, 256)       590080
block3_pool (MaxPooling2D)   (None, 28, 28, 256)        0
block4_conv1 (Conv2D)        (None, 28, 28, 512)      1180160
block4_conv2 (Conv2D)        (None, 28, 28, 512)      2359808
block4_conv3 (Conv2D)        (None, 28, 28, 512)      2359808
block4_pool (MaxPooling2D)   (None, 14, 14, 512)        0
block5_conv1 (Conv2D)        (None, 14, 14, 512)      2359808
dense_7 (Dense)              (None, 5)                  13207

=====
Total params: 14789955 (56.42 MB)
Trainable params: 75267 (294.01 KB)
Non-trainable params: 14714688 (56.13 MB)
=====
```

Accuracy

```
[ ] vgg16.fit(train,validation_data=test,epochs=2,steps_per_epoch=len(train),validation_steps =len(test))
```

Epoch 1/2

322/322 [=====] - 180s 549ms/step - loss: 0.2772 - accuracy: 0.9018 - val_loss: 0.2377 - val_accuracy: 0.9208

Epoch 2/2

322/322 [=====] - 158s 492ms/step - loss: 0.1446 - accuracy: 0.9493 - val_loss: 0.1509 - val_accuracy: 0.9433

<keras.src.callbacks.History at 0x780494340a90>

```
[ ] # saving the model
```