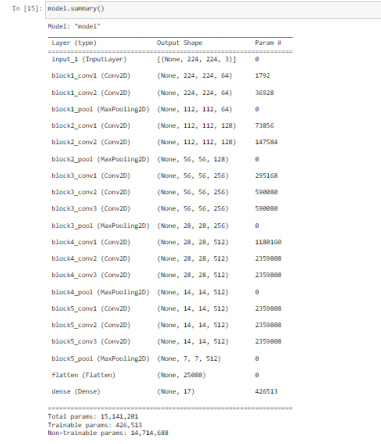
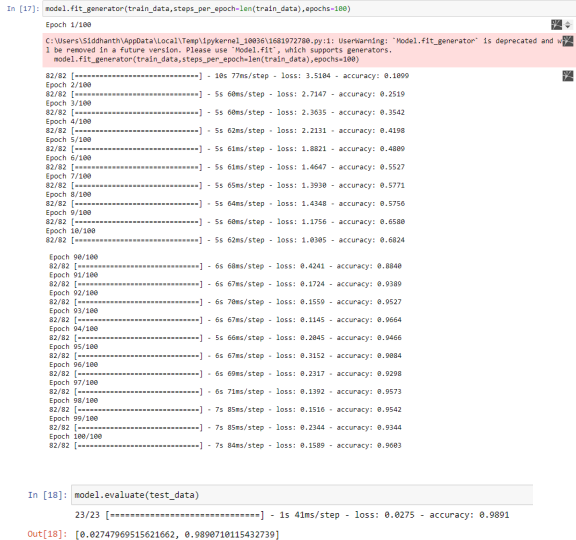


Project Development Phase Model Performance Test

Date	3 November 2023
Team ID	Team-592681
Project Name	Early Diagnosis Of Nail Diseases
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: 15,141,201 Trainable params: 426,513 Non-trainable params: 14,714,688	 <pre> In [15]: model.summary() Model: "model" Layer (type) Output Shape Param # ----- input_1 (InputLayer) [(None, 224, 224, 3)] 0 block1_conv1 (Conv2D) (None, 224, 224, 64) 1792 block1_conv2 (Conv2D) (None, 224, 224, 64) 3680 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) 590880 block3_conv3 (Conv2D) (None, 56, 56, 256) 590880 block3_pool (MaxPooling2D) (None, 28, 28, 256) 0 block4_conv1 (Conv2D) (None, 28, 28, 512) 1180368 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 block5_conv2 (Conv2D) (None, 14, 14, 512) 2359808 block5_conv3 (Conv2D) (None, 14, 14, 512) 2359808 block5_pool (MaxPooling2D) (None, 7, 7, 512) 0 flatten (Flatten) (None, 25088) 0 dense (Dense) (None, 17) 420513 Total params: 15,141,201 Trainable params: 426,513 Non-trainable params: 14,714,688 </pre>
2.	Accuracy	Training Accuracy - 96.03 Testing Accuracy - 98.91	 <pre> In [17]: model.fit_generator(train_data, steps_per_epoch=len(train_data), epochs=100) Epoch 1/100 Epoch 2/100 Epoch 3/100 Epoch 4/100 Epoch 5/100 Epoch 6/100 Epoch 7/100 Epoch 8/100 Epoch 9/100 Epoch 10/100 Epoch 11/100 Epoch 12/100 Epoch 13/100 Epoch 14/100 Epoch 15/100 Epoch 16/100 Epoch 17/100 Epoch 18/100 Epoch 19/100 Epoch 20/100 Epoch 21/100 Epoch 22/100 Epoch 23/100 Epoch 24/100 Epoch 25/100 Epoch 26/100 Epoch 27/100 Epoch 28/100 Epoch 29/100 Epoch 30/100 Epoch 31/100 Epoch 32/100 Epoch 33/100 Epoch 34/100 Epoch 35/100 Epoch 36/100 Epoch 37/100 Epoch 38/100 Epoch 39/100 Epoch 40/100 Epoch 41/100 Epoch 42/100 Epoch 43/100 Epoch 44/100 Epoch 45/100 Epoch 46/100 Epoch 47/100 Epoch 48/100 Epoch 49/100 Epoch 50/100 Epoch 51/100 Epoch 52/100 Epoch 53/100 Epoch 54/100 Epoch 55/100 Epoch 56/100 Epoch 57/100 Epoch 58/100 Epoch 59/100 Epoch 60/100 Epoch 61/100 Epoch 62/100 Epoch 63/100 Epoch 64/100 Epoch 65/100 Epoch 66/100 Epoch 67/100 Epoch 68/100 Epoch 69/100 Epoch 70/100 Epoch 71/100 Epoch 72/100 Epoch 73/100 Epoch 74/100 Epoch 75/100 Epoch 76/100 Epoch 77/100 Epoch 78/100 Epoch 79/100 Epoch 80/100 Epoch 81/100 Epoch 82/100 Epoch 83/100 Epoch 84/100 Epoch 85/100 Epoch 86/100 Epoch 87/100 Epoch 88/100 Epoch 89/100 Epoch 90/100 Epoch 91/100 Epoch 92/100 Epoch 93/100 Epoch 94/100 Epoch 95/100 Epoch 96/100 Epoch 97/100 Epoch 98/100 Epoch 99/100 Epoch 100/100 In [18]: model.evaluate(test_data) 23/23 [=====] - 1s 41ms/step - loss: 0.0275 - accuracy: 0.9891 Out[18]: [0.02747969515021662, 0.989071015432739] </pre>

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

Model Summary

In [15]:

model.summary()

Model: "model"

Layer (type)	Output Shape	Param #
=====		
input_1 (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
block5_conv2 (Conv2D)	(None, 14, 14, 512)	2359808
block5_conv3 (Conv2D)	(None, 14, 14, 512)	2359808
block5_pool (MaxPooling2D)	(None, 7, 7, 512)	0
flatten (Flatten)	(None, 25088)	0
dense (Dense)	(None, 17)	426513
=====		
Total params: 15,141,201		
Trainable params: 426,513		
Non-trainable params: 14,714,688		

Train Accuracy

```
In [17]: model.fit_generator(train_data, steps_per_epoch=len(train_data), epochs=100)
```

Epoch 1/100

C:\Users\Siddhanth\AppData\Local\Temp\ipykernel_10036\1681972780.py:1: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future version. Please use `Model.fit`, which supports generators.
model.fit_generator(train_data, steps_per_epoch=len(train_data), epochs=100)

82/82 [=====] - 10s 77ms/step - loss: 3.5104 - accuracy: 0.1099

Epoch 2/100

82/82 [=====] - 5s 60ms/step - loss: 2.7147 - accuracy: 0.2519

Epoch 3/100

82/82 [=====] - 5s 60ms/step - loss: 2.3635 - accuracy: 0.3542

Epoch 4/100

82/82 [=====] - 5s 62ms/step - loss: 2.2131 - accuracy: 0.4198

Epoch 5/100

82/82 [=====] - 5s 61ms/step - loss: 1.8821 - accuracy: 0.4809

Epoch 6/100

82/82 [=====] - 5s 61ms/step - loss: 1.4647 - accuracy: 0.5527

Epoch 7/100

82/82 [=====] - 5s 65ms/step - loss: 1.3930 - accuracy: 0.5771

Epoch 8/100

82/82 [=====] - 5s 64ms/step - loss: 1.4348 - accuracy: 0.5756

Epoch 9/100

82/82 [=====] - 5s 60ms/step - loss: 1.1756 - accuracy: 0.6580

Epoch 10/100

82/82 [=====] - 5s 62ms/step - loss: 1.0305 - accuracy: 0.6824

Epoch 90/100

82/82 [=====] - 6s 68ms/step - loss: 0.4241 - accuracy: 0.8840

Epoch 91/100

82/82 [=====] - 6s 67ms/step - loss: 0.1724 - accuracy: 0.9389

Epoch 92/100

82/82 [=====] - 6s 70ms/step - loss: 0.1559 - accuracy: 0.9527

Epoch 93/100

82/82 [=====] - 6s 67ms/step - loss: 0.1145 - accuracy: 0.9664

Epoch 94/100

82/82 [=====] - 5s 66ms/step - loss: 0.2045 - accuracy: 0.9466

Epoch 95/100

82/82 [=====] - 6s 67ms/step - loss: 0.3152 - accuracy: 0.9084

Epoch 96/100

82/82 [=====] - 6s 69ms/step - loss: 0.2317 - accuracy: 0.9298

Epoch 97/100

82/82 [=====] - 6s 71ms/step - loss: 0.1392 - accuracy: 0.9573

Epoch 98/100

82/82 [=====] - 7s 85ms/step - loss: 0.1516 - accuracy: 0.9542

Epoch 99/100

82/82 [=====] - 7s 85ms/step - loss: 0.2344 - accuracy: 0.9344

Epoch 100/100

82/82 [=====] - 7s 84ms/step - loss: 0.1589 - accuracy: 0.9603

Out[17]: <keras.callbacks.History at 0x257bfd1e3e0>

Test Accuracy

```
In [18]: model.evaluate(test_data)
```

23/23 [=====] - 1s 41ms/step - loss: 0.0275 - accuracy: 0.9891

Out[18]: [0.02747969515621662, 0.9890710115432739]