

PERFORMANCE TESTING

DATE	17.11.2022
TEAM ID	PNT2022TMID21664
PROJECT NAME	FERTILIZERS RECOMMENDATION SYSTEM FOR DISEASE PREDICTION

MODEL PERFORMANCE TESTING

1. PARAMETER - MODEL SUMMARY

VEGETABLE-

Model: "sequential_2"

Layer (type)	Output Shape	Param #
conv2d_1 (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d_1 (MaxPooling2D)	(None, 63, 63, 32)	0
flatten_1 (Flatten)	(None, 127008)	0
dense_7 (Dense)	(None, 300)	38102700
dense_8 (Dense)	(None, 150)	45150
dense_9 (Dense)	(None, 75)	11325
dense_10 (Dense)	(None, 9)	684
Total params: 38,160,755		
Trainable params: 38,160,755		
Non-trainable params: 0		

FRUIT-

Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d (MaxPooling2D)	(None, 63, 63, 32)	0
flatten (Flatten)	(None, 127008)	0
dense (Dense)	(None, 40)	5080360
dense_1 (Dense)	(None, 20)	820
dense_2 (Dense)	(None, 6)	126
Total params: 5,082,202		
Trainable params: 5,082,202		
Non-trainable params: 0		

2.ACCURACY

Training Accuracy -

Validation Accuracy -

VEGETABLE-

```
model.fit(x_train,epochs=10,steps_per_epoch=89,validation_data = x_test, validation_steps = 27)
```

```
model.save("veg.h5")
```

```
Epoch 1/10
89/89 [=====] - 718s 8s/step - loss: 1.4285 - accuracy: 0.5103 - val_loss: 398.4555 - val_accuracy: 0.3611
Epoch 2/10
89/89 [=====] - 512s 6s/step - loss: 0.9607 - accuracy: 0.6552 - val_loss: 883.0972 - val_accuracy: 0.2697
Epoch 3/10
89/89 [=====] - 361s 4s/step - loss: 0.7985 - accuracy: 0.7229 - val_loss: 664.0219 - val_accuracy: 0.3275
Epoch 4/10
89/89 [=====] - 290s 3s/step - loss: 0.6901 - accuracy: 0.7598 - val_loss: 870.4464 - val_accuracy: 0.2859
Epoch 5/10
89/89 [=====] - 208s 2s/step - loss: 0.6114 - accuracy: 0.7802 - val_loss: 709.7632 - val_accuracy: 0.3542
Epoch 6/10
89/89 [=====] - 183s 2s/step - loss: 0.5603 - accuracy: 0.7978 - val_loss: 842.9805 - val_accuracy: 0.2384
Epoch 7/10
89/89 [=====] - 148s 2s/step - loss: 0.5167 - accuracy: 0.8195 - val_loss: 1794.7992 - val_accuracy: 0.1296
Epoch 8/10
89/89 [=====] - 118s 1s/step - loss: 0.4628 - accuracy: 0.8385 - val_loss: 1593.1969 - val_accuracy: 0.1516
Epoch 9/10
89/89 [=====] - 103s 1s/step - loss: 0.4795 - accuracy: 0.8304 - val_loss: 1793.0253 - val_accuracy: 0.1551
Epoch 10/10
89/89 [=====] - 94s 1s/step - loss: 0.3958 - accuracy: 0.8575 - val_loss: 1651.8546 - val_accuracy: 0.1505
```

FRUIT-

```
model.fit(x_train,epochs=10,steps_per_epoch=89,validation_data = x_test, validation_steps = 27)
```

```
model.save("fruit.h5")
```

```
Epoch 1/10
89/89 [=====] - 945s 11s/step - loss: 1.1761 - accuracy: 0.6246 - val_loss: 66.9958 - val_accuracy: 0.7940
Epoch 2/10
89/89 [=====] - 477s 5s/step - loss: 0.5927 - accuracy: 0.8090 - val_loss: 129.4430 - val_accuracy: 0.6516
Epoch 3/10
89/89 [=====] - 234s 3s/step - loss: 0.4787 - accuracy: 0.8441 - val_loss: 227.8628 - val_accuracy: 0.5243
Epoch 4/10
89/89 [=====] - 122s 1s/step - loss: 0.3456 - accuracy: 0.8835 - val_loss: 233.2232 - val_accuracy: 0.5359
Epoch 5/10
89/89 [=====] - 85s 959ms/step - loss: 0.2847 - accuracy: 0.9040 - val_loss: 633.7368 - val_accuracy: 0.3704
Epoch 6/10
89/89 [=====] - 68s 767ms/step - loss: 0.2261 - accuracy: 0.9235 - val_loss: 681.6103 - val_accuracy: 0.3993
Epoch 7/10
89/89 [=====] - 59s 663ms/step - loss: 0.2459 - accuracy: 0.9125 - val_loss: 233.5868 - val_accuracy: 0.6343
Epoch 8/10
89/89 [=====] - 52s 587ms/step - loss: 0.2116 - accuracy: 0.9245 - val_loss: 600.8589 - val_accuracy: 0.4167
Epoch 9/10
89/89 [=====] - 51s 572ms/step - loss: 0.1742 - accuracy: 0.9431 - val_loss: 729.3225 - val_accuracy: 0.4167
Epoch 10/10
89/89 [=====] - 52s 587ms/step - loss: 0.1638 - accuracy: 0.9437 - val_loss: 778.6277 - val_accuracy: 0.3681
```

3. Confidence Score (Only Yolo Projects)- THIS IS NOT A YOLO PROJECT