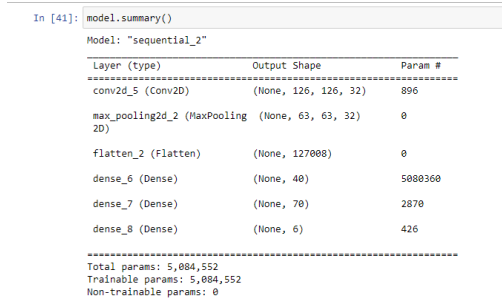
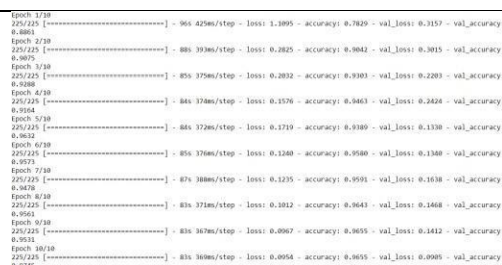


Project Development Phase Model Performance Test

Date	17 November 2022
Team ID	PNT2022TMID15357
Project Name	Fertilizers RecommendationSystem for Disease Prediction
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: 5,084,552 Trainable params: 5,084,552 Non-trainable params: 0	 <pre> In [41]: model.summary() Model: "sequential_2" Layer (type) Output Shape Param # ----- conv2d_5 (Conv2D) (None, 126, 126, 32) 896 max_pooling2d_2 (MaxPooling2D) (None, 63, 63, 32) 0 flatten_2 (Flatten) (None, 127008) 0 dense_6 (Dense) (None, 40) 5080360 dense_7 (Dense) (None, 70) 2870 dense_8 (Dense) (None, 6) 426 ----- Total params: 5,084,552 Trainable params: 5,084,552 Non-trainable params: 0 </pre>
2.	Accuracy	Training Accuracy – 96.55 Validation Accuracy – 97.45	 <pre> Epoch 1/10: - loss: 1.1895 - accuracy: 0.7828 - val_loss: 0.3157 - val_accuracy: 0.4861 Epoch 2/10: - loss: 0.8825 - accuracy: 0.8842 - val_loss: 0.3015 - val_accuracy: 0.5075 Epoch 3/10: - loss: 0.8532 - accuracy: 0.9303 - val_loss: 0.2203 - val_accuracy: 0.5088 Epoch 4/10: - loss: 0.5576 - accuracy: 0.9463 - val_loss: 0.2428 - val_accuracy: 0.5164 Epoch 5/10: - loss: 0.3719 - accuracy: 0.9389 - val_loss: 0.1338 - val_accuracy: 0.9532 Epoch 6/10: - loss: 0.3340 - accuracy: 0.9580 - val_loss: 0.1340 - val_accuracy: 0.9571 Epoch 7/10: - loss: 0.3235 - accuracy: 0.9591 - val_loss: 0.1638 - val_accuracy: 0.9478 Epoch 8/10: - loss: 0.3812 - accuracy: 0.9641 - val_loss: 0.1468 - val_accuracy: 0.9561 Epoch 9/10: - loss: 0.3676 - accuracy: 0.9867 - val_loss: 0.1412 - val_accuracy: 0.9531 Epoch 10/10: - loss: 0.4054 - accuracy: 0.9855 - val_loss: 0.0905 - val_accuracy: 0.9745 </pre>

Model Summary

In [41]: `model.summary()`

Model: "sequential_2"

Layer (type)	Output Shape	Param #
conv2d_5 (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d_2 (MaxPooling 2D)	(None, 63, 63, 32)	0
flatten_2 (Flatten)	(None, 127008)	0
dense_6 (Dense)	(None, 40)	5080360
dense_7 (Dense)	(None, 70)	2870
dense_8 (Dense)	(None, 6)	426
Total params: 5,084,552		
Trainable params: 5,084,552		
Non-trainable params: 0		

Accuracy

```
Epoch 1/10
225/225 [=====] - 96s 425ms/step - loss: 1.1095 - accuracy: 0.7829 - val_loss: 0.3157 - val_accuracy: 0.8861
Epoch 2/10
225/225 [=====] - 88s 393ms/step - loss: 0.2825 - accuracy: 0.9042 - val_loss: 0.3015 - val_accuracy: 0.9075
Epoch 3/10
225/225 [=====] - 85s 375ms/step - loss: 0.2032 - accuracy: 0.9303 - val_loss: 0.2203 - val_accuracy: 0.9288
Epoch 4/10
225/225 [=====] - 84s 374ms/step - loss: 0.1576 - accuracy: 0.9463 - val_loss: 0.2424 - val_accuracy: 0.9164
Epoch 5/10
225/225 [=====] - 84s 372ms/step - loss: 0.1719 - accuracy: 0.9389 - val_loss: 0.1330 - val_accuracy: 0.9632
Epoch 6/10
225/225 [=====] - 85s 376ms/step - loss: 0.1240 - accuracy: 0.9580 - val_loss: 0.1340 - val_accuracy: 0.9573
Epoch 7/10
225/225 [=====] - 87s 388ms/step - loss: 0.1235 - accuracy: 0.9591 - val_loss: 0.1638 - val_accuracy: 0.9478
Epoch 8/10
225/225 [=====] - 83s 371ms/step - loss: 0.1012 - accuracy: 0.9643 - val_loss: 0.1468 - val_accuracy: 0.9561
Epoch 9/10
225/225 [=====] - 83s 367ms/step - loss: 0.0967 - accuracy: 0.9655 - val_loss: 0.1412 - val_accuracy: 0.9531
Epoch 10/10
225/225 [=====] - 83s 369ms/step - loss: 0.0954 - accuracy: 0.9655 - val_loss: 0.0905 - val_accuracy: 0.9745
```