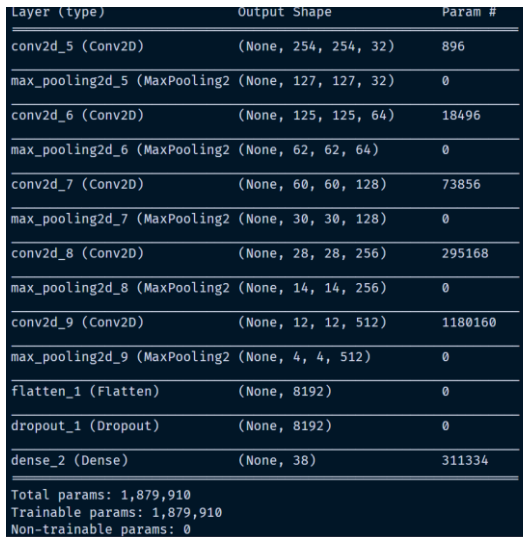
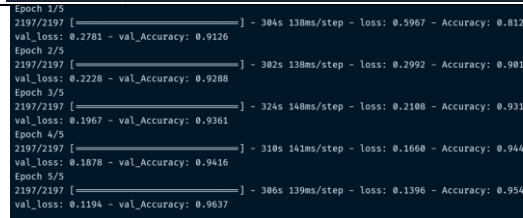


Project Development Phase Model Performance Test

Date	12 November 2022
Team ID	PNT2022TMID35945
Project Name	Fertilizers Recommendation System 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: 1,879,910 Trainable params: 1,879,910 Non-trainable params: 0	 <p>The screenshot displays the Keras model summary for a convolutional neural network. It lists 15 layers: 14 convolutional layers (conv2d_5 to conv2d_9), 4 max pooling layers (max_pooling2d_5 to max_pooling2d_9), 1 flatten layer (flatten_1), 1 dropout layer (dropout_1), and 1 dense layer (dense_2). The total number of parameters is 1,879,910, with all of them being trainable. The parameter counts for each layer are: conv2d_5 (896), max_pooling2d_5 (0), conv2d_6 (18496), max_pooling2d_6 (0), conv2d_7 (73856), max_pooling2d_7 (0), conv2d_8 (295168), max_pooling2d_8 (0), conv2d_9 (1180160), max_pooling2d_9 (0), flatten_1 (0), dropout_1 (0), dense_2 (311334).</p>
2.	Accuracy	Training Accuracy – 95.49 Validation Accuracy – 96.37 Epochs - 5	 <p>The screenshot shows the Keras training history for 5 epochs. The training accuracy starts at 0.9126 and increases to 0.9637. The validation accuracy starts at 0.9011 and increases to 0.9541. The training loss starts at 0.2781 and decreases to 0.1194. The validation loss starts at 0.2228 and decreases to 0.1396. The training time per epoch is approximately 384s to 386s.</p>

Model Summary

Layer (type)	Output Shape	Param #
conv2d_5 (Conv2D)	(None, 254, 254, 32)	896
max_pooling2d_5 (MaxPooling2D)	(None, 127, 127, 32)	0
conv2d_6 (Conv2D)	(None, 125, 125, 64)	18496
max_pooling2d_6 (MaxPooling2D)	(None, 62, 62, 64)	0
conv2d_7 (Conv2D)	(None, 60, 60, 128)	73856
max_pooling2d_7 (MaxPooling2D)	(None, 30, 30, 128)	0
conv2d_8 (Conv2D)	(None, 28, 28, 256)	295168
max_pooling2d_8 (MaxPooling2D)	(None, 14, 14, 256)	0
conv2d_9 (Conv2D)	(None, 12, 12, 512)	1180160
max_pooling2d_9 (MaxPooling2D)	(None, 4, 4, 512)	0
flatten_1 (Flatten)	(None, 8192)	0
dropout_1 (Dropout)	(None, 8192)	0
dense_2 (Dense)	(None, 38)	311334
Total params: 1,879,910		
Trainable params: 1,879,910		
Non-trainable params: 0		

Accuracy

```
Epoch 1/5
2197/2197 [=====] - 304s 138ms/step - loss: 0.5967 - Accuracy: 0.8121 -
val_loss: 0.2781 - val_Accuracy: 0.9126
Epoch 2/5
2197/2197 [=====] - 302s 138ms/step - loss: 0.2992 - Accuracy: 0.9019 -
val_loss: 0.2228 - val_Accuracy: 0.9288
Epoch 3/5
2197/2197 [=====] - 324s 148ms/step - loss: 0.2108 - Accuracy: 0.9312 -
val_loss: 0.1967 - val_Accuracy: 0.9361
Epoch 4/5
2197/2197 [=====] - 310s 141ms/step - loss: 0.1660 - Accuracy: 0.9448 -
val_loss: 0.1878 - val_Accuracy: 0.9416
Epoch 5/5
2197/2197 [=====] - 306s 139ms/step - loss: 0.1396 - Accuracy: 0.9549 -
val_loss: 0.1194 - val_Accuracy: 0.9637
```