Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID592899
Project Name	Project - 029
Maximum Marks	10 Marks

Model Performance Testing:

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

S.No.	Parameter	Values
1.	Model Summary	
2.	Accuracy	Training Accuracy - **99.29** Validation Accuracy - **76.54**

Model Summary Screenshot:

```
1  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, 8)                 200712

=================================================================
Total params: 14915400 (56.90 MB)
Trainable params: 200712 (784.03 KB)
Non-trainable params: 14714688 (56.13 MB)
_________________________________________________________________
```

Accuracy Screenshot

```
Epoch 1/30
23/23 [==============================] - 549s 24s/step - loss: 2.1092 - accuracy: 0.3258 - val_loss: 1.4178 - val_accuracy: 0.4972
Epoch 2/30
23/23 [==============================] - 43s 2s/step - loss: 1.1890 - accuracy: 0.5907 - val_loss: 1.0249 - val_accuracy: 0.6145
Epoch 3/30
23/23 [==============================] - 43s 2s/step - loss: 0.7187 - accuracy: 0.7436 - val_loss: 0.9063 - val_accuracy: 0.6704
Epoch 4/30
23/23 [==============================] - 41s 2s/step - loss: 0.5722 - accuracy: 0.7932 - val_loss: 0.9021 - val_accuracy: 0.6704
Epoch 5/30
23/23 [==============================] - 41s 2s/step - loss: 0.6234 - accuracy: 0.7960 - val_loss: 0.9940 - val_accuracy: 0.6369
Epoch 6/30
23/23 [==============================] - 42s 2s/step - loss: 0.4563 - accuracy: 0.8399 - val_loss: 0.7574 - val_accuracy: 0.6983
Epoch 7/30
23/23 [==============================] - 43s 2s/step - loss: 0.3418 - accuracy: 0.8796 - val_loss: 0.6756 - val_accuracy: 0.7430
Epoch 8/30
23/23 [==============================] - 42s 2s/step - loss: 0.3102 - accuracy: 0.9093 - val_loss: 0.8102 - val_accuracy: 0.6927
Epoch 9/30
23/23 [==============================] - 41s 2s/step - loss: 0.3453 - accuracy: 0.8754 - val_loss: 0.8511 - val_accuracy: 0.7039
Epoch 10/30
23/23 [==============================] - 42s 2s/step - loss: 0.2587 - accuracy: 0.9235 - val_loss: 0.8129 - val_accuracy: 0.7486
Epoch 11/30
23/23 [==============================] - 40s 2s/step - loss: 0.2543 - accuracy: 0.9263 - val_loss: 0.6217 - val_accuracy: 0.7709
Epoch 12/30
23/23 [==============================] - 43s 2s/step - loss: 0.2035 - accuracy: 0.9533 - val_loss: 0.6152 - val_accuracy: 0.7877
Epoch 13/30
23/23 [==============================] - 46s 2s/step - loss: 0.1850 - accuracy: 0.9504 - val_loss: 0.6710 - val_accuracy: 0.7207
Epoch 14/30
23/23 [==============================] - 40s 2s/step - loss: 0.2003 - accuracy: 0.9419 - val_loss: 0.6332 - val_accuracy: 0.7430
Epoch 15/30
23/23 [==============================] - 43s 2s/step - loss: 0.1457 - accuracy: 0.9688 - val_loss: 0.5759 - val_accuracy: 0.7709
Epoch 16/30
23/23 [==============================] - 43s 2s/step - loss: 0.1181 - accuracy: 0.9844 - val_loss: 0.5626 - val_accuracy: 0.7765
Epoch 17/30
23/23 [==============================] - 41s 2s/step - loss: 0.1125 - accuracy: 0.9844 - val_loss: 0.5693 - val_accuracy: 0.7542
Epoch 18/30
23/23 [==============================] - 40s 2s/step - loss: 0.1013 - accuracy: 0.9844 - val_loss: 0.5735 - val_accuracy: 0.7821
Epoch 19/30
23/23 [==============================] - 41s 2s/step - loss: 0.0920 - accuracy: 0.9830 - val_loss: 0.5342 - val_accuracy: 0.8212
Epoch 20/30
23/23 [==============================] - 42s 2s/step - loss: 0.0924 - accuracy: 0.9887 - val_loss: 0.5630 - val_accuracy: 0.7877
Epoch 21/30
23/23 [==============================] - 40s 2s/step - loss: 0.0840 - accuracy: 0.9901 - val_loss: 0.6590 - val_accuracy: 0.7709
Epoch 22/30
23/23 [==============================] - 41s 2s/step - loss: 0.1034 - accuracy: 0.9830 - val_loss: 0.5937 - val_accuracy: 0.7709
Epoch 23/30
23/23 [==============================] - 42s 2s/step - loss: 0.0789 - accuracy: 0.9943 - val_loss: 0.5580 - val_accuracy: 0.8045
Epoch 24/30
23/23 [==============================] - 42s 2s/step - loss: 0.0777 - accuracy: 0.9873 - val_loss: 0.6254 - val_accuracy: 0.7709
Epoch 25/30
23/23 [==============================] - 41s 2s/step - loss: 0.0766 - accuracy: 0.9915 - val_loss: 0.6385 - val_accuracy: 0.7207
Epoch 26/30
23/23 [==============================] - 40s 2s/step - loss: 0.0608 - accuracy: 0.9958 - val_loss: 0.5898 - val_accuracy: 0.7877
Epoch 27/30
23/23 [==============================] - 41s 2s/step - loss: 0.0595 - accuracy: 0.9929 - val_loss: 0.6158 - val_accuracy: 0.7654
Epoch 28/30
23/23 [==============================] - 47s 2s/step - loss: 0.0729 - accuracy: 0.9929 - val_loss: 0.6359 - val_accuracy: 0.7933
Epoch 29/30
23/23 [==============================] - 40s 2s/step - loss: 0.0823 - accuracy: 0.9788 - val_loss: 0.6609 - val_accuracy: 0.7598
```