Performance Test

Date	18 November 2022
Team ID	PNT2022TMID44903
Project Name	AI-based localization and classification of skin disease with erythema
Maximum Marks	10 Marks

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Total params: 896 Trainable params: 896 Non-trainable params: 0	`model.summary()` 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 Total params: 896 Trainable params: 896 Non-trainable params: 0 _____
2.	Accuracy	Training Accuracy – 96.55 Validation Accuracy – 97.45	Epoch 1/10 225/225 [==========] - 96s 425ms/step - loss: 1.1895 - 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

Model Summary

```
model.summary()
```

```
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

=================================================================
Total params: 896
Trainable params: 896
Non-trainable params: 0
_________________________________________________________________
```

Accuracy

```
model.fit_generator(x_train,steps_per_epoch=len(x_train),validation_data=x_test,validation_steps=len(x_test),epochs=10)
```

```
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
```