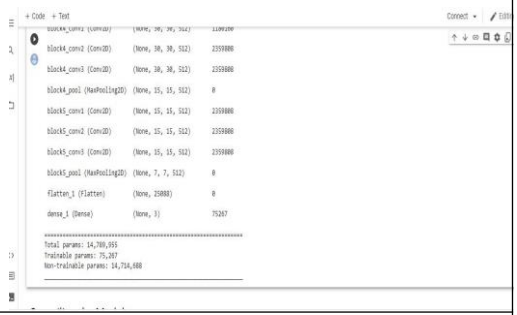
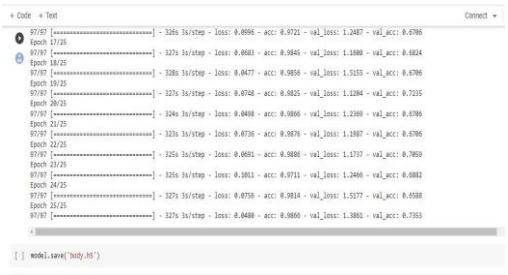
Project Development Phase
Model Performance Test

Date	21 November 2022
Team ID	PNT2022TMID38915
Project Name	Intelligent vehicle damage assessment & cost estimator for insurance companies.
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:14,789,955 Trainable params: 75,267 Non-trainable params: 14,714,688	
2.	Accuracy	Training Accuracy – 98.66 Validation Accuracy – 73.53	

Model Summary

```
model=Model(inputs=vgg.input,outputs=prediction)
model.summary()
```

```
Model: "model_1"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
input_2 (InputLayer)         [(None, 244, 244, 3)]     0
block1_conv1 (Conv2D)        (None, 244, 244, 64)      1792
block1_conv2 (Conv2D)        (None, 244, 244, 64)      36928
block1_pool (MaxPooling2D)   (None, 122, 122, 64)      0
block2_conv1 (Conv2D)        (None, 122, 122, 128)     73856
block2_conv2 (Conv2D)        (None, 122, 122, 128)     147584
block2_pool (MaxPooling2D)   (None, 61, 61, 128)       0
block3_conv1 (Conv2D)        (None, 61, 61, 256)       295168
block3_conv2 (Conv2D)        (None, 61, 61, 256)       590080
block3_conv3 (Conv2D)        (None, 61, 61, 256)       590080
```

```
block3_pool (MaxPooling2D)   (None, 30, 30, 256)       0
block4_conv1 (Conv2D)        (None, 30, 30, 512)       1180160
block4_conv2 (Conv2D)        (None, 30, 30, 512)       2359808
block4_conv3 (Conv2D)        (None, 30, 30, 512)       2359808
block4_pool (MaxPooling2D)   (None, 15, 15, 512)       0
block5_conv1 (Conv2D)        (None, 15, 15, 512)       2359808
block5_conv2 (Conv2D)        (None, 15, 15, 512)       2359808
block5_conv3 (Conv2D)        (None, 15, 15, 512)       2359808
block5_pool (MaxPooling2D)   (None, 7, 7, 512)         0
flatten_1 (Flatten)          (None, 25088)             0
dense_1 (Dense)              (None, 3)                 75267
=================================================================
Total params: 14,789,955
Trainable params: 75,267
Non-trainable params: 14,714,688
_________________________________________________________________
```

Accuracy

```
r = model.fit_generator(
    training_set,
    validation_data = test_set,
    epochs = 25,
    steps_per_epoch=979//10,
    validation_steps = 171//10
)
```

```
/tmp/wsuser/ipykernel_164/289406290.py:1: UserWarning: `Model.fit_generator` is deprecated and will be removed in a future version. Please use `Model.fit`, which
  r = model.fit_generator(
Epoch 1/25
97/97 [==============================] - 339s 3s/step - loss: 1.1511 - acc: 0.5459 - val_loss: 0.9324 - val_acc: 0.6294
Epoch 2/25
97/97 [==============================] - 328s 3s/step - loss: 0.6237 - acc: 0.7534 - val_loss: 0.7954 - val_acc: 0.6941
Epoch 3/25
97/97 [==============================] - 331s 3s/step - loss: 0.4937 - acc: 0.8070 - val_loss: 1.1732 - val_acc: 0.6176
Epoch 4/25
97/97 [==============================] - 326s 3s/step - loss: 0.4349 - acc: 0.8411 - val_loss: 0.9766 - val_acc: 0.6824
Epoch 5/25
97/97 [==============================] - 326s 3s/step - loss: 0.3661 - acc: 0.8617 - val_loss: 1.1987 - val_acc: 0.6529
Epoch 6/25
97/97 [==============================] - 325s 3s/step - loss: 0.2681 - acc: 0.8875 - val_loss: 0.9087 - val_acc: 0.6941
Epoch 7/25
97/97 [==============================] - 325s 3s/step - loss: 0.2292 - acc: 0.9195 - val_loss: 1.0251 - val_acc: 0.6647
Epoch 8/25
97/97 [==============================] - 326s 3s/step - loss: 0.1248 - acc: 0.9659 - val_loss: 1.0597 - val_acc: 0.6706
```

```
97/97 [==============================] - 322s 3s/step - loss: 0.1447 - acc: 0.9536 - val_loss: 1.1999 - val_acc: 0.6706
Epoch 13/25
97/97 [==============================] - 325s 3s/step - loss: 0.0746 - acc: 0.9763 - val_loss: 1.1819 - val_acc: 0.6647
Epoch 14/25
97/97 [==============================] - 325s 3s/step - loss: 0.1078 - acc: 0.9711 - val_loss: 1.0919 - val_acc: 0.7176
Epoch 15/25
97/97 [==============================] - 327s 3s/step - loss: 0.0659 - acc: 0.9866 - val_loss: 1.0925 - val_acc: 0.6824
Epoch 16/25
97/97 [==============================] - 326s 3s/step - loss: 0.0996 - acc: 0.9721 - val_loss: 1.2487 - val_acc: 0.6706
Epoch 17/25
97/97 [==============================] - 327s 3s/step - loss: 0.0683 - acc: 0.9845 - val_loss: 1.1608 - val_acc: 0.6824
Epoch 18/25
97/97 [==============================] - 328s 3s/step - loss: 0.0477 - acc: 0.9856 - val_loss: 1.5155 - val_acc: 0.6706
Epoch 19/25
97/97 [==============================] - 327s 3s/step - loss: 0.0748 - acc: 0.9825 - val_loss: 1.1204 - val_acc: 0.7235
Epoch 20/25
97/97 [==============================] - 324s 3s/step - loss: 0.0498 - acc: 0.9866 - val_loss: 1.2369 - val_acc: 0.6706
Epoch 21/25
97/97 [==============================] - 323s 3s/step - loss: 0.0736 - acc: 0.9876 - val_loss: 1.1987 - val_acc: 0.6706
Epoch 22/25
97/97 [==============================] - 325s 3s/step - loss: 0.0691 - acc: 0.9886 - val_loss: 1.1737 - val_acc: 0.7059
Epoch 23/25
97/97 [==============================] - 325s 3s/step - loss: 0.1011 - acc: 0.9711 - val_loss: 1.2466 - val_acc: 0.6882
Epoch 24/25
97/97 [==============================] - 327s 3s/step - loss: 0.0756 - acc: 0.9814 - val_loss: 1.5177 - val_acc: 0.6588
Epoch 25/25
97/97 [==============================] - 327s 3s/step - loss: 0.0480 - acc: 0.9866 - val_loss: 1.3861 - val_acc: 0.7353
```