Project Development Phase
Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID06900
Project Name	Project – A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION
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	-	
2.	Accuracy	Training Accuracy - 0.97708 Validation Accuracy -0.97244	
3.	Confidence Score (Only Yolo Projects) – NOT applicable	Class Detected - NIL Confidence Score - NIL	NOT APPLICABLE

MODEL SUMMARY

```
         model.save('models/mnistCNN.h5')

[48]: model.summary()

      Model: "sequential"
      _____
       Layer (type)            Output Shape              Param #
      ===============================================================
       conv2d (Conv2D)         (None, 26, 26, 64)        640

       conv2d_1 (Conv2D)       (None, 24, 24, 32)        18464

       flatten (Flatten)       (None, 18432)             0

       dense (Dense)           (None, 10)                184330

      ===============================================================
      Total params: 203,434
      Trainable params: 203,434
      Non-trainable params: 0
      _____
```

ACCURACY

```
In [13]: #TRAINING THE MODEL

         model.fit(x_train,y_train, validation_data=(x_test,y_test),epochs=5, batch_size=32)

         Epoch 1/5
         1875/1875 [==============================] - 173s 92ms/step - loss: 0.3002 - accuracy: 0.9491 - val_loss: 0.1158 - val_accuracy: 0.9655
         Epoch 2/5
         1875/1875 [==============================] - 172s 92ms/step - loss: 0.0772 - accuracy: 0.9766 - val_loss: 0.0794 - val_accuracy: 0.9740
         Epoch 3/5
         1875/1875 [==============================] - 172s 92ms/step - loss: 0.0537 - accuracy: 0.9834 - val_loss: 0.0867 - val_accuracy: 0.9756
         Epoch 4/5
         1875/1875 [==============================] - 172s 92ms/step - loss: 0.0398 - accuracy: 0.9875 - val_loss: 0.1270 - val_accuracy: 0.9725
         Epoch 5/5
         1875/1875 [==============================] - 174s 93ms/step - loss: 0.0353 - accuracy: 0.9888 - val_loss: 0.1055 - val_accuracy: 0.9746

Out[13]: <keras.callbacks.History at 0x7fe18edaffa0>
```