Model Building

Train the Model

```
In [17]:   model.fit(X_train, Y_train, batch_size=32, epochs=5, validation_data=(X_test,Y_test))
```

```
Epoch 1/5
1875/1875 [==============================] - 194s 103ms/step - loss: 0.2567 - accuracy: 0.9506 - val_loss: 0.0980 - val_accuracy: 0.9693
Epoch 2/5
1875/1875 [==============================] - 196s 105ms/step - loss: 0.0695 - accuracy: 0.9791 - val_loss: 0.0983 - val_accuracy: 0.9735
Epoch 3/5
1875/1875 [==============================] - 196s 105ms/step - loss: 0.0494 - accuracy: 0.9842 - val_loss: 0.0906 - val_accuracy: 0.9755
Epoch 4/5
1875/1875 [==============================] - 192s 102ms/step - loss: 0.0375 - accuracy: 0.9882 - val_loss: 0.0913 - val_accuracy: 0.9787
Epoch 5/5
1875/1875 [==============================] - 196s 104ms/step - loss: 0.0306 - accuracy: 0.9903 - val_loss: 0.1032 - val_accuracy: 0.9743
```