

# Train the model

## Input:

### #Fitting the model

```
model.fit(X_train, y_train, validation_data = (X_test, y_test), epochs=12, batch_size=128 )
```

## Output:

### Epoch 1/12

469/469 [=====] - 187s 399ms/step - loss: 0.3945 - accuracy: 0.9450 - val\_loss: 0.0772 - val\_accuracy: 0.9768

### Epoch 2/12

469/469 [=====] - 220s 469ms/step - loss: 0.0616 - accuracy: 0.9807 - val\_loss: 0.0947 - val\_accuracy: 0.9737

### Epoch 3/12

469/469 [=====] - 213s 455ms/step - loss: 0.0436 - accuracy: 0.9862 - val\_loss: 0.1030 - val\_accuracy: 0.9766

### Epoch 4/12

469/469 [=====] - 208s 443ms/step - loss: 0.0276 - accuracy: 0.9908 - val\_loss: 0.0977 - val\_accuracy: 0.9768

### Epoch 5/12

469/469 [=====] - 237s 504ms/step - loss: 0.0233 - accuracy: 0.9922 - val\_loss: 0.1103 - val\_accuracy: 0.9753

### Epoch 6/12

469/469 [=====] - 170s 362ms/step - loss: 0.0167 - accuracy: 0.9945 - val\_loss: 0.1267 - val\_accuracy: 0.9770

### Epoch 7/12

469/469 [=====] - 168s 358ms/step - loss: 0.0169 - accuracy: 0.9947 - val\_loss: 0.1239 - val\_accuracy: 0.9781

### Epoch 8/12

469/469 [=====] - 168s 358ms/step - loss: 0.0158 - accuracy: 0.9951 - val\_loss: 0.1521 - val\_accuracy: 0.9767

### Epoch 9/12

469/469 [=====] - 168s 358ms/step - loss: 0.0157 - accuracy: 0.9951 - val\_loss: 0.1454 - val\_accuracy: 0.9769

### Epoch 10/12

469/469 [=====] - 168s 359ms/step - loss: 0.0109 - accuracy: 0.9968 - val\_loss: 0.1453 - val\_accuracy: 0.9778

### Epoch 11/12

469/469 [=====] - 168s 358ms/step - loss: 0.0117 - accuracy: 0.9962 - val\_loss: 0.1803 - val\_accuracy: 0.9751

### Epoch 12/12

469/469 [=====] - 168s 358ms/step - loss: 0.0154 - accuracy: 0.9956 - val\_loss: 0.1448 - val\_accuracy: 0.9772