

SMS SPAM Classification

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Training the Model

```
model.fit(sequences_matrix,Y_train,batch_size=128,epochs=10,
validation_split=0.2)
```

Epoch 1/10

```
30/30 [=====] - 11s 361ms/step - loss: 0.0033
- accuracy: 0.9992 - val_loss: 0.1227 - val_accuracy: 0.9884
```

Epoch 2/10

```
30/30 [=====] - 8s 273ms/step - loss: 0.0027
- accuracy: 0.9992 - val_loss: 0.1363 - val_accuracy: 0.9884
```

Epoch 3/10

```
30/30 [=====] - 8s 277ms/step - loss: 0.0025
- accuracy: 0.9992 - val_loss: 0.1368 - val_accuracy: 0.9905
```

Epoch 4/10

```
30/30 [=====] - 8s 272ms/step - loss: 0.0018
- accuracy: 0.9997 - val_loss: 0.1411 - val_accuracy: 0.9895
```

Epoch 5/10

```
30/30 [=====] - 8s 272ms/step - loss: 0.0019
- accuracy: 0.9997 - val_loss: 0.1418 - val_accuracy: 0.9895
```

Epoch 6/10

```
30/30 [=====] - 8s 271ms/step - loss: 0.9085
- accuracy: 0.9570 - val_loss: 0.2119 - val_accuracy: 0.9863
```

Epoch 7/10

```
30/30 [=====] - 8s 272ms/step - loss: 0.0045
- accuracy: 0.9987 - val_loss: 0.1805 - val_accuracy: 0.9905
```

Epoch 8/10

```
30/30 [=====] - 8s 271ms/step - loss: 0.0021
- accuracy: 0.9995 - val_loss: 0.1587 - val_accuracy: 0.9905
```

Epoch 9/10

```
30/30 [=====] - 8s 270ms/step - loss: 0.0023
- accuracy: 0.9995 - val_loss: 0.1543 - val_accuracy: 0.9895
```

Epoch 10/10

```
30/30 [=====] - 8s 272ms/step - loss: 0.0027
- accuracy: 0.9995 - val_loss: 0.1258 - val_accuracy: 0.9895
```

<keras.callbacks.History at 0x7f765a4aa910>

Saving the Model

```
model.save('sms_classifier.h5')
```

Preprocessing the Test Dataset

```
test_sequences = tok.texts_to_sequences(X_test)
```

```
test_sequences_matrix = pad_sequences(test_sequences,maxlen=max_len)
```

Testing the Model `accr = model.evaluate(test_sequences_matrix,Y_test)`

```
27/27 [=====] - 1s 24ms/step - loss: 0.1624  
accuracy: 0.9868
```

```
print('Test set\n Loss: {:.3f}\n Accuracy:  
{:.3f}'.format(accr[0],accr[1]))
```

Test set

Loss: 0.162

Accuracy: 0.987