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: {:0.3f}\n  Accuracy:
{:0.3f}'.format(accr[0],accr[1]))
```

```
Test set
  Loss: 0.162
  Accuracy: 0.987
```