Output:

I have made use of multi layer perceptron model to predict compounds are classified as “musk” or “Non-musk” compounds.

Using kernel_initializer = 'uniform', activation = 'relu',

optimizer = 'adam', loss = 'mse', metrics = 'accuracy'

I have got an accuracy of 95% to predict the compounds are classified as “ musk ” or “ Non–musk ” compounds .

Step 1:

Initially i have Read the data :

I have read the data using library: pandas

Step 2:

Store Independent variable and target variables :

Independent is the data-set containing the full data except the prediction data and target variable contains only the prediction data.

Step 3 :

Train test split using train data and predicting results :

I have used the library to split using sklearn.model_selection.

Step 4 :

Data pre-processing using standard scaler :

I have converted data because machine learning works on the magnitude of data.

Step 5 :

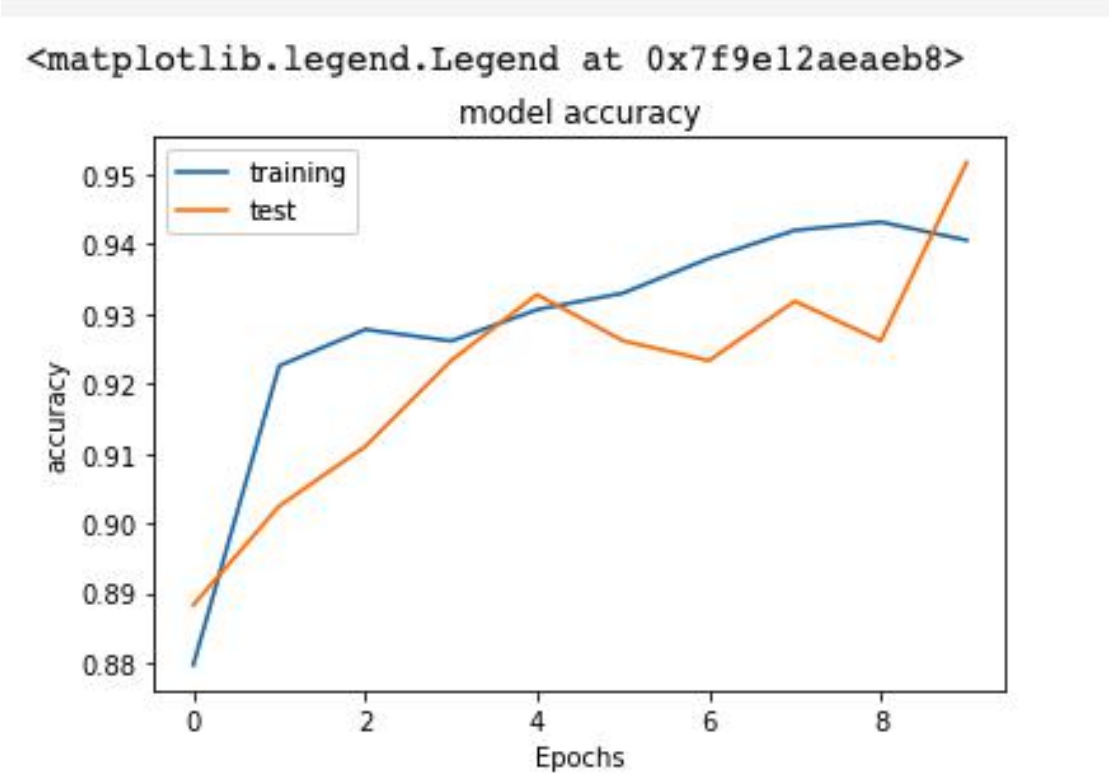
Import the keras package and then add hidden layers ,output layer to multi layer perceptron model and then compile the model using above metrics .

Step 6 :

Fitting the model and predicting the results .

Output graph :

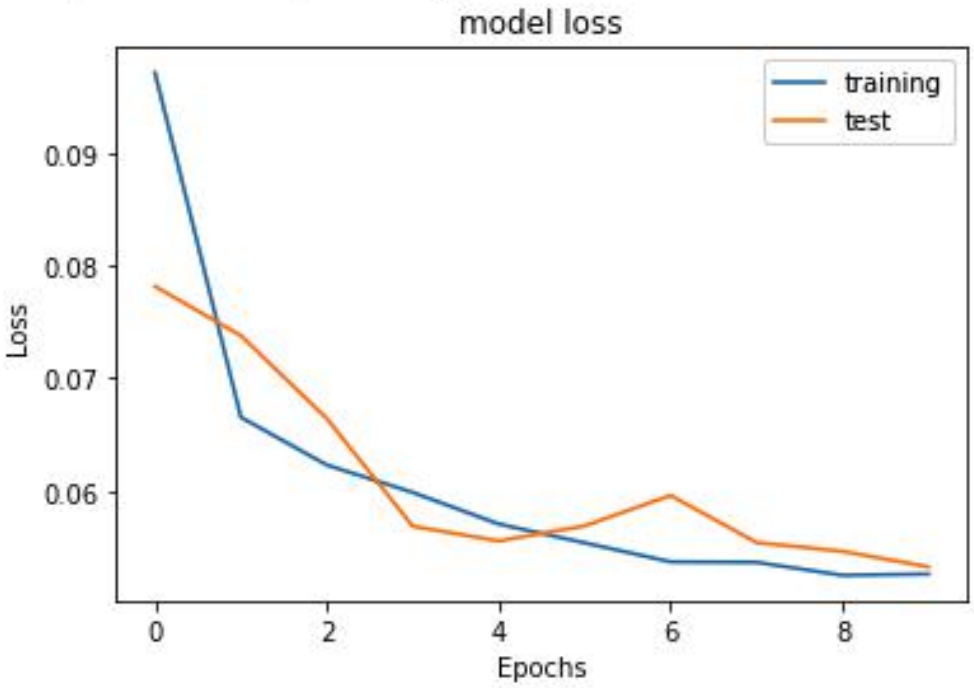
1.Model Accuracy both training and testing :



2.Model Loss both training and

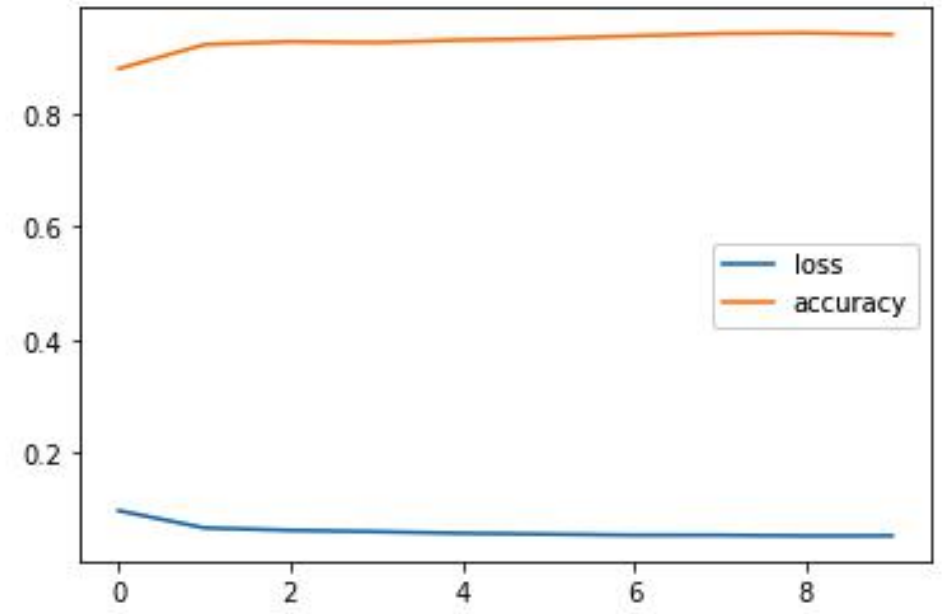
testing :

```
<matplotlib.legend.Legend at 0x7f9e12cdf940>
```



3.Overall model Loss and Accuracy :

<matplotlib.legend.Legend at 0x7f9e125e4128>



Final performance measure :

Percision is 96 % for compunds are non-musk,
Persision is 89% for compunds are musk.

Recall is 98 % for non -musk compounds and 75 for musk compounds

F1-score is 97% for non -musk compounds and 82% for musk compounds.

	precision	recall	f1-score	support
0	0.96	0.98	0.97	905
1	0.89	0.75	0.82	151
accuracy			0.95	1056
macro avg	0.93	0.87	0.89	1056
weighted avg	0.95	0.95	0.95	1056

Accuracy of the model is 95 %