Project Report

How the model works:

1.Removing the outliers or noise in the initial stages of Data Preparation

2.Applying Moving Variance for the sensor values in DataFrame

3.Considering Tukey hinge into account and labeling the values which are greater than 0.75 quantile(threshold)

4.If we have labeled Y_values according to threshold(s(t)>threshold) values then the next step is to make X_values as s(t-1),s(t-2),...s(t-10)

5.Passing all the values into different models like LSTM, GRU and predicting the values by the past 10 time steps

6.In this case, I have taken machine_0 values as testset and concatenated all the remaining machine values for each different sensor

7.Comprehensive analysis of all sensors combined is done in Comprehensive_analysis_breakout_detection by using Simple RNN,LSTM, GRU

8. Comprehensive analysis is done for the past 8 steps of data and y label is assigned by root mean square of all sensors data

Models used:

RNN, LSTM, GRU