Assignment 6

Problem Statement

Time Series Forecasting using LSTM and Bidirectional LSTM

Data:

https://www.kaggle.com/datasets/shenba/time-series-datasets

Use either **sales-of-shampoo-over-a-three-ye.csv** or **monthly-beer-production-in-austr.csv**

Task:

1. Read the time series and apply scaling on the data.
2. Split the data into the training and testing set.
3. Create the batches of time series using Tensorflow TimeseriesGenerator with appropriate length.
4. Design the LSTM model with optimal layers and units.
5. Justify the total params of the designed network.
6. Compare forecasted and actual time series on the testing set.
7. Design the Bidirectional LSTM model with optimal layers and units
8. Compare forecasted and actual time series on the testing set.
9. Compare the results of LSTM and Bidirectional LSTM