***Time series Assignments***

1. **Air Quality:**

* Kaggle problem statement link : https://archive.ics.uci.edu/ml/datasets/Air+Quality
* We have to forecast the air quality in future. The best method is LSTM nural networks using Tensorflow because it is multivariate dataset depending on different features.
* The dataset have many null values so to impute them I used thi link "https://towardsdatascience.com/4-techniques-to-handle-missing-values-in-time-series-data-c3568589b5a8". I have selected the method on basis of which one is giving best accuracy. This methods are applicable when there is no seasonality.
* I have used LSTM,ARIMA,VARMAX and Prophet for this dataset.

1. **Air Passengers:**

* Kaggle problem statement link : https://www.kaggle.com/code/freespirit08/time-series-for-beginners-with-arima/notebook
* We have to forecast the passengers for flight in future. The best method is ARIMA because it is univariate dataset depending on only onefeatures.
* I have used LSTM,ARIMA,XGBoost and Prophet for this dataset.

1. **Forecast demand for food:**

* This problem statement consists of 3 csv files namely fulfilment\_center\_info, meal\_info and train.
* We need to combine relevant information from the above csv's and create multiple models to predict a particular food demand at a particular center.

1. **Power Consumption:**

* Time Series Prediction - Predicting Power Consumption of a day
* Kaggle Website: https://www.kaggle.com/srinuti/residential-power-usage-3years-data-timeseries/code
* Colab File using XGBoost:

1. **Stock price prediction:**

* Time Series Forecasting - Forecasting Stock prices for various companies using ARIMA Model
* Kaggle Website: https://www.kaggle.com/marketneutral/quandl-wiki-prices-us-equites
* Colab File using XGBoost: https://colab.research.google.com/drive/1P\_P-jT449JmaOu8PwihrWvL8Y7rf9s35#scrollTo=p3zzthS0RjJd

1. **Store Sales prediction**:

* Kaggle link to the problem statement: <https://www.kaggle.com/competitions/store-sales-time-series-forecasting>
* Forecast the sales for a given store.