Facebook's Prophet Library

- Let’s learn about Facebook’s Prophet Forecasting library, specifically designed to forecast the business data sets that are common at Facebook. (e.g. Daily, Minute, large data sets)

- Make sure to check out the full paper explaining how Prophet works!
- It’s a short read (~25 pages) and explains clearly how Prophet operates internally.
- **Forecasting at Scale** by **Sean Taylor** and **Benjamin Letham**

- Keep in mind this library is not meant to be “better” than any of the ARIMA methods we saw before, it is just an alternative for you to explore.

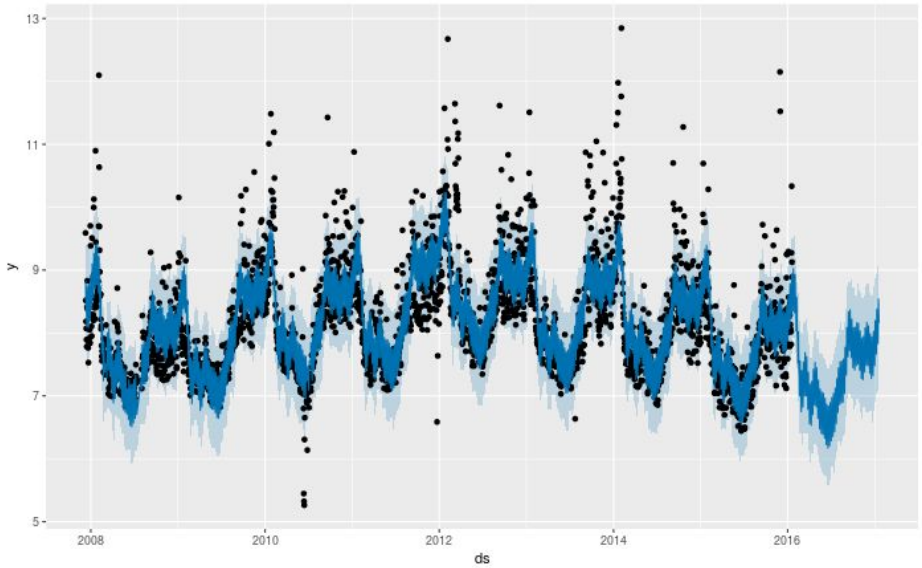
- At its core, the Prophet procedure is an additive regression model with four main components:
    - A piecewise linear or logistic growth curve trend. Prophet automatically detects changes in trends by selecting changepoints from the data.

- At its core, the Prophet procedure is an additive regression model with four main components:
    - A yearly seasonal component modeled using Fourier series.

- At its core, the Prophet procedure is an additive regression model with four main components:
    - A weekly seasonal component using dummy variables.

- At its core, the Prophet procedure is an additive regression model with four main components:
    - A user-provided list of important holidays.

- Prophet only requires a few lines of code to produce its forecast results:



- Let’s being to explore how we can use Python with the Prophet library!
    - **Make sure to read the installation instructions in the first notebook carefully!**

Prophet Forecast Evaluations

Prophet
Trend Changes

Prophet
Changing Seasonality