# Time series analysis and forecasting

# Evgenii Karpuk

Data Scientist

#### **Problem Definition**

# Predict the daily behavior of the time series for 3 months

#### Steps

01

**Exploratory Data Analysis** 

02

**Model Training** 

03

Forecasting

### **Exploratory Data Analysis**

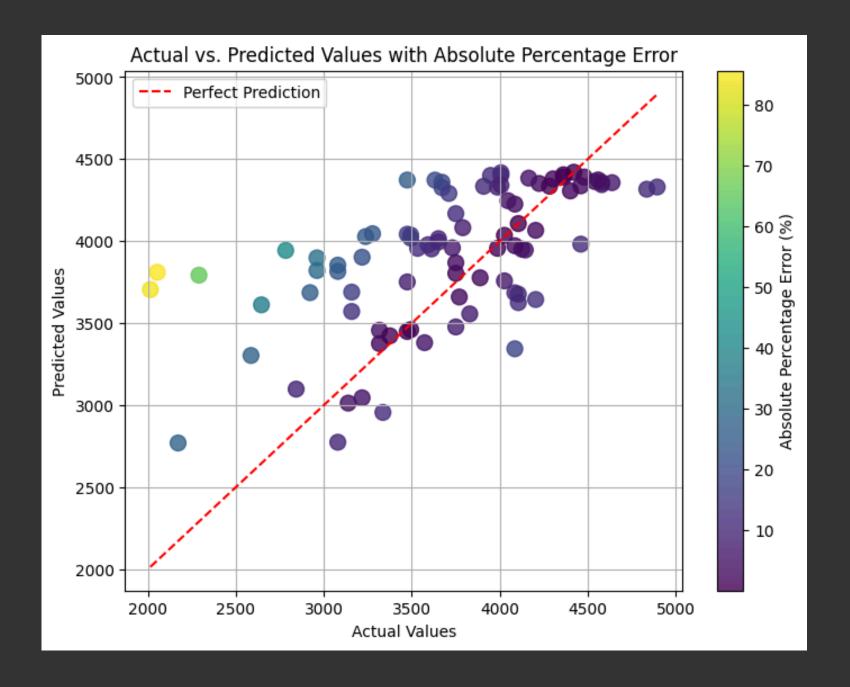
- **Period data:** 4 years 5 months 28 days
- Trend: positive upward
- **Seasonality:** yearly
- Stationarity: weak

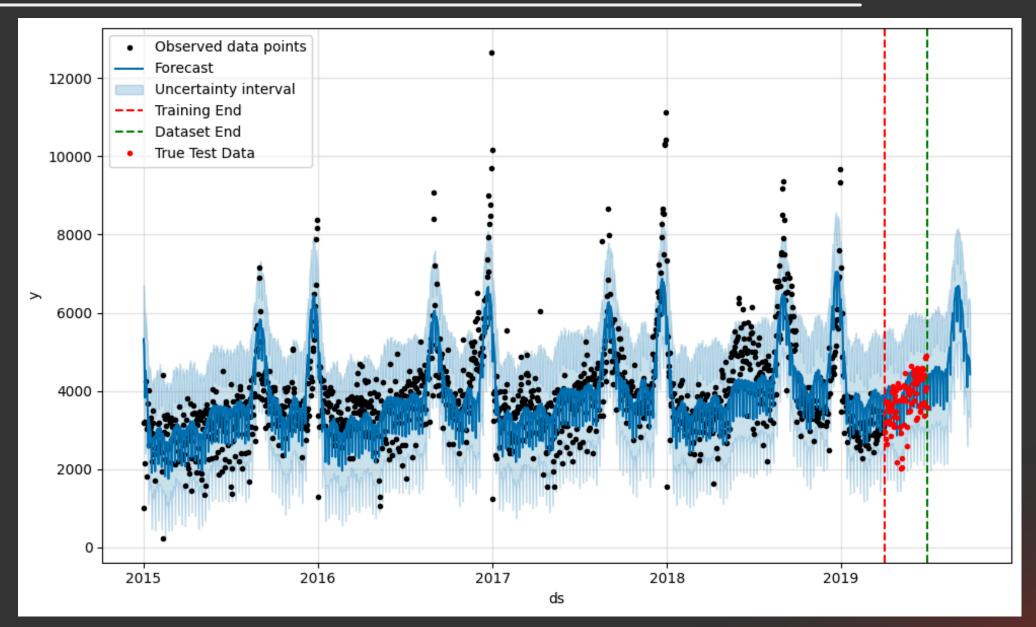


# **Model training**

Model: Prophet

**Test Dataset:** 90





**Metrics:** MAPE - 13% RMSE - 535.44

#### Forecasting

**Period data:** 90 days (01.07-28.09.2019)

**Trend:** positive with a downward trend towards the end of the forecast period

Predicted values: max: 6564

min: 3400

mean: 4877

