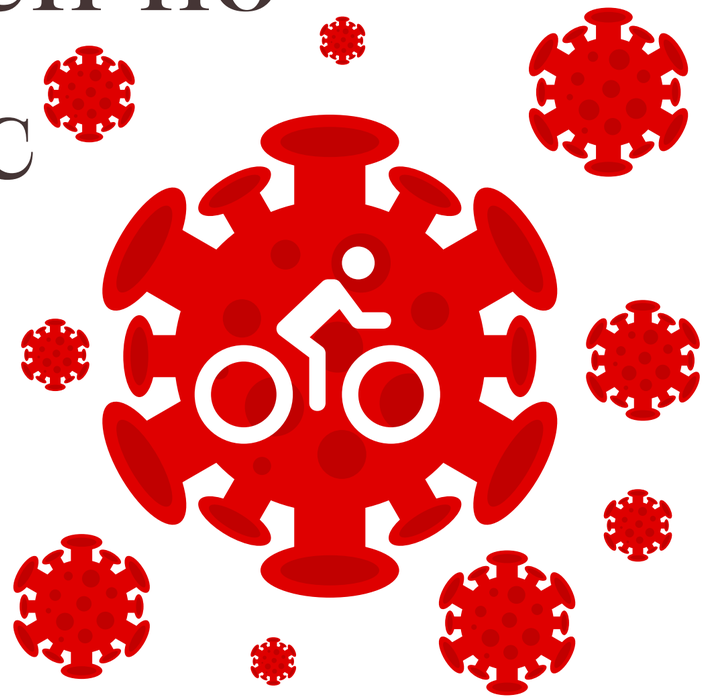
The demand for bike rentals in 2020 if there had been no COVID-19 pandemic



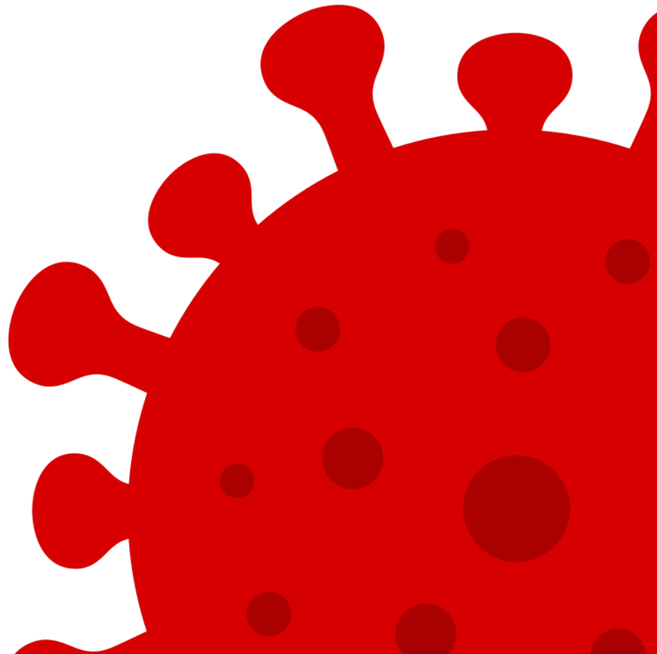
Agenda

1 EDA (Recap)

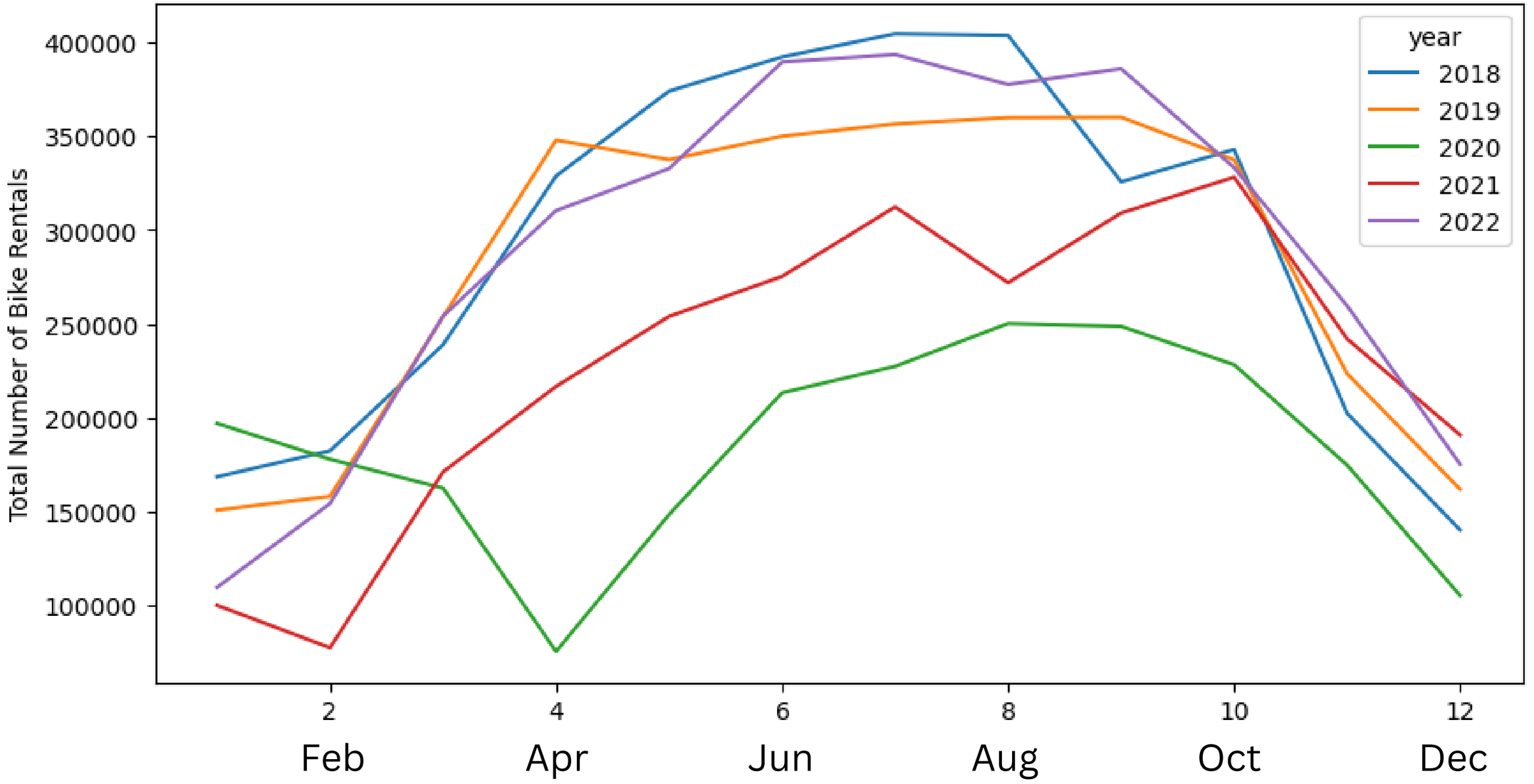
2 Used Mchine Learning Models

3 Summary

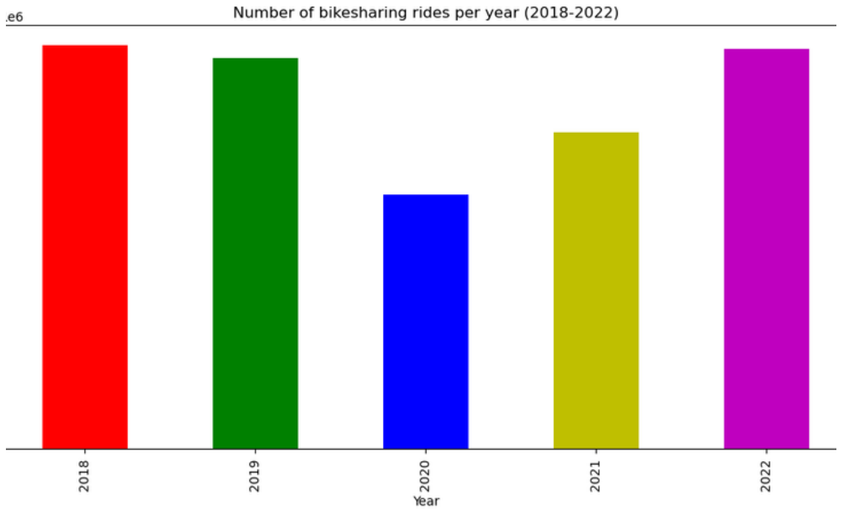
Effect of Covid 19 on Bikeshare Service

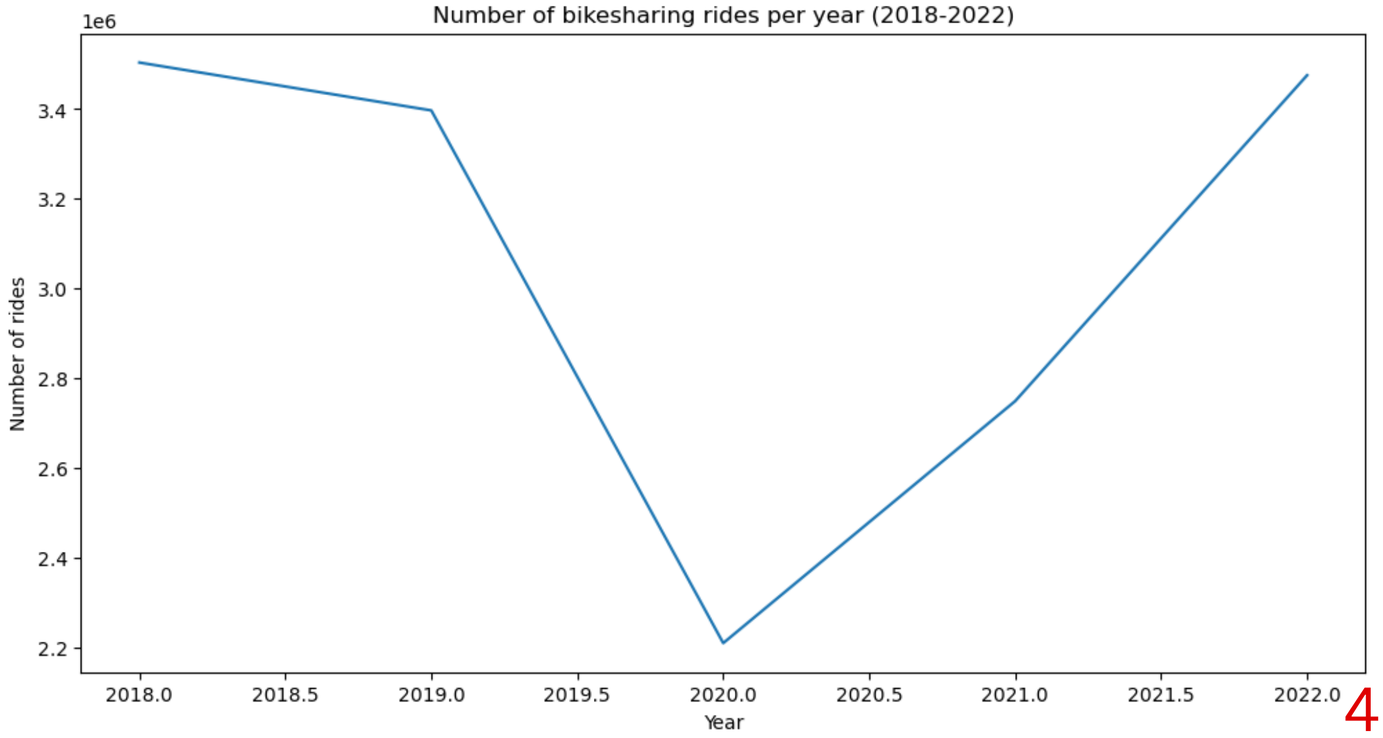


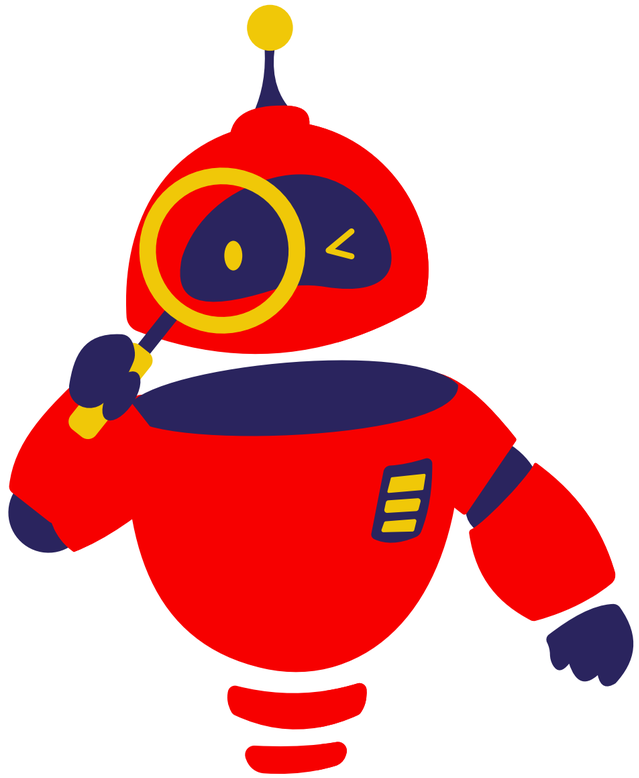
To Observe the Changes in Monthly Trends

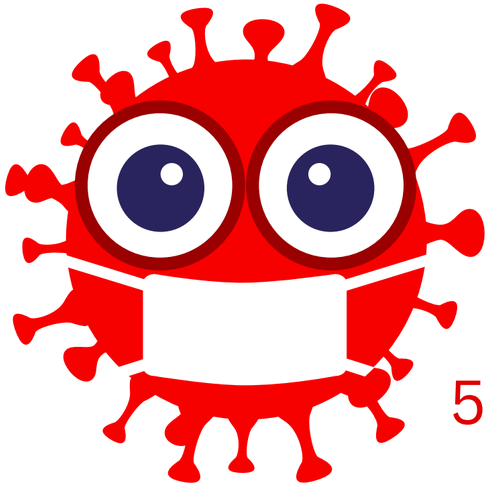


To Observe the Changes in Yearly Trends









Predicting Future Values of a Time Series

Normal Models

Any type of outcome variable

Forecasting Models

Future time steps of time series

Steps

TO FIND THE BEST MODEL

2017 to 2019

- **Train set**
  2017 & 2018
- **Test set**
  2019

TO GET THE PREDICTION

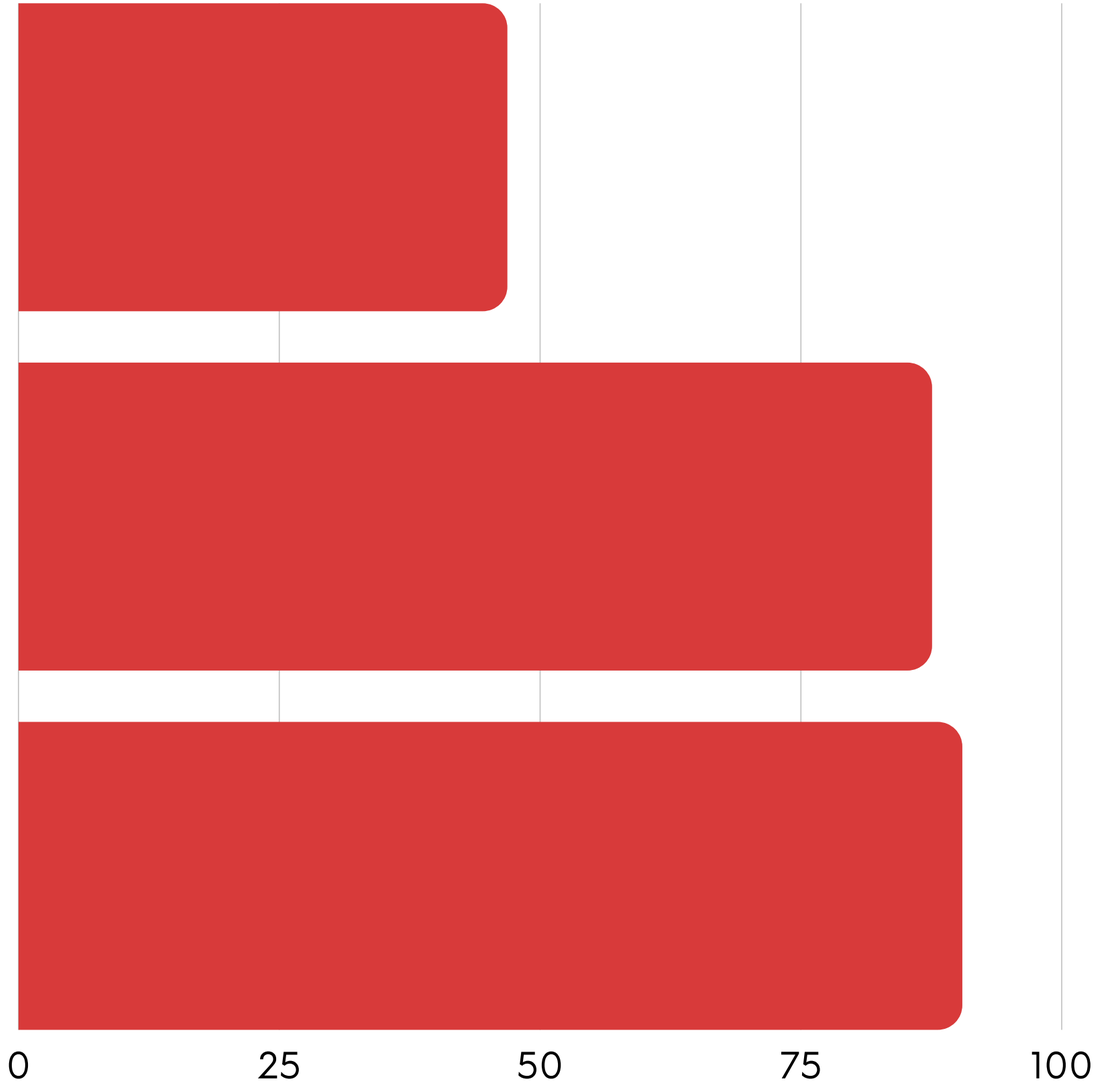
2018 to 2020

- **Train set**
  2018 & 2019
- **Test set**
  2020

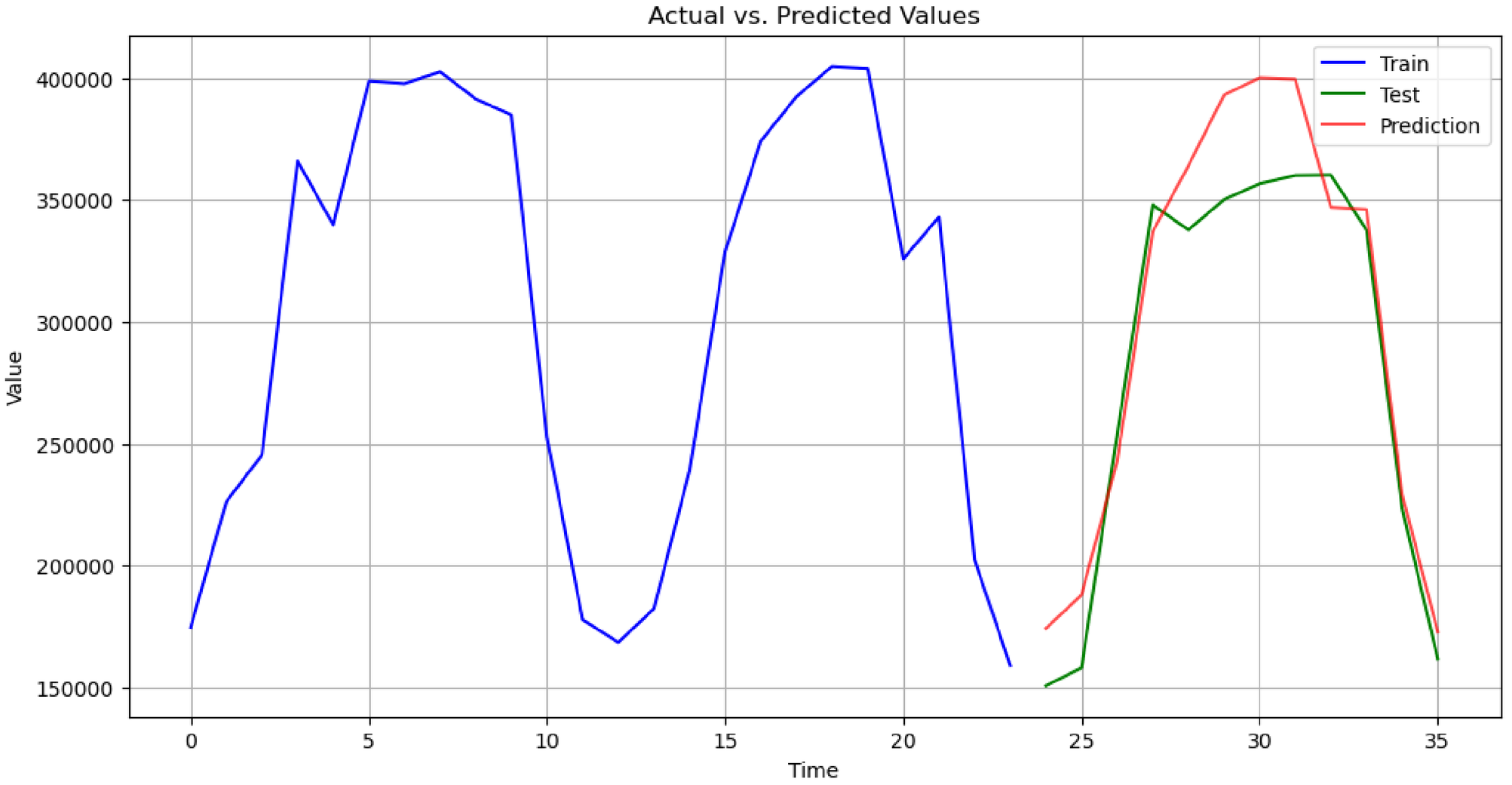
LinearRegression

DecisionTreeRegressor

RandomForestRegressor

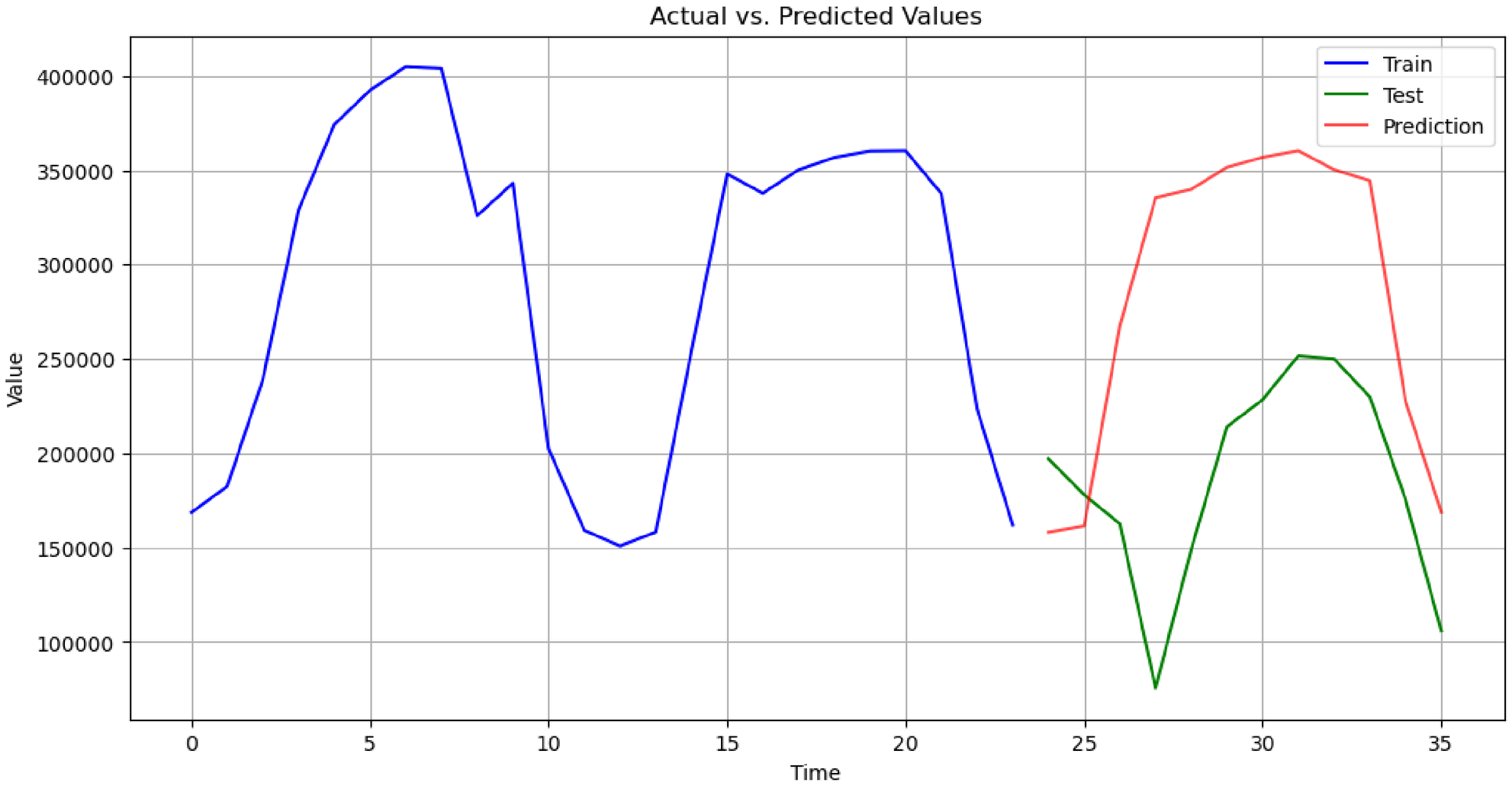


Random Forest Regression (2017_2019)

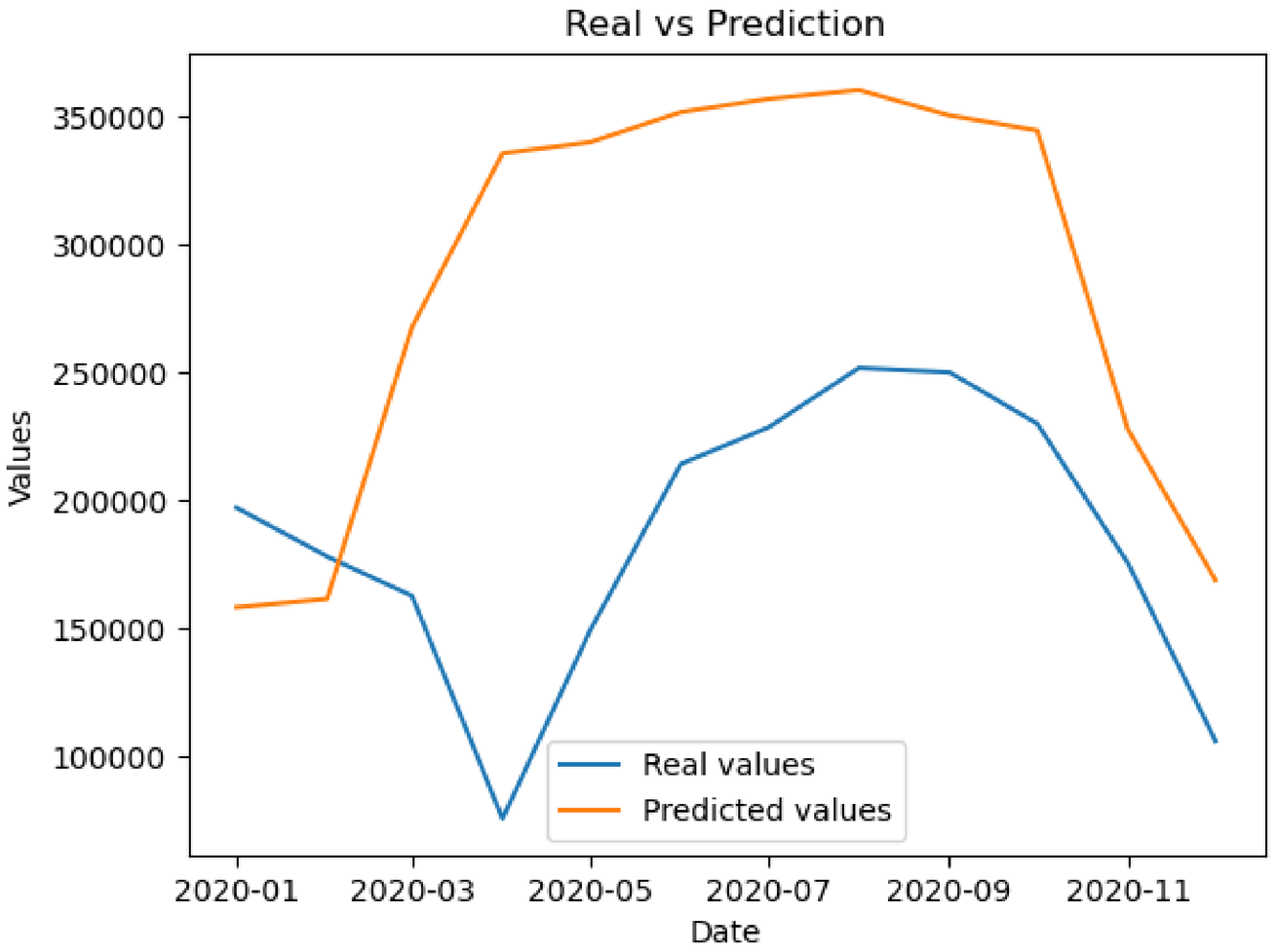


Accuracy 90.42 %

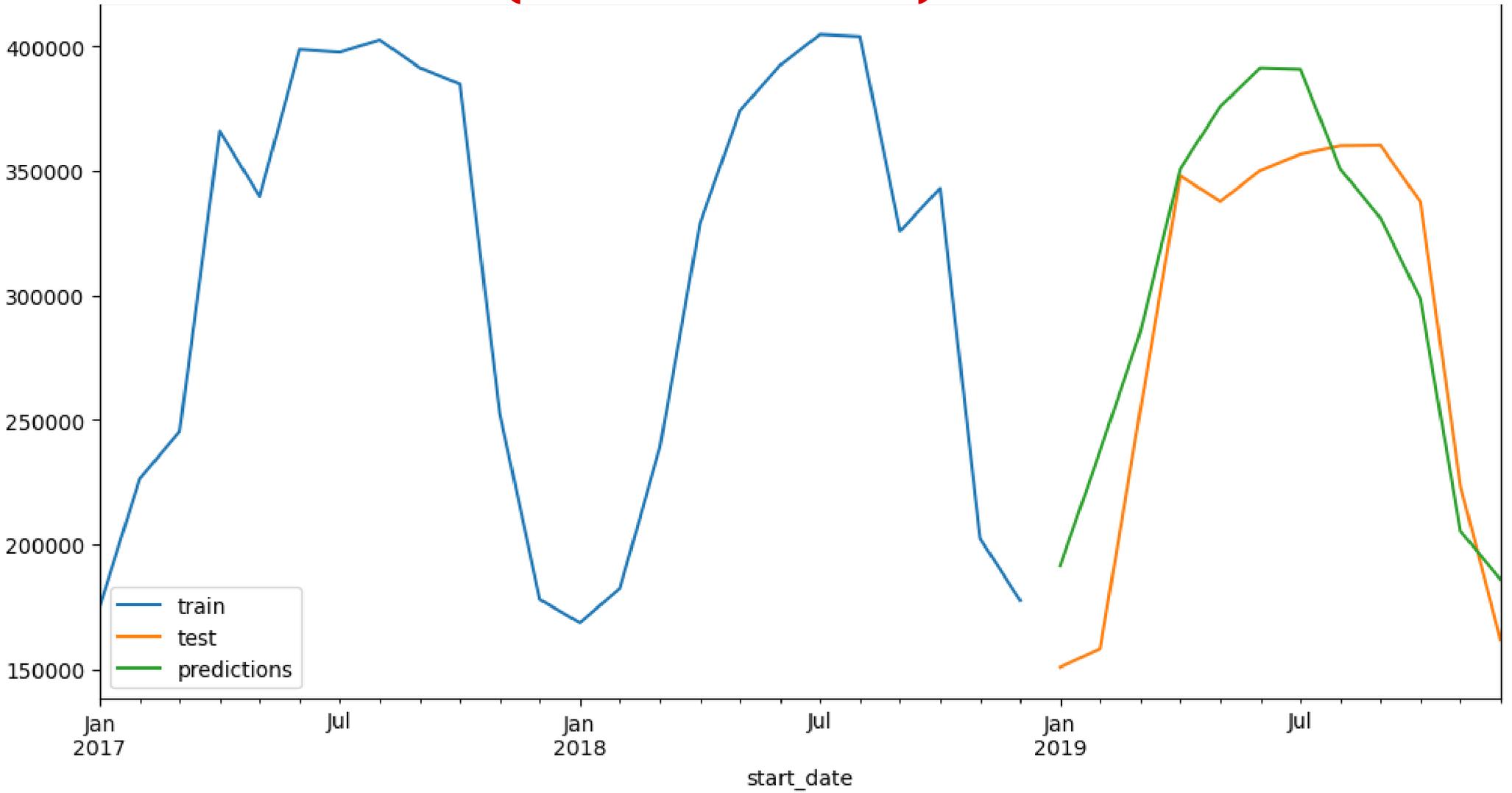
Random Forest Regression (2018_2020)



Predicted Demand on 2020

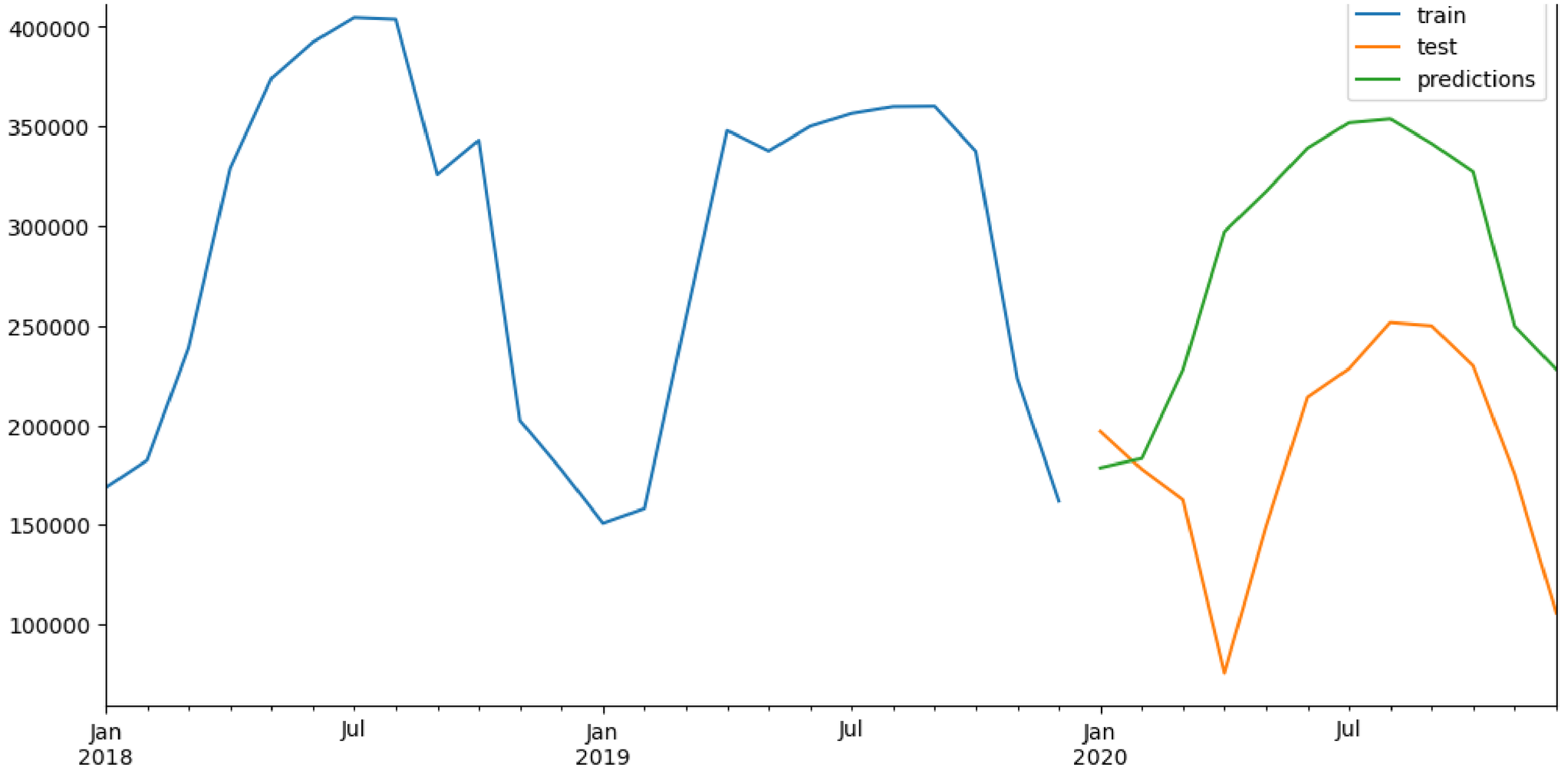


Forecaster With Random Forest Model (2017_2019)

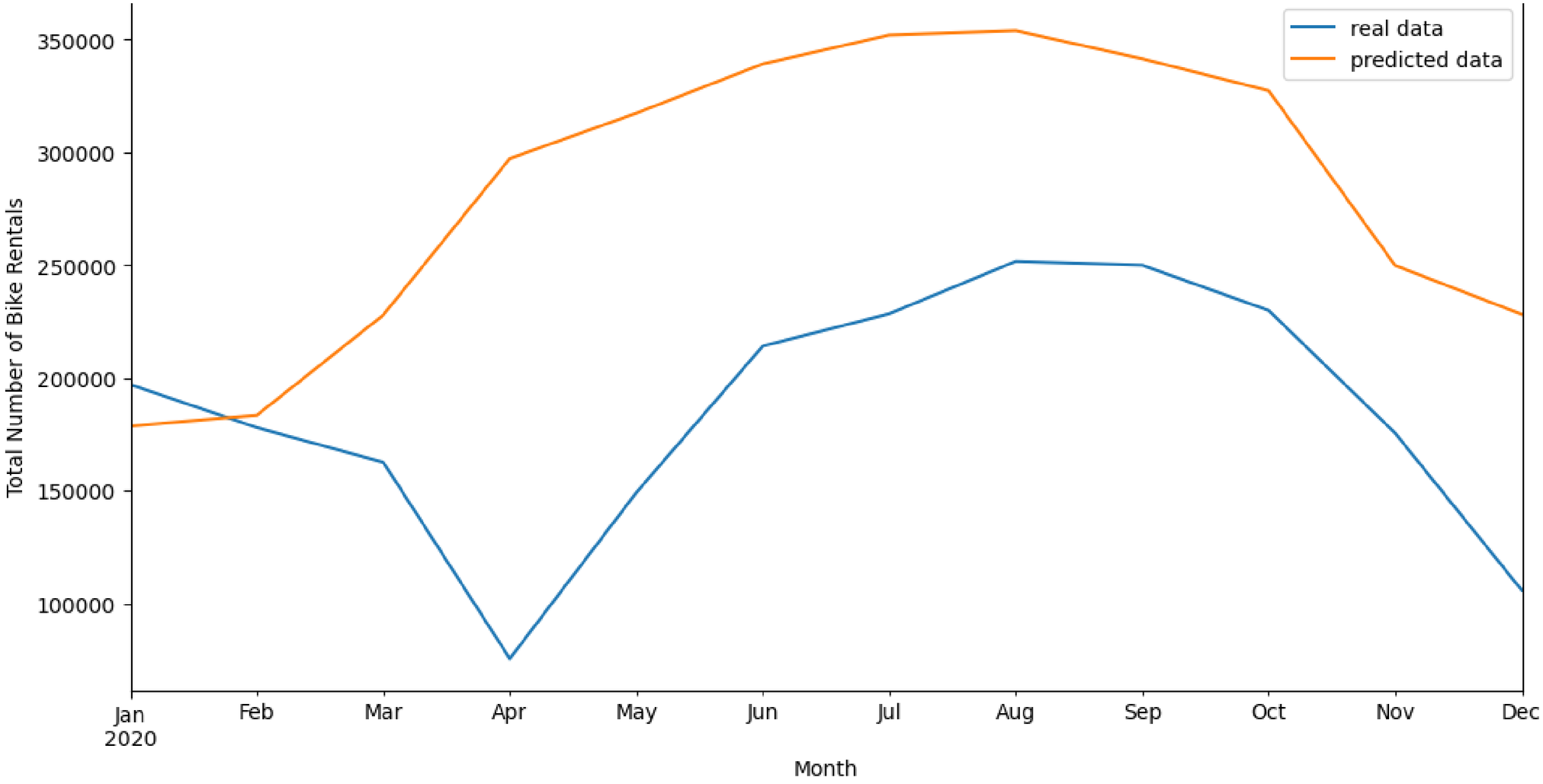


Accuracy 80.21 %

Forecaster with Random Forest Model (2018_2020)



Predicted Demand on 2020



Summary

References

1	https://capitalbikeshare.com/
2	https://www.cienciadedatos.net/documentos/py27-time-series-forecasting-python-scikitlearn.html
3	https://en.wikipedia.org/wiki/COVID-19_pandemic_in_Washington,_D.C.

THANK YOU