

Washington DC - Virginia Metro Area:
House Price Forecast

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Summary

- Business Problem
- Data
- Results
- Conclusions

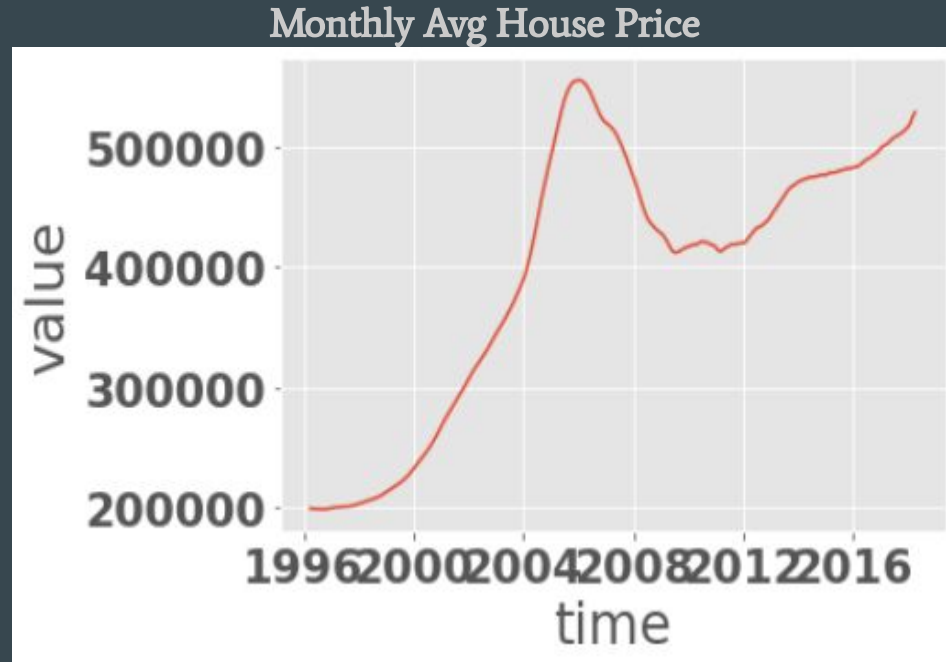
Business Problem

Mortgage Lenders need to:

- Predict future value of homes
- Understand uncertainty of those predictions

Data

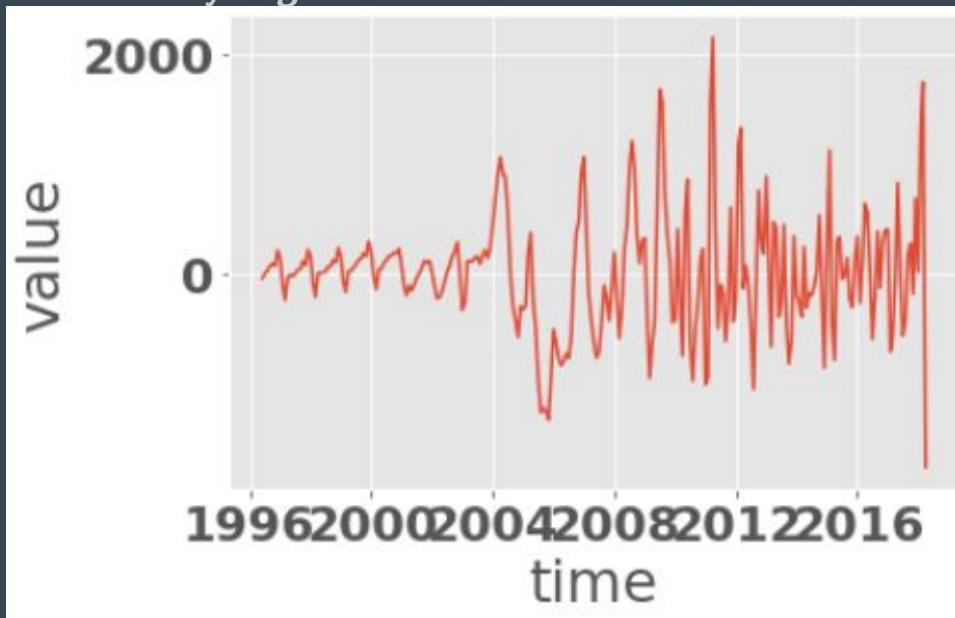
- VA-DC Metro Area
- 1996-2018



Data

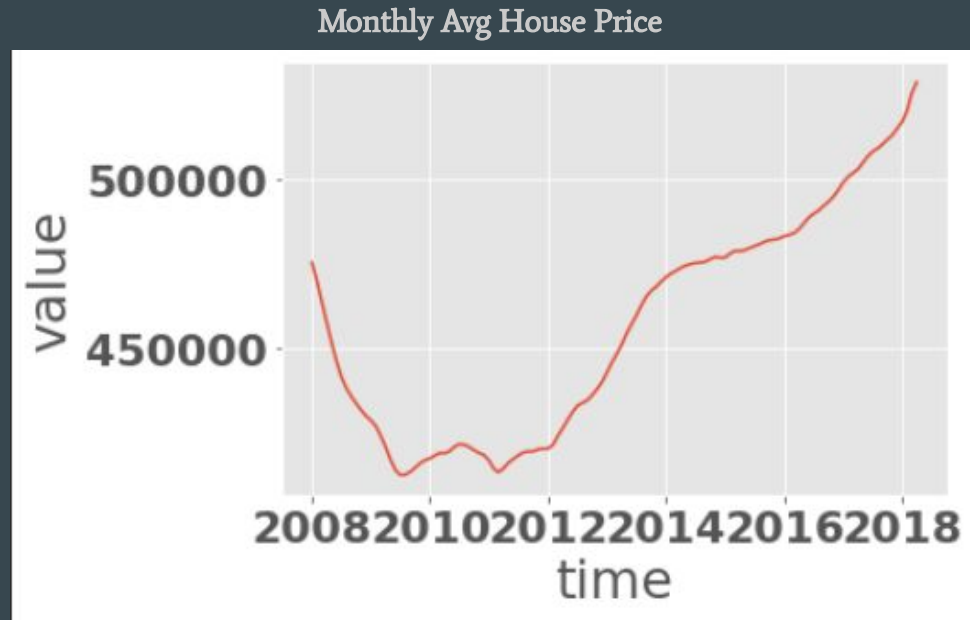
- VA-DC Metro Area
- 1996-2018

Monthly Avg House Price: 2nd Order Difference



Data

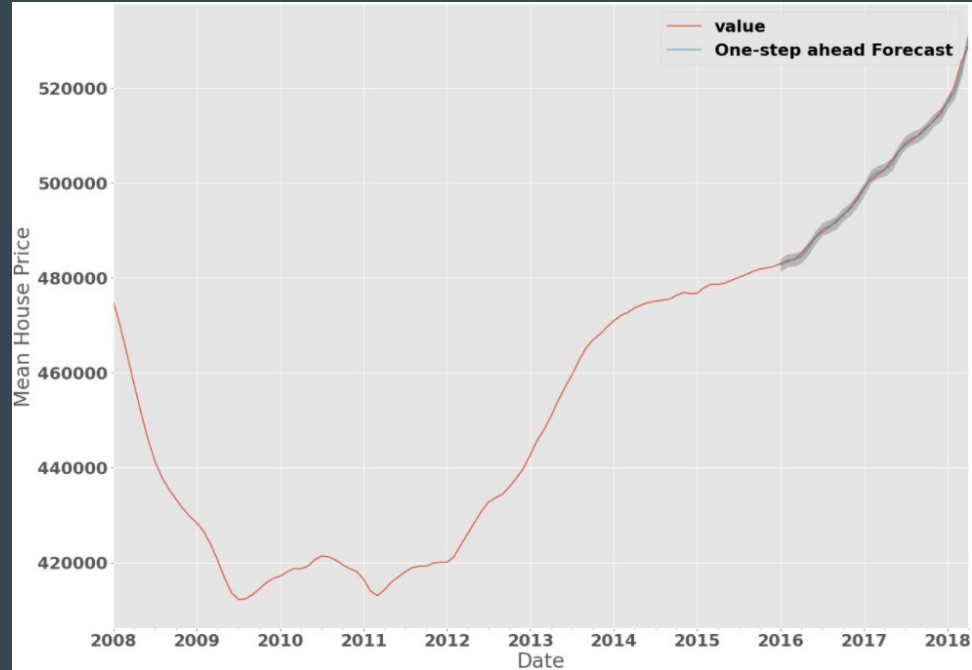
- VA-DC Metro Area
- 2008-2018



Results

One Month Forecast (Overall)

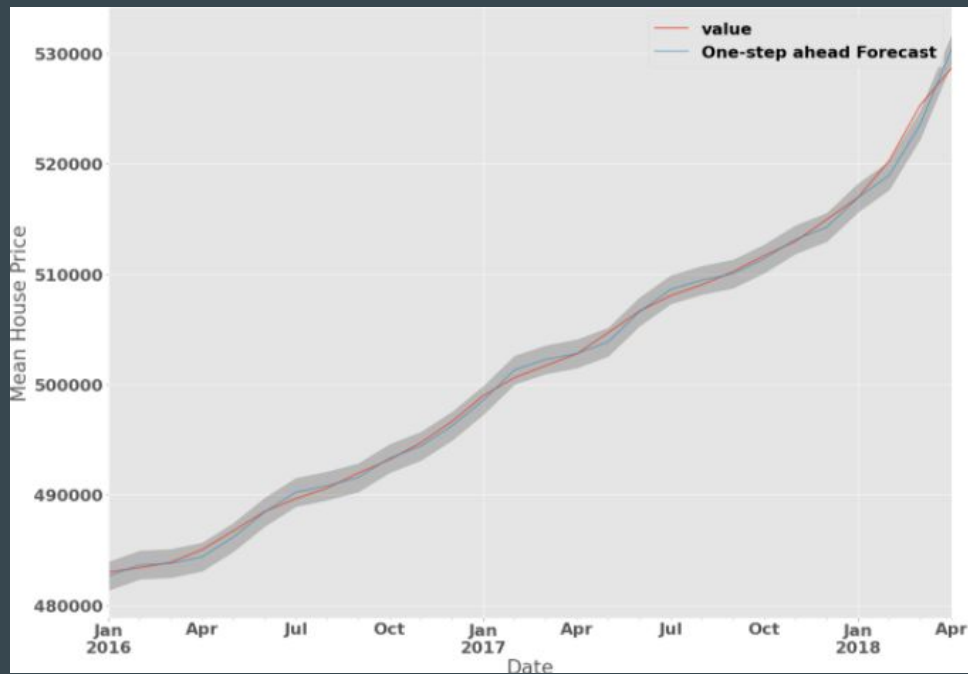
- ARIMA Model
- Average Error: \$698
- Actual Within Expected: 23/24



Results

One Month Forecast (2016-2018)

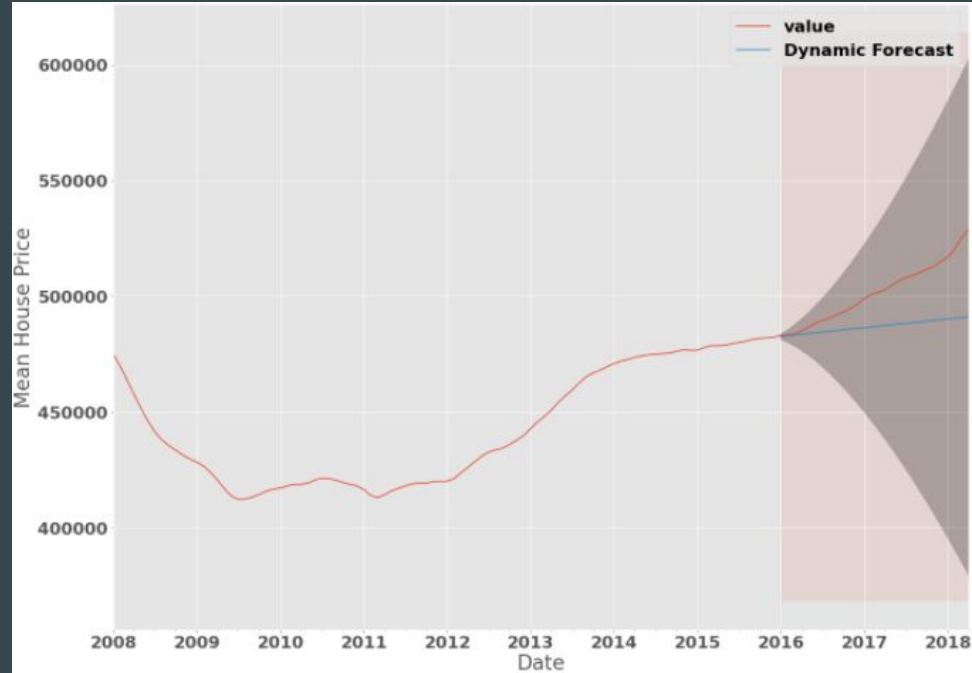
- ARIMA Model
- Average Error: \$698
- Actual Within Expected: 23/24



Results

24 Month Forecast

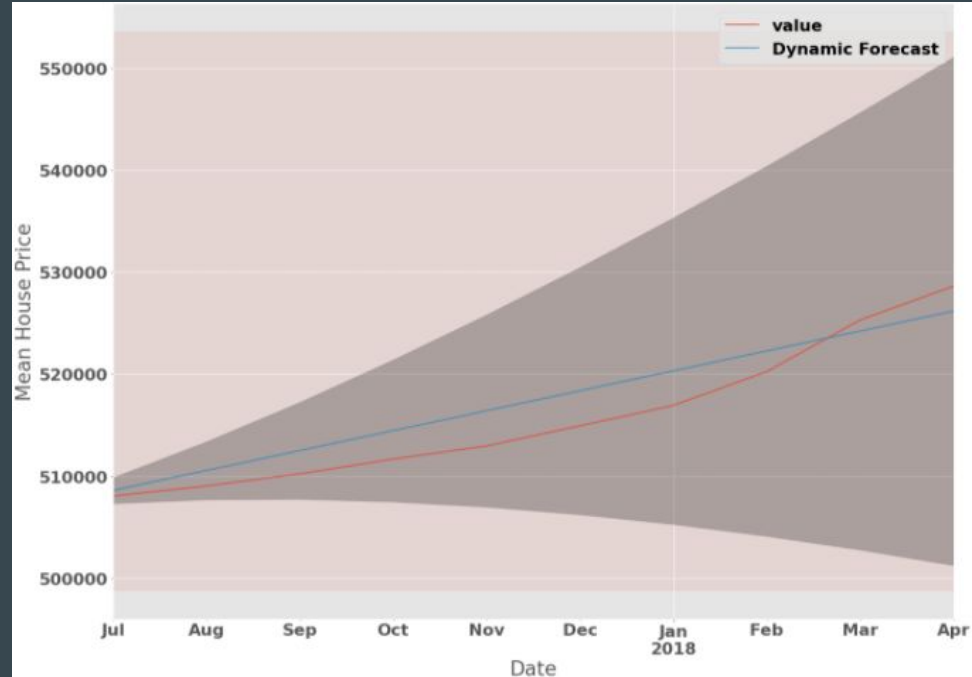
- ARIMA Model
- Average Error: Huge
- Actual Within Expected: 100%



Results

6 Month Forecast

- ARIMA Model
- Confidence Interval: \$50,000
- Actual Within Expected: 100%



Conclusions

- Good for short-term forecasts
- Novel approach required for better model

Thank You for Watching!

Mengyu Jackson

