



Forecasting Retail Store Demand

Jacob Niederer

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Predict Short-Term and
Long-Term Performance

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Demand and Financial Planning

Forecasting Demand



Predict Short-Term and Long-Term Performance

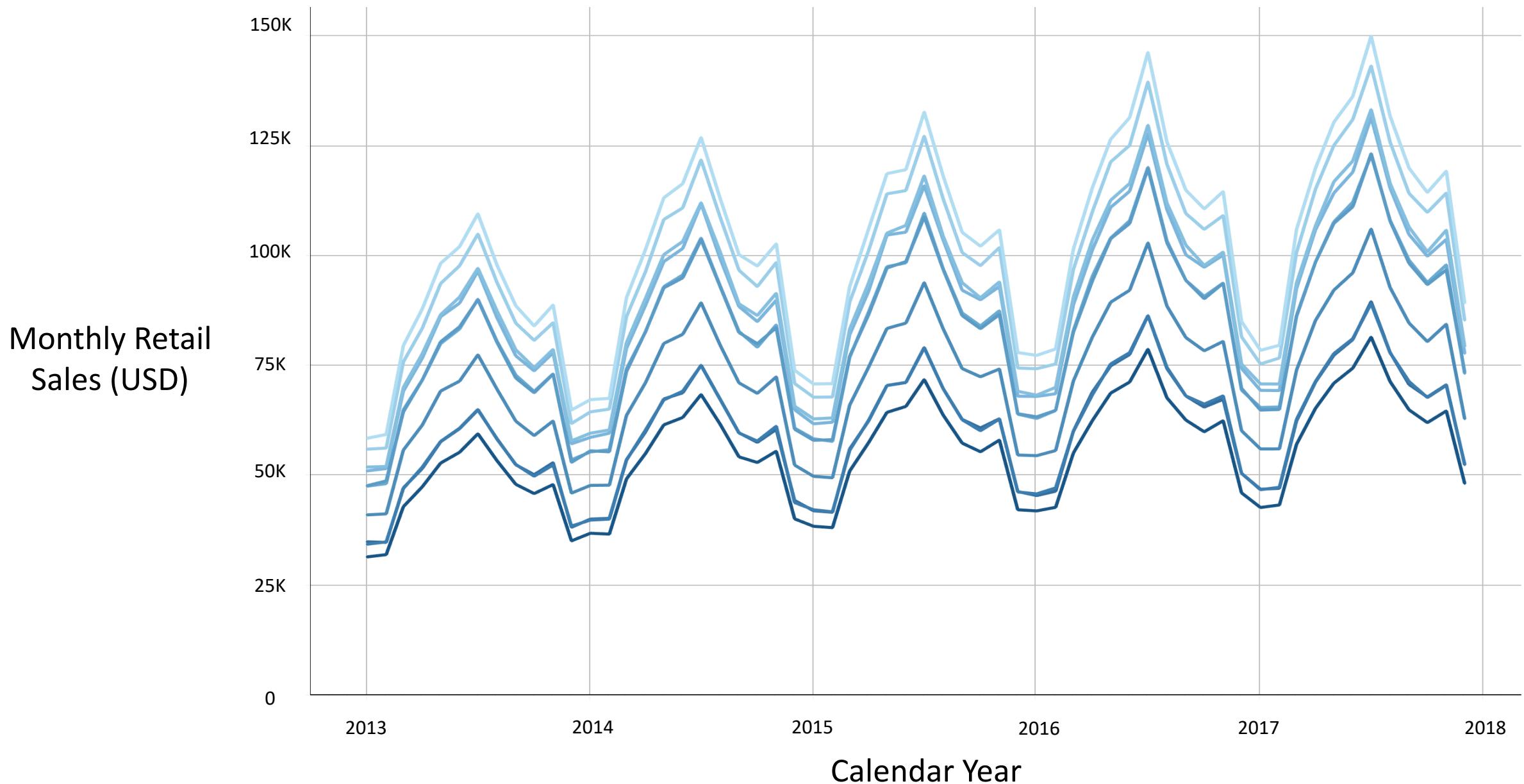


Demand and Financial Planning



Inventory Management & Supply

Total Monthly Sales by Store



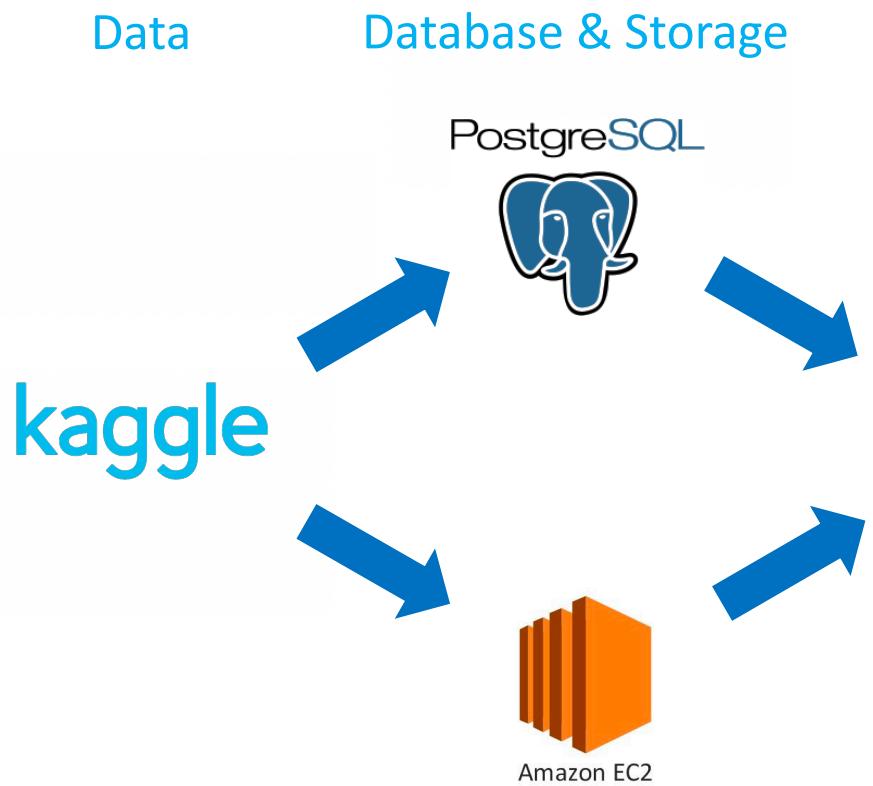
Methodology

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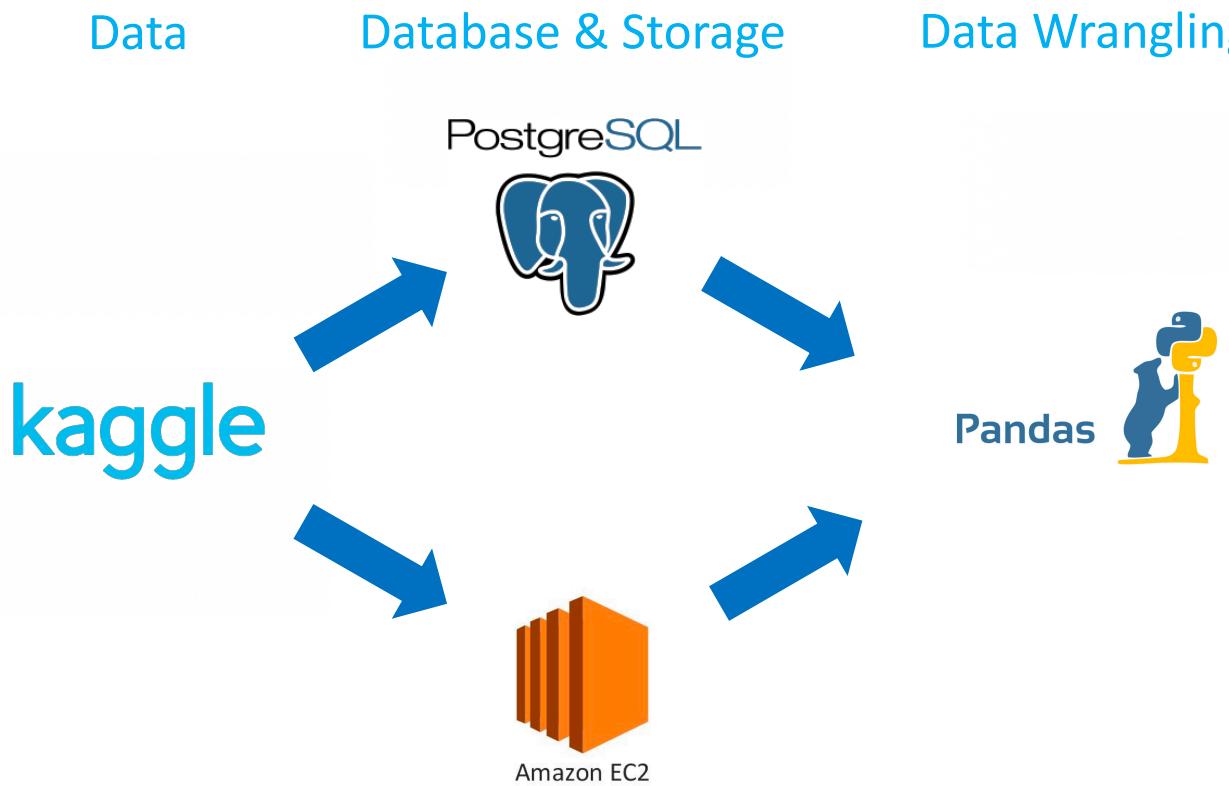
Data

kaggle

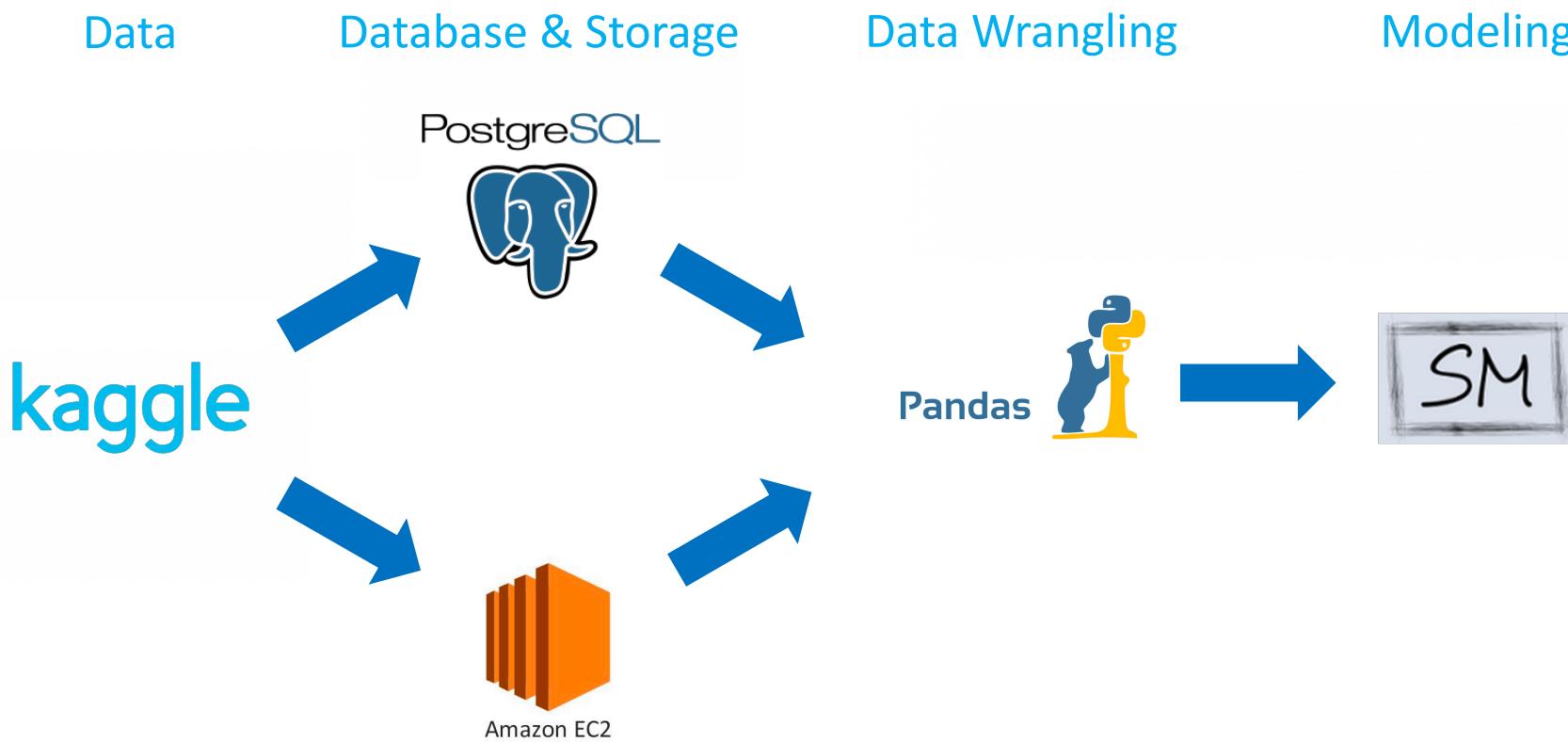
Methodology



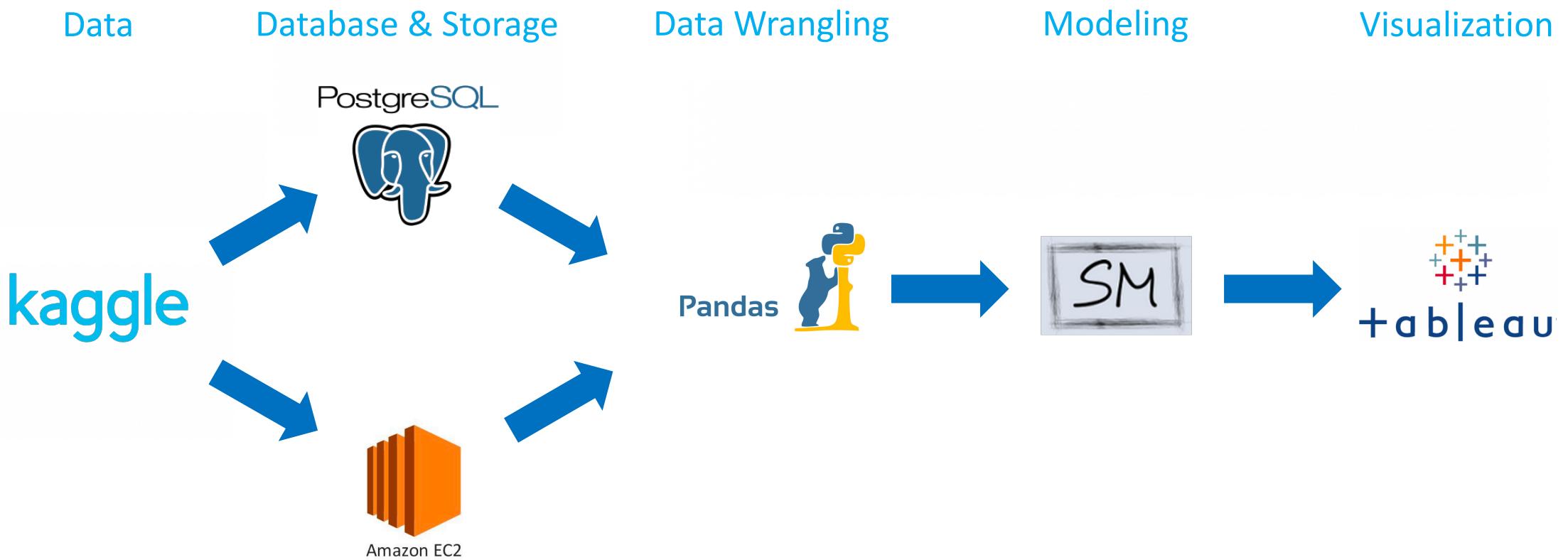
Methodology



Methodology



Methodology



Time-Series Models

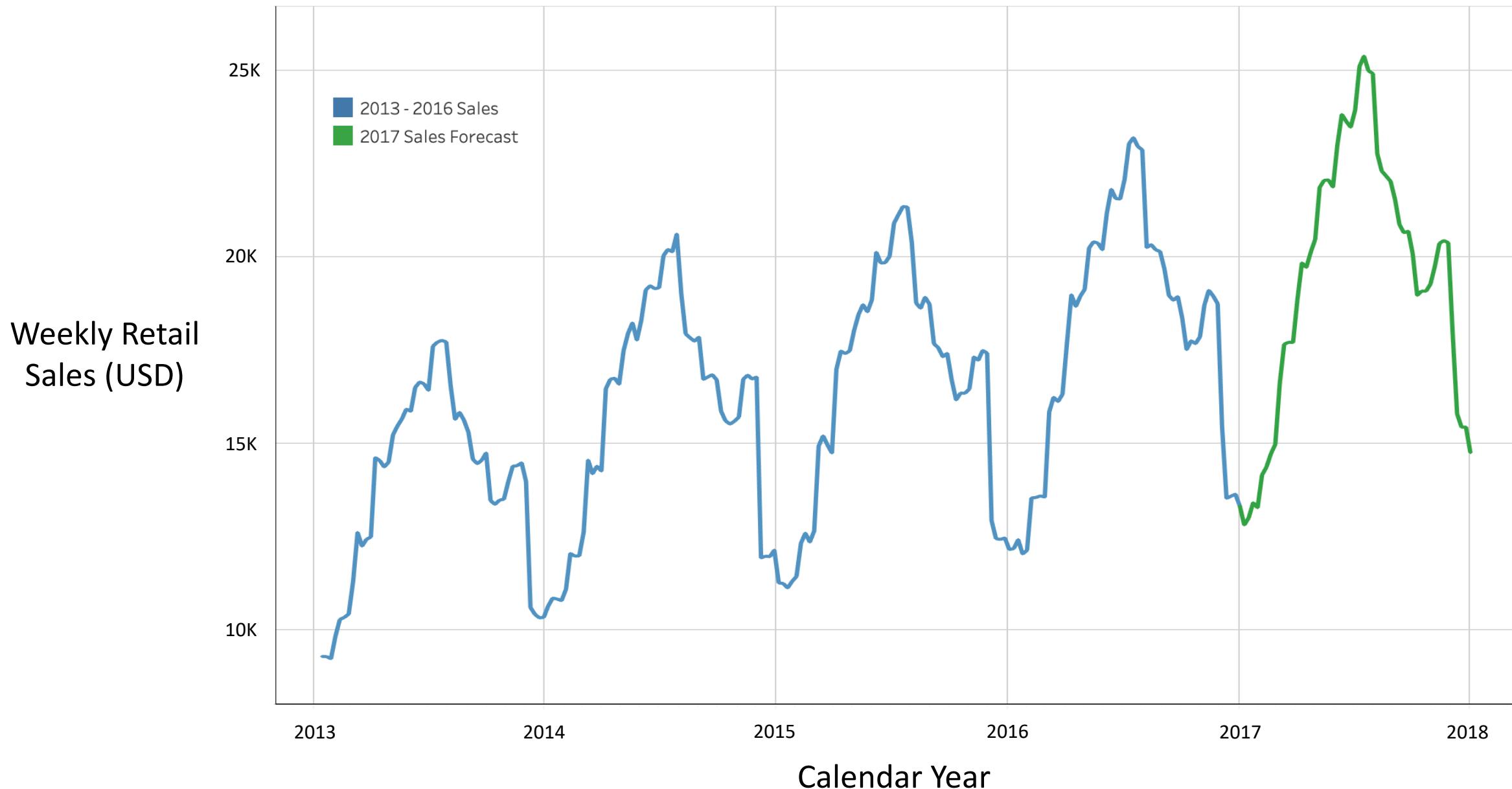
Autoregressive (AR)

Autoregressive Moving Average (ARMA)

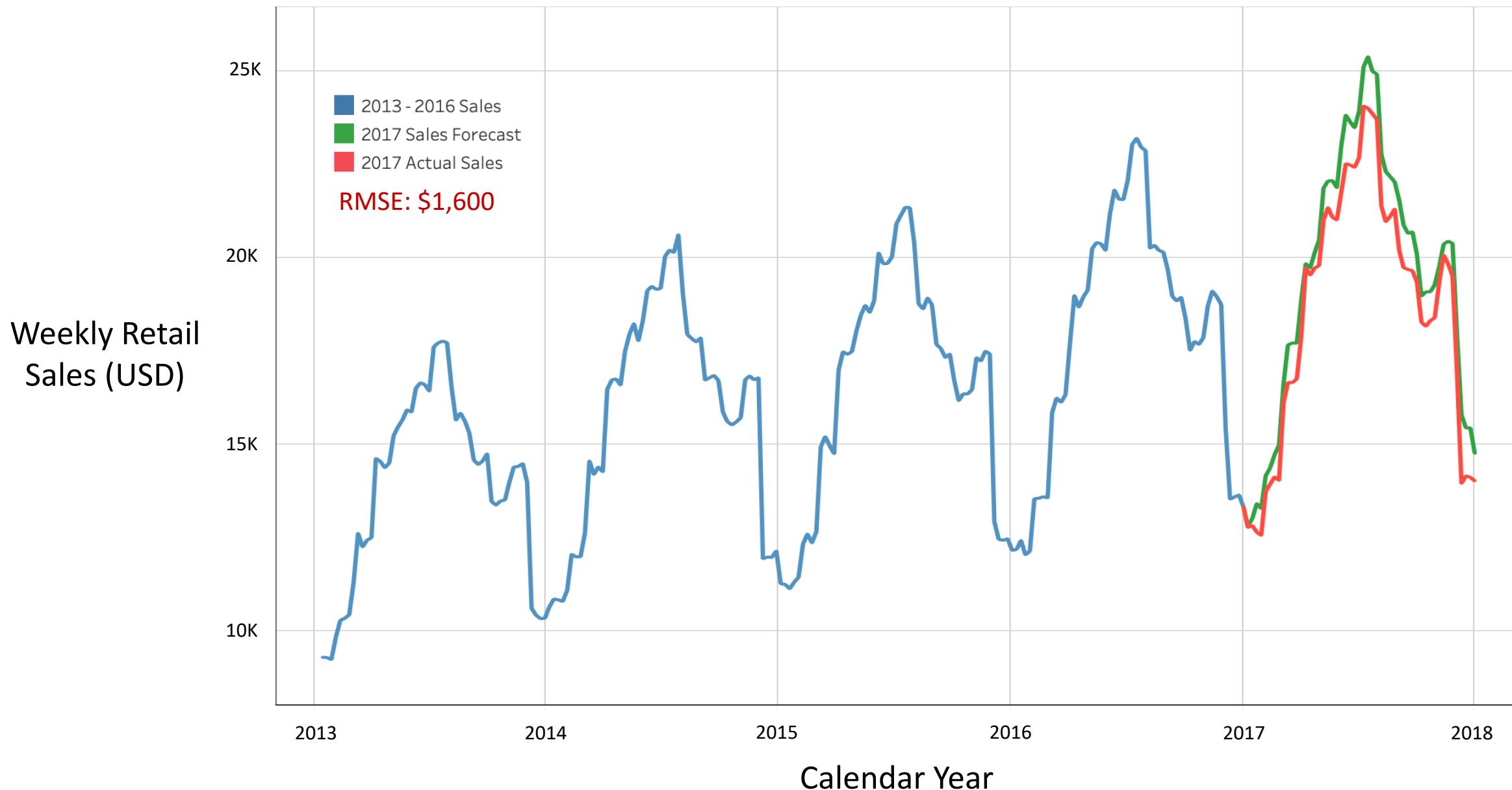
Autoregressive Integrated Moving Average (ARIMA)

Seasonal ARIMA (SARIMA)

2017 Weekly Retail Sales Forecast

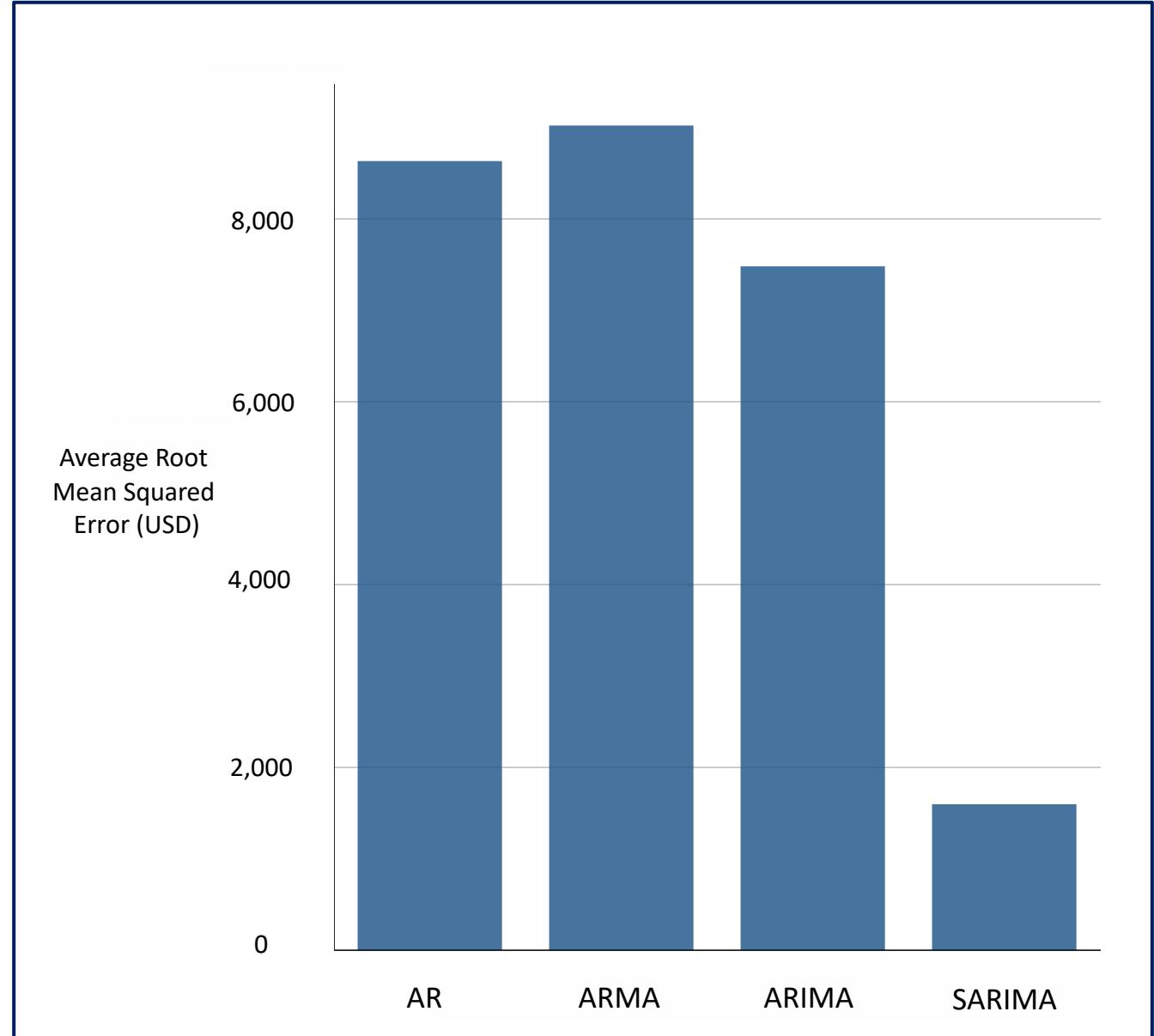


2017 Weekly Retail Sales Forecast



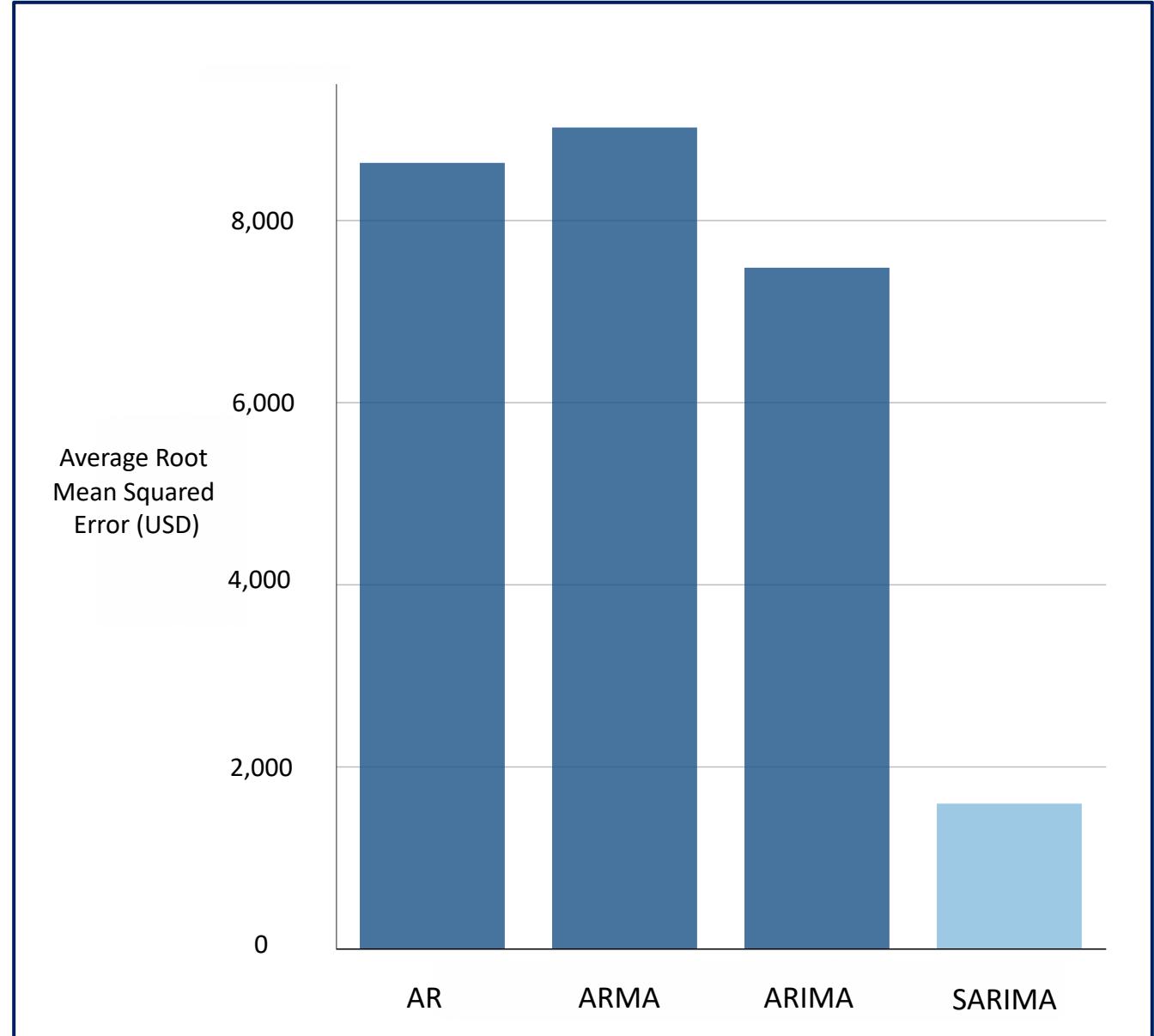
Model Evaluation

- Autoregressive (AR)
- Autoregressive Moving Average (ARMA)
- Autoregressive Integrated Moving Average (ARIMA)
- Seasonal ARIMA (SARIMA)
 - Average RMSE: \$1,600



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Thank You

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