# Lumber Prices

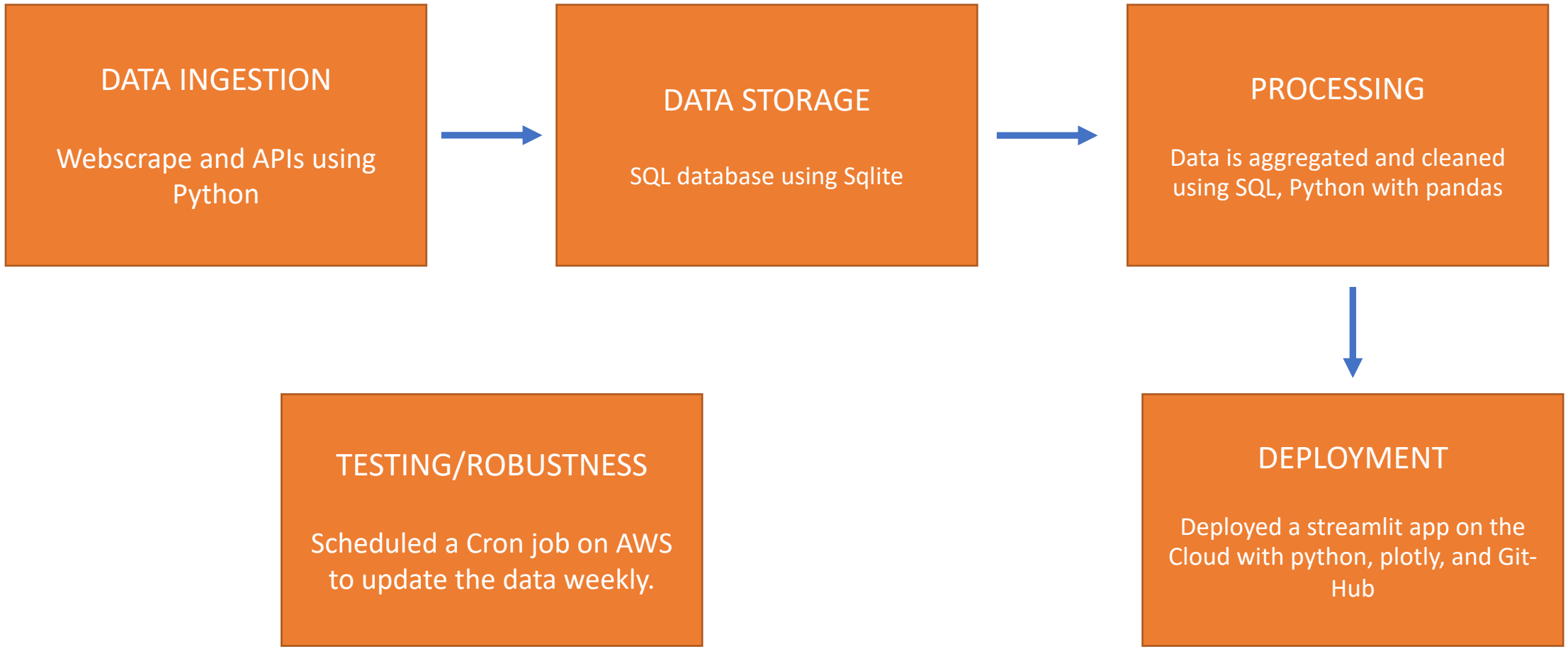
Motivation:

Since late 2020, lumber prices have seen a large amount of volatility ranging from $300 to $1700 per thousand board feet.  About 30% of a new home's material cost is lumber, so these price changes can have a significant impact on housing costs.

Objectives:

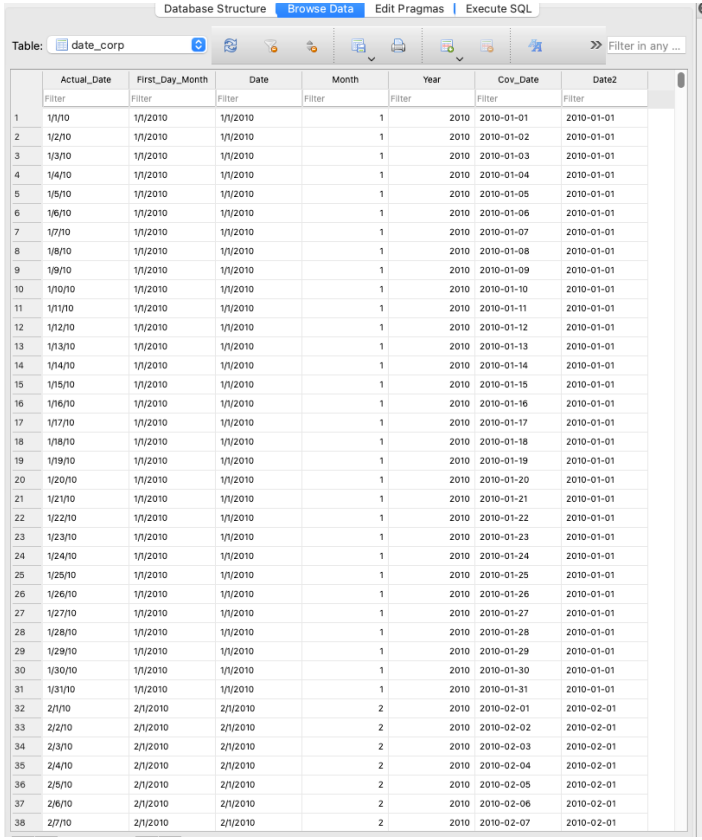
Pull lumber data as well as other economic metrics and build an app to help search for correlations in the price swings.

# Data Pipeline

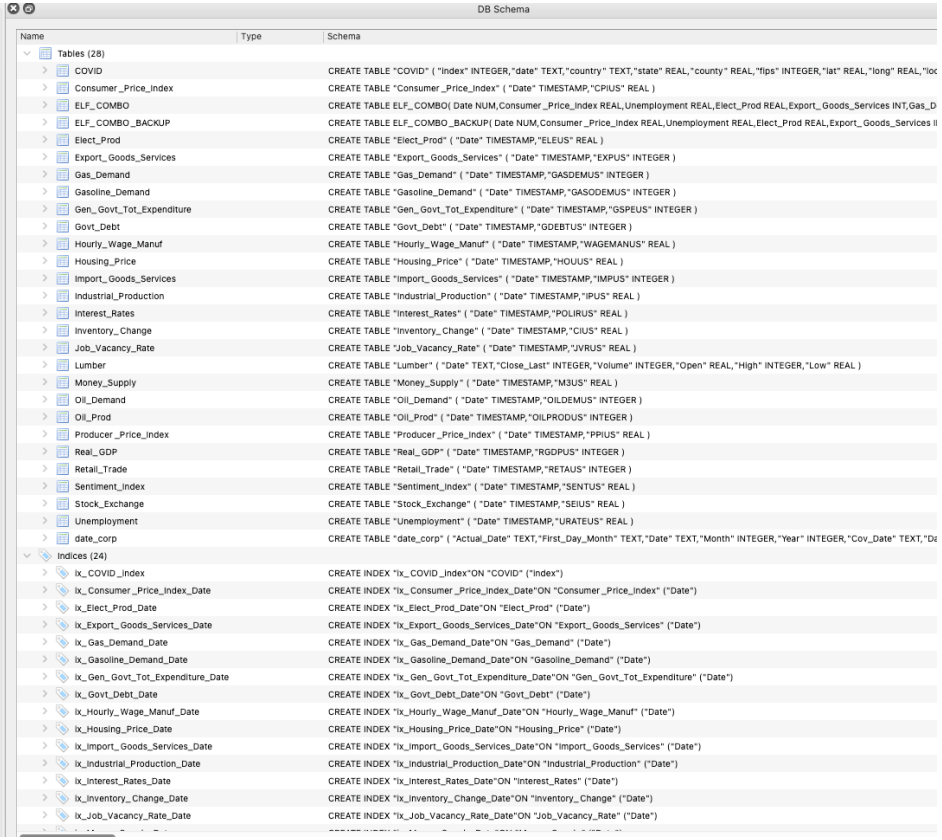


# Processing Data

- Aggregated Data in SQL
- Cleaned and Normalized Data in Python
- Utilized Custom Date Table




| | Actual_Date | First_Day_Month | Date | Month | Year | Cov_Date | Date2 |
|---|---|---|---|---|---|---|---|
| | Filter | Filter | Filter | Filter | Filter | Filter | Filter |
| 1 | 1/1/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-01 | 2010-01-01 |
| 2 | 1/2/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-02 | 2010-01-01 |
| 3 | 1/3/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-03 | 2010-01-01 |
| 4 | 1/4/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-04 | 2010-01-01 |
| 5 | 1/5/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-05 | 2010-01-01 |
| 6 | 1/6/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-06 | 2010-01-01 |
| 7 | 1/7/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-07 | 2010-01-01 |
| 8 | 1/8/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-08 | 2010-01-01 |
| 9 | 1/9/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-09 | 2010-01-01 |
| 10 | 1/10/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-10 | 2010-01-01 |
| 11 | 1/11/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-11 | 2010-01-01 |
| 12 | 1/12/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-12 | 2010-01-01 |
| 13 | 1/13/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-13 | 2010-01-01 |
| 14 | 1/14/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-14 | 2010-01-01 |
| 15 | 1/15/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-15 | 2010-01-01 |
| 16 | 1/16/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-16 | 2010-01-01 |
| 17 | 1/17/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-17 | 2010-01-01 |
| 18 | 1/18/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-18 | 2010-01-01 |
| 19 | 1/19/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-19 | 2010-01-01 |
| 20 | 1/20/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-20 | 2010-01-01 |
| 21 | 1/21/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-21 | 2010-01-01 |
| 22 | 1/22/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-22 | 2010-01-01 |
| 23 | 1/23/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-23 | 2010-01-01 |
| 24 | 1/24/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-24 | 2010-01-01 |
| 25 | 1/25/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-25 | 2010-01-01 |
| 26 | 1/26/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-26 | 2010-01-01 |
| 27 | 1/27/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-27 | 2010-01-01 |
| 28 | 1/28/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-28 | 2010-01-01 |
| 29 | 1/29/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-29 | 2010-01-01 |
| 30 | 1/30/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-30 | 2010-01-01 |
| 31 | 1/31/10 | 1/1/2010 | 1/1/2010 | 1 | 2010 | 2010-01-31 | 2010-01-01 |
| 32 | 2/1/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-01 | 2010-02-01 |
| 33 | 2/2/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-02 | 2010-02-01 |
| 34 | 2/3/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-03 | 2010-02-01 |
| 35 | 2/4/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-04 | 2010-02-01 |
| 36 | 2/5/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-05 | 2010-02-01 |
| 37 | 2/6/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-06 | 2010-02-01 |
| 38 | 2/7/10 | 2/1/2010 | 2/1/2010 | 2 | 2010 | 2010-02-07 | 2010-02-01 |

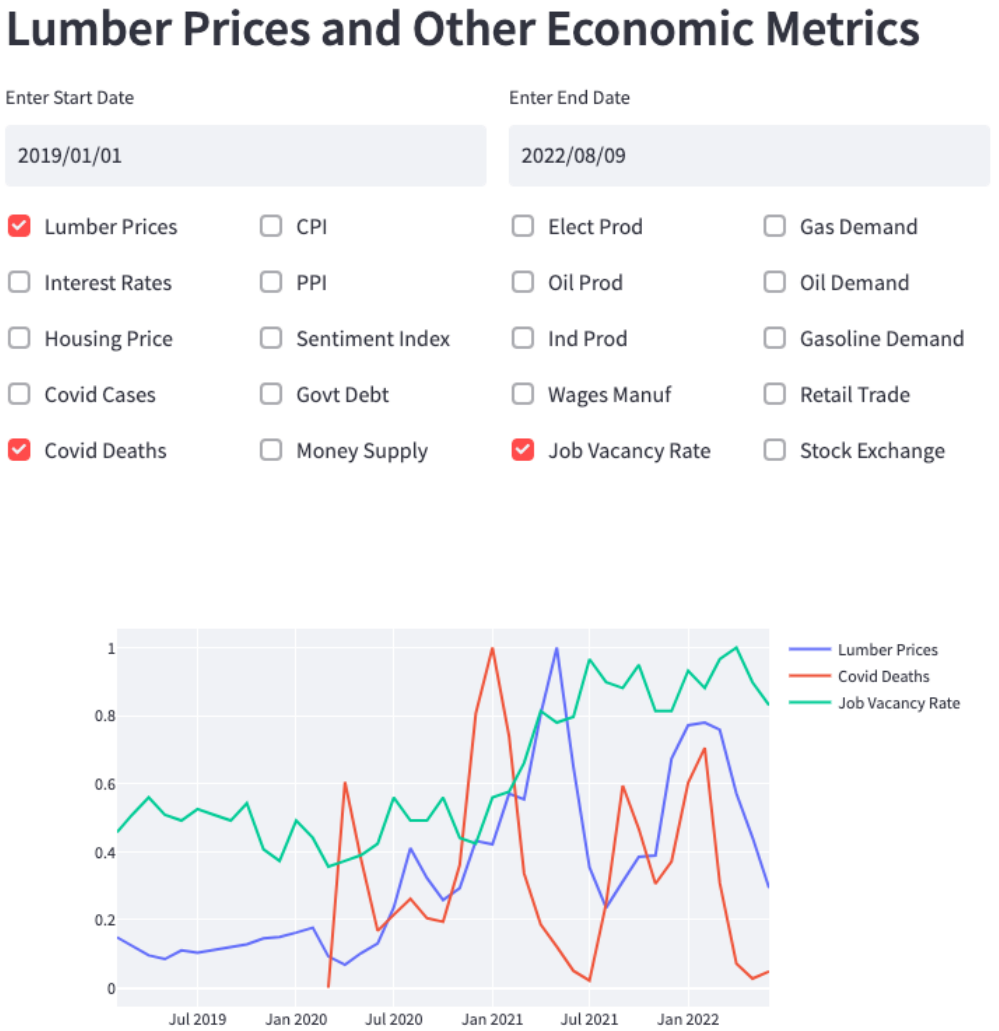


# Lumber Prices – Streamlit App

- Add or pick Date Range
- Add as many additional metrics on the same graph for comparison
- https://matt-redmond-eng-streamlitapp-8t78po.streamlitapp.com/

# Streamlit App with multiple selections

- Normalized Data uses the same scale
- Streamlit automatically assigns colors and adds the legend



# Conclusions and Next Steps

- Explore additional data sources.
- Build a predictive model for pricing.
- Further Automate the process.