**Data:**

Weekly\_U.S.\_Regular\_All\_Formula Gas price 8/20/1990 – 8/15/2022

GSPC\_Daily\_stockdata\_2000-2022

Weekly U.S. Ending Stocks of Total Gasoline 1/5/1990 – 8/12/2022

CVX and XOM daily stock price Open 2000 – 06/10/2022

* Consider to add columns:
* By Region CA CO FL TX NY All\_Grades\_All\_Formulations\_Retail\_Gasoline\_Prices\_Weekly
* By importing amount
* By crude oil price and production

……

**Processes:**

1. Collect, organize, and clean data – Excel & Python
2. Create and generate two table – PostgreSQL create tables and export csv for analysis
3. Create hypotheses stock price increase then gas increase – R and some statistics Linear Regression by factors
4. Predication – machine learning supervised & \*\*\* R prediction for stock price (potential)
5. Visualized Presentation – tableau:

* Overall introduction. How do we build up our ideas? Research for data and build up for analysis
* Research and spot period reason the gas price changed

1. According to the US Energy Information Administration, the highest gas price was recorded on July 16, 2008, reaching $4.10 USD per gallon. But, this was not a global high – in some countries, gas prices were much higher. In fact, the highest gas price ever recorded was in Venezuela, where it reached $7.50 per gallon in 2013

<https://axlewise.com/cost-of-gas/>

1. Gas Prices Through History [Updated]

<https://www.titlemax.com/discovery-center/planes-trains-and-automobiles/average-gas-prices-through-history/>

1. We can also go to world event database to search specific day for events related to gasoline price

<http://data.gdeltproject.org/events/index.html>

* WHAT DRIVES PETROLEUM PRODUCT PRICES?

Diagram

Description automatically generated

<https://www.eia.gov/finance/markets/products/balance.php>

single: Gas price ~ SP500 and oil company stock price

multiple: Gas price ~ SP500 and oil company stock price + import amounts + region + crude oil (U.S. refinery production) + petroleum product futures contracts

y=ax0+ax1+ax2+…

petroleum product futures contracts <https://www.eia.gov/finance/markets/products/financial_markets.php>

import

<https://www.eia.gov/finance/markets/products/trade.php>

crude oil (U.S. refinery production)

<https://www.eia.gov/finance/markets/products/production.php>