Congress Stock Trades

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Background

- According to Real Clear Politics 53% of Americans believe that political corruption is a crisis, while another 36% believe it is a significant problem.
- Several Congress Members were criticized for selling large amounts of stock before covid-19 hit America
- The STOCK Act of 2012 was written to prevent insider trading among congresspeople by forcing them to report their transactions

Stock Performance of our Politicians

- Do congress members' stocks perform exceptionally better than the market average performance?

- What (if any) factors are successful congress traders?

- Can the STOCK Act effectively monitor congress members and potential insider trading?

 - What could improve the STOCK Act, if anything?

Data We Found

- Transactions from Housestockwatcher.com and senatestockwatcher.com
  - Representative transactions from December 2018 to May 2021
  - Senate transactions from June 2012 to May 2021
  - 138 Congress Members
- Yahoo Finance Data. Individual stock investments of Congress members measured from the time of purchase, and 30, 60, 90, and 180 day intervals.
- Donation data from opensecrets.org
  - Total and small donations

# Measuring Transaction Performance

- Percent difference in stock price over time period
- Comparison: percent difference in S&P 500 over time period
- Stock performance for Congress Person transaction:
  - Subtract measurements above
- Who did best?
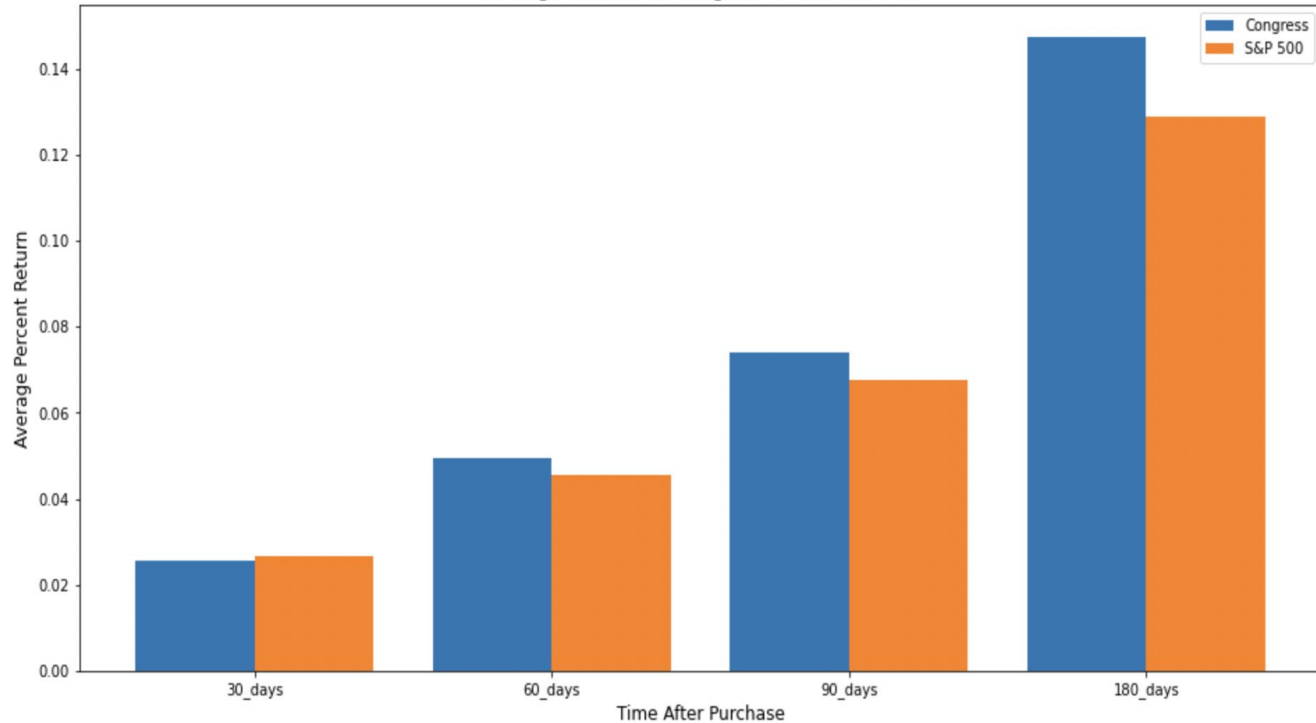 - Average of total returns by Congress Member

Sale/Purchase Amounts (from full dataset)

Distribution of Transaction Amounts
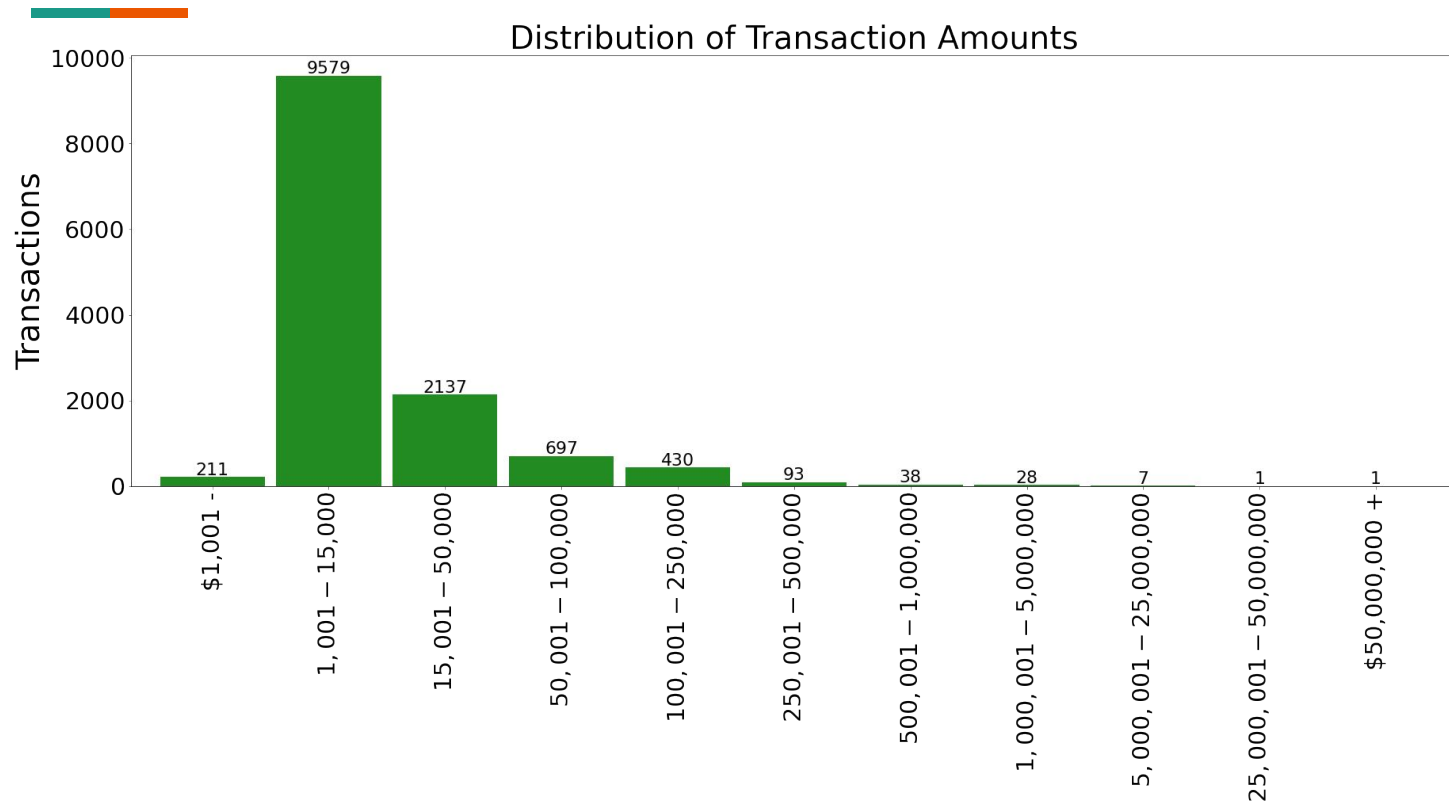
Congresspeople tend to invest in blue chip stocks
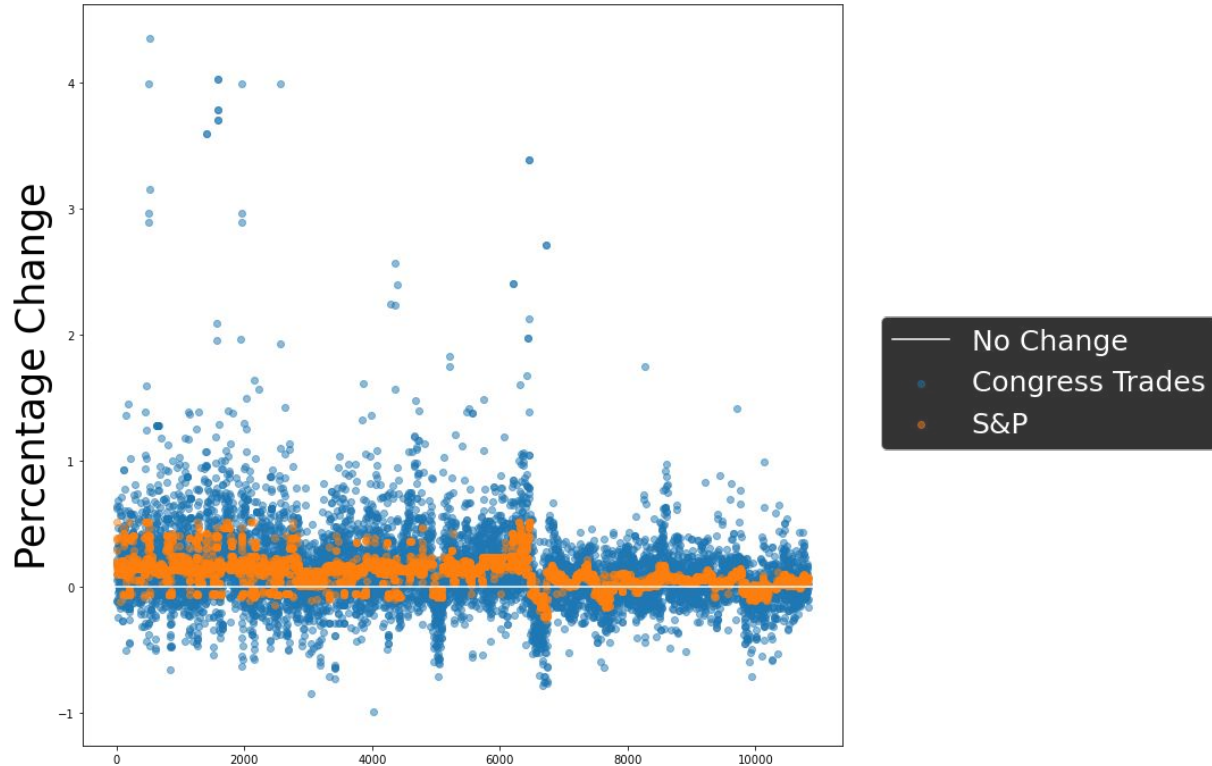

Most Purchased Stocks
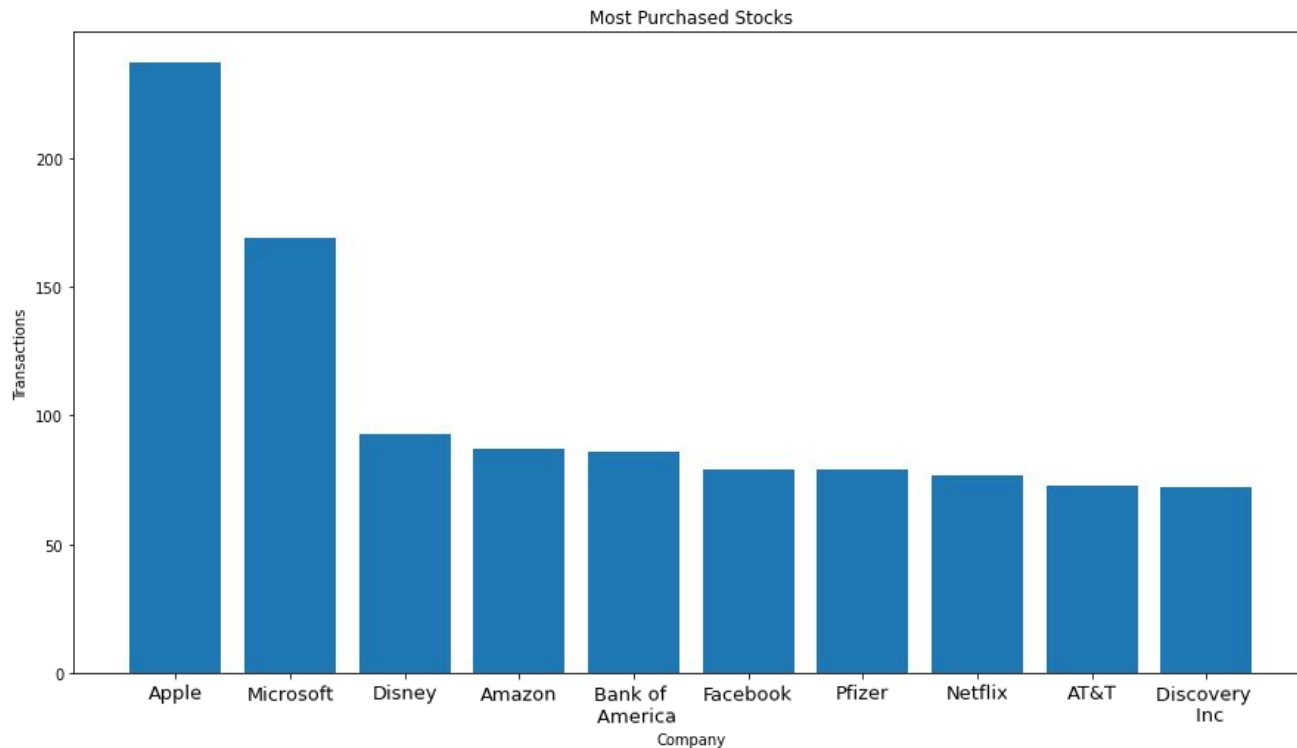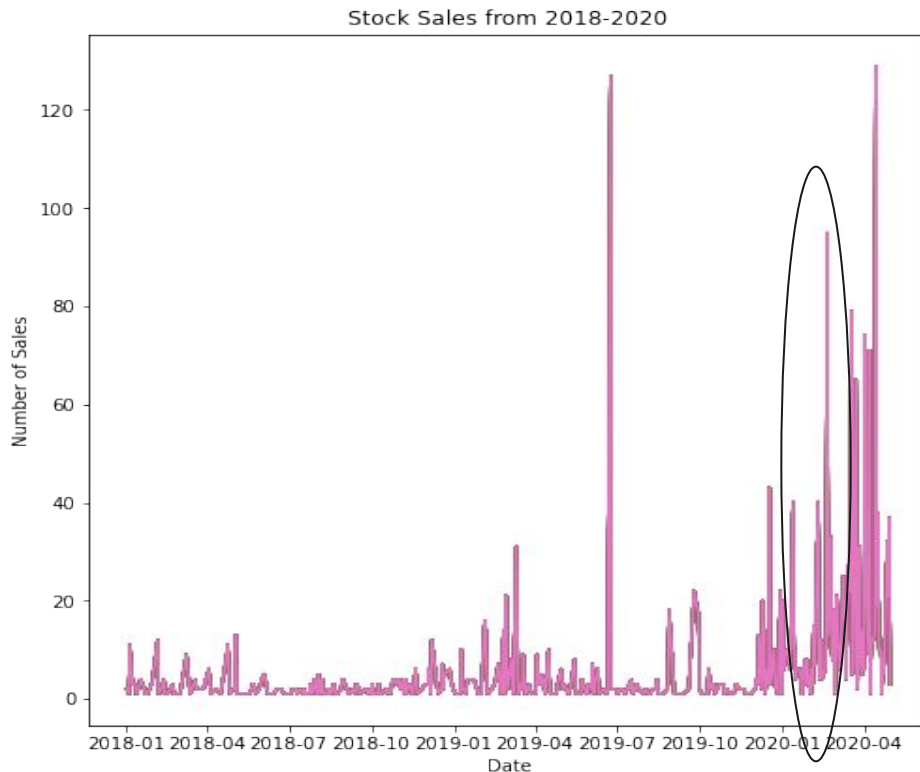
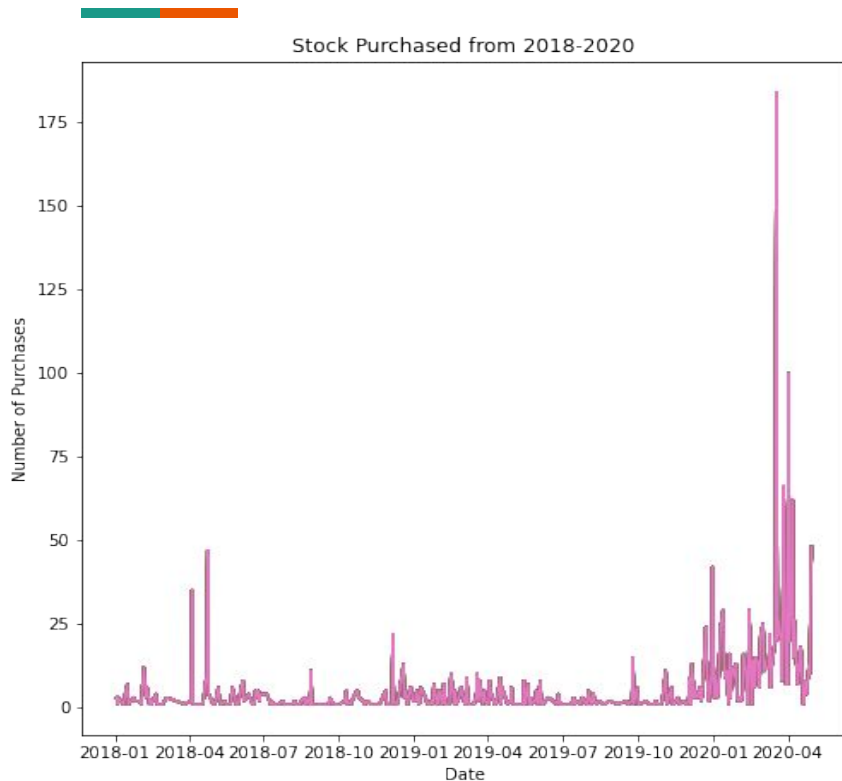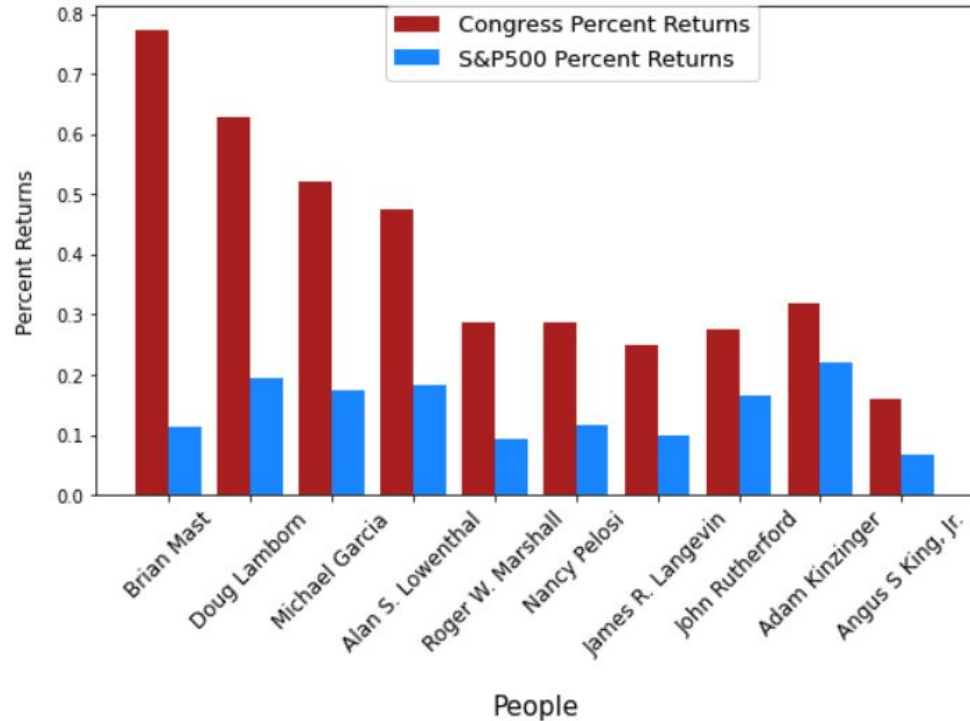# Congresspeople get slightly better returns than the S&P 500

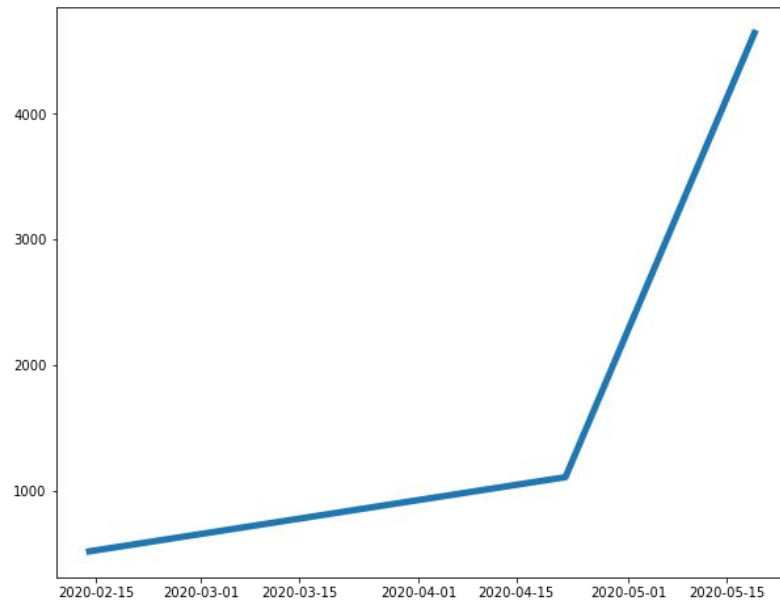# Congress Stocks after 30 Day reporting period
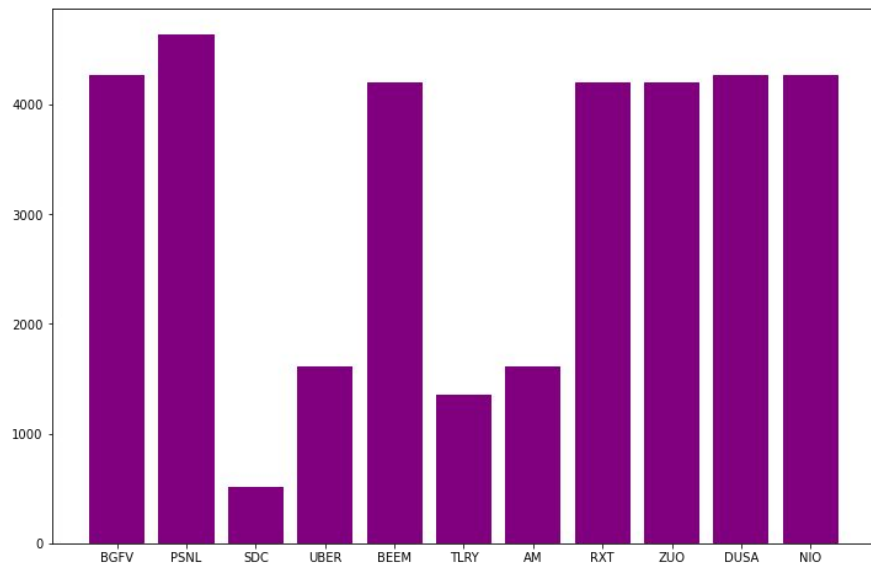
Timelines of Stock Trades
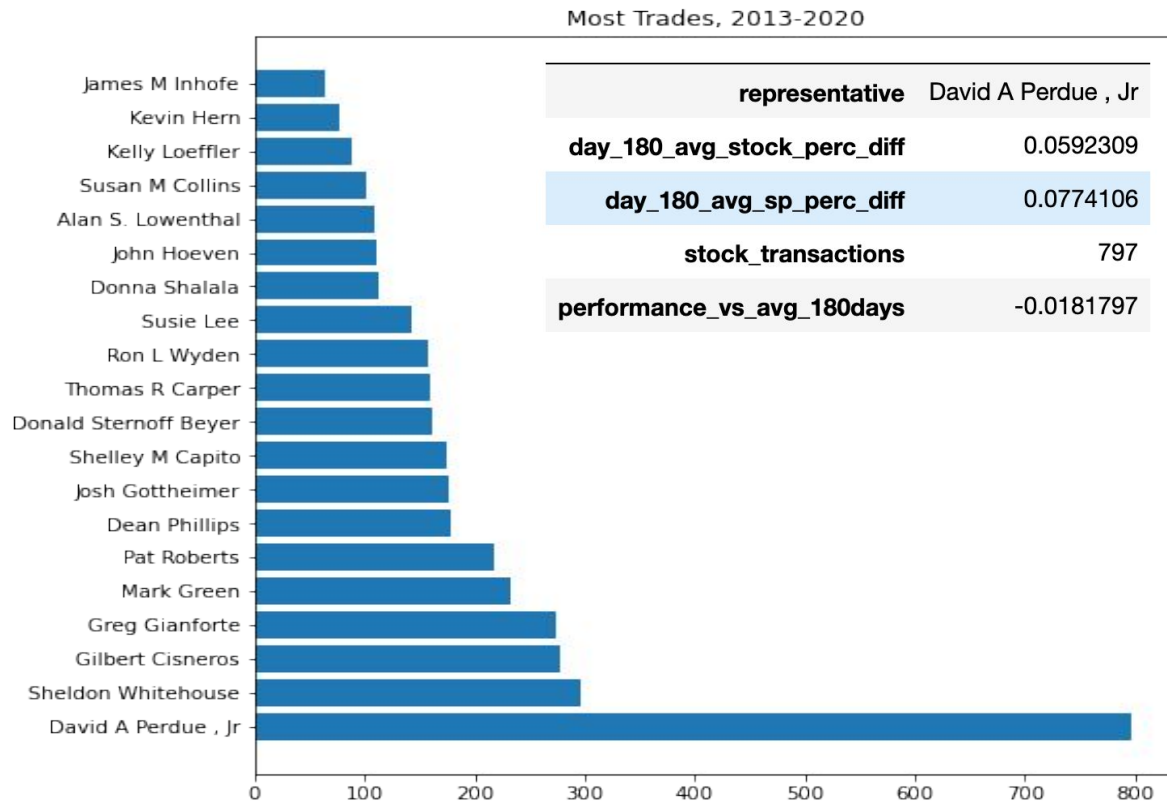
Top Performers in Congress

Brian Mast's Stock Trades

High-Frequency Traders

Most Trades, 2013-2020

| representative	David A Perdue , Jr
day_180_avg_stock_perc_diff	0.0592309
day_180_avg_sp_perc_diff	0.0774106
stock_transactions	797
performance_vs_avg_180days	-0.0181797

Can we predict the success of a stock purchase based on the congressperson who bought it?

- Created a voting classifier and a random forest to predict if a stock purchase would beat the S&P 500 over a 180 day period
- Features used:
  - Time in office
  - Party affiliation
  - Total campaign donations
  - Percent of donations from small donors
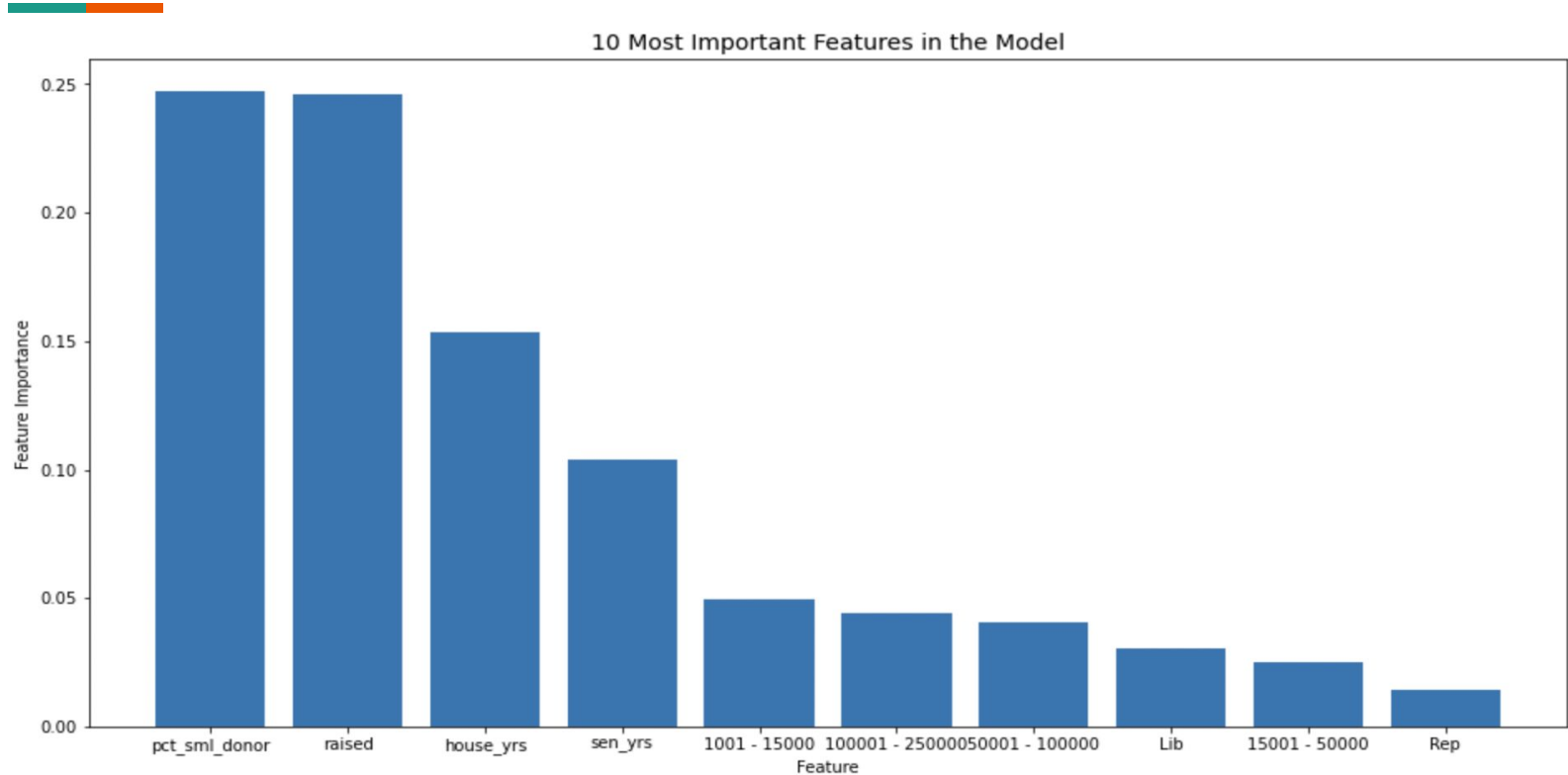 - Amount Invested
- Baseline accuracy 52%

The model can provide a slight edge for investors

- Any minor advantage in predicting the market is helpful
- Accuracy: 56%
- Precision : 57%

Confusion Matrix of Model on Test Data
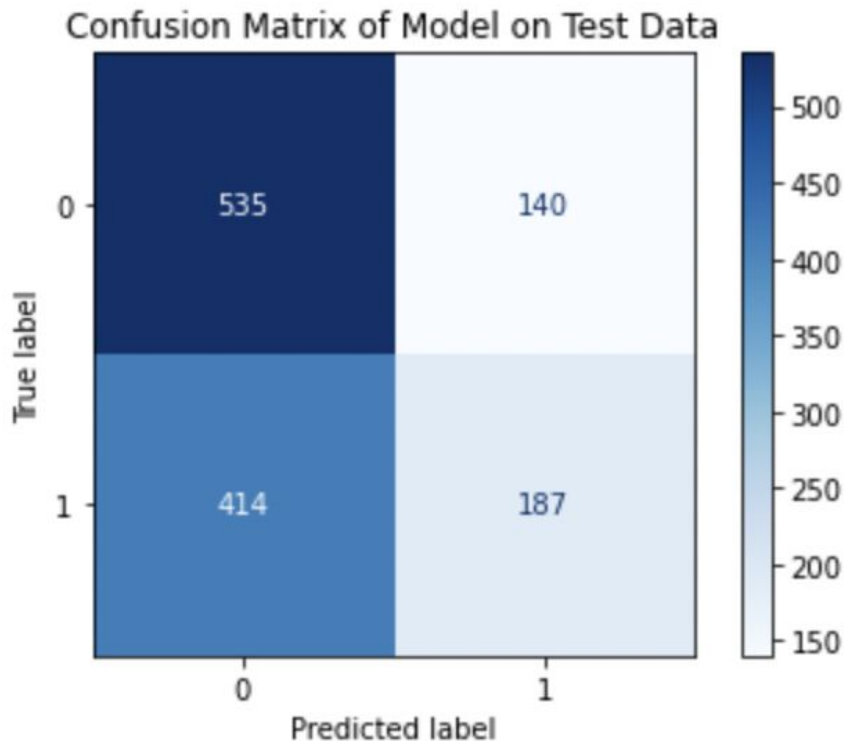
Feature Importances in Model

10 Most Important Features in the Model

Limitations

- Transaction amounts reported as a range which could be very wide
- Congresspeople that were investigated for insider trading had their trades removed from the reporting site.
  - Some congresspeople are conservative investors - no individual stocks
- This data cannot be used to suggest causes for Congress people who consistently beat the market

Conclusions

- There is no evidence in our data to suggest widespread congressional insider trading
- There was suspicious trading activity around Covid-19
- While the STOCK Act provides some transparency, there are areas where it doesn't perform
- There needs to be more specificity when reporting the value of investments
- The model could provide a minor edge for investors which is difficult to come by

Next Steps

- Create a model that classifies members for suspicious activity for further investigation

- Get information on Congress people's specific purchase amounts, times that they sold and how much they sold.

- What companies are donating to campaigns and the alignment to stocks congressmen are doing the best with

- Investigate possible reasons for congress members trading at an above-average rate

- Investigate contracts between government and companies at the time of sale and purchase

- Investigate other top performers like Brian Mast