

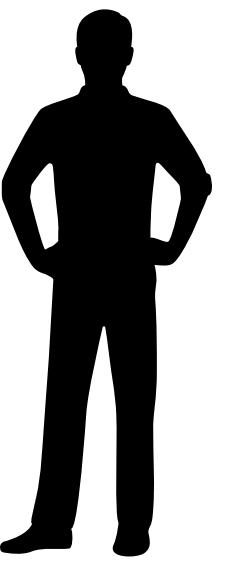
Pat Beeson, Sumeet Vaidya, Scott Oziros and William Alford

Portfolio Analyzer

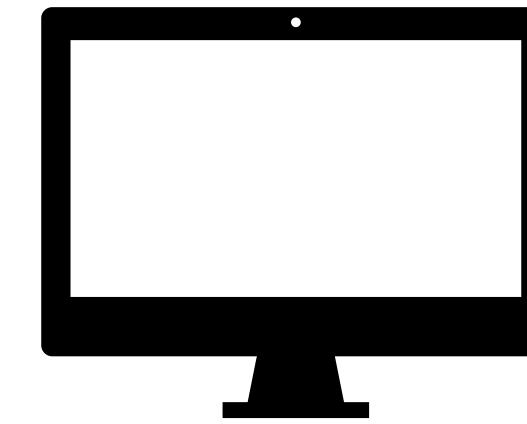
Portfolio at a glance in a Interactive Web Based Dashboard

User Story

As a Investor...



I want to see my portfolio in one place...



So that I can know at a glance how my portfolio is performing



Acceptance Criteria

Given that I want to see my portfolio at a glance...

When I access my account in my browser I can view my portfolio interactively...

Then the application should display how my portfolio is performing

Questions

- Where to get the historical and live data?
- How to combine the data
- How to clean the data?
- How to analyze the portfolio
- How to display the results?



- Selection criteria - highest return for my budget with the lowest level of risk for my return objective.

Answers

- yFinance for Realtime Data with Adjusted Close Prices
- Pandas Data Frames
- Monte Carlo Simulation
- Interactive Dashboard
- Quantitative Analysis:
 - YTD Return vs SPY YTD
 - Total Return vs SP500
 - P&L Total Return SPY
 - Total Cumulative Return over time
 - Daily Returns, Cumulative Return by Ticker
 - Rolling 21 day return
 - Sharpe Ratio
 - Rolling 60 day Beta
 - Simulated Returns
 - Simulated Cumulative P&L

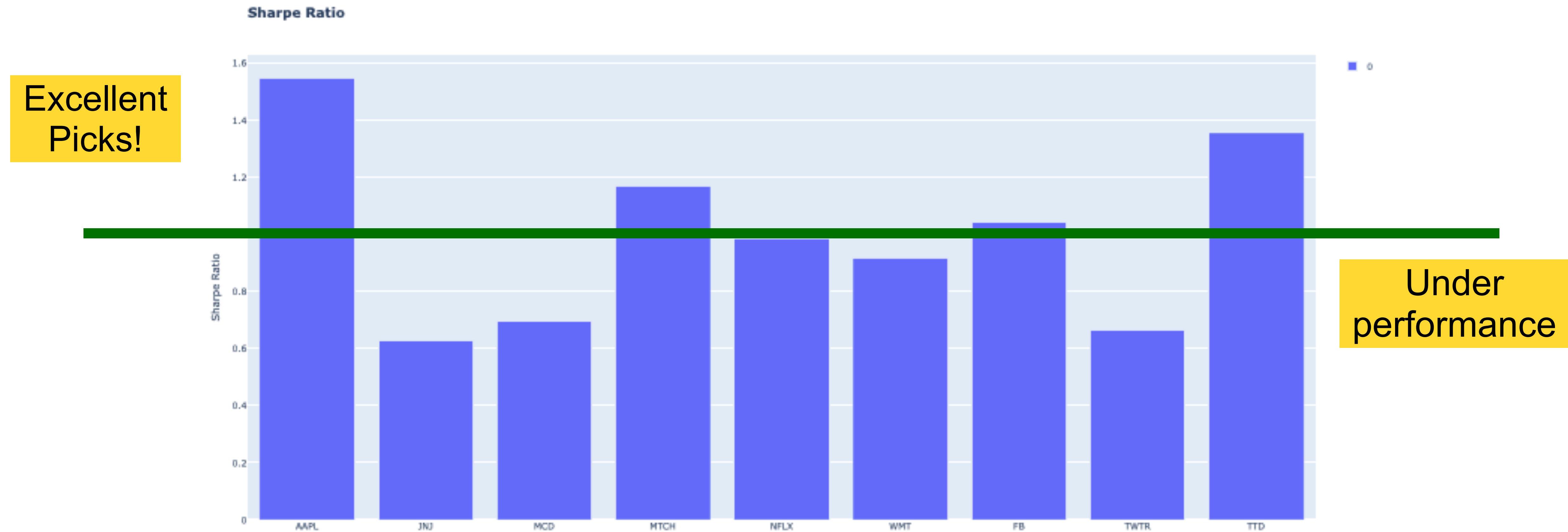
Ticker Inputs

Input tickers to generate and analyze results in the Dashboard!

Acquisition Date	Ticker	Quantity	Unit Cost	Cost Basis	Start of Year
2/7/19	AAPL	300	\$43.50	13,050.00	12/31/20
2/7/19	JNJ	100	132.50	13,250.00	12/31/20
2/7/19	MCD	100	175.20	17,520.00	12/31/20
2/7/19	MTCH	200	55.80	11,160.00	12/31/20
2/7/19	NFLX	75	345.40	25,905.00	12/31/20
2/7/19	WMT	125	149.35	18,668.75	12/31/20
2/7/19	FB	150	165.50	24,825.00	12/31/20
2/7/19	TWTR	225	30.31	6,819.75	12/31/20
2/7/19	TTD	100	14.30	1,430.00	12/31/20

Importance of the Sharpe Ratio in Portfolio Selection

A Ratio above 1.0 (green line) is good, 2.0 or higher is very good!



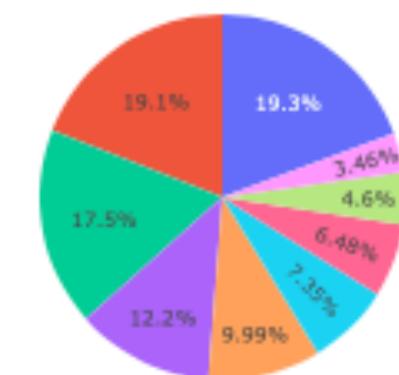
Stock Trades P&L and Simulated Return

Portfolio Analysis Dashboard

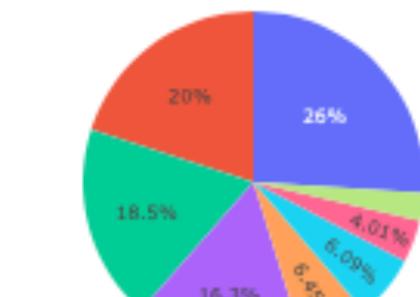
Snapshot of your
P&L

Ticker	Cost Basis	Current Value	Stock Gain / (Loss)	% Change
AAPL	\$13,050.00	\$44,376.00	\$31,326.00	340.05%
JNJ	\$13,250.00	\$16,427.00	\$3,177.00	123.98%
MCD	\$17,520.00	\$25,313.00	\$7,793.00	144.48%
MTCH	\$11,160.00	\$30,810.00	\$19,650.00	276.08%
NFLX	\$25,905.00	\$48,518.25	\$22,613.25	187.29%
WMT	\$18,668.75	\$18,555.00	-\$113.75	99.39%
FB	\$24,825.00	\$49,146.00	\$24,321.00	197.97%
TWTR	\$6,819.75	\$11,774.25	\$4,954.50	172.65%
TTD	\$1,430.00	\$8,866.00	\$7,436.00	620.00%

Portfolio Current Value



Portfolio Current P&L

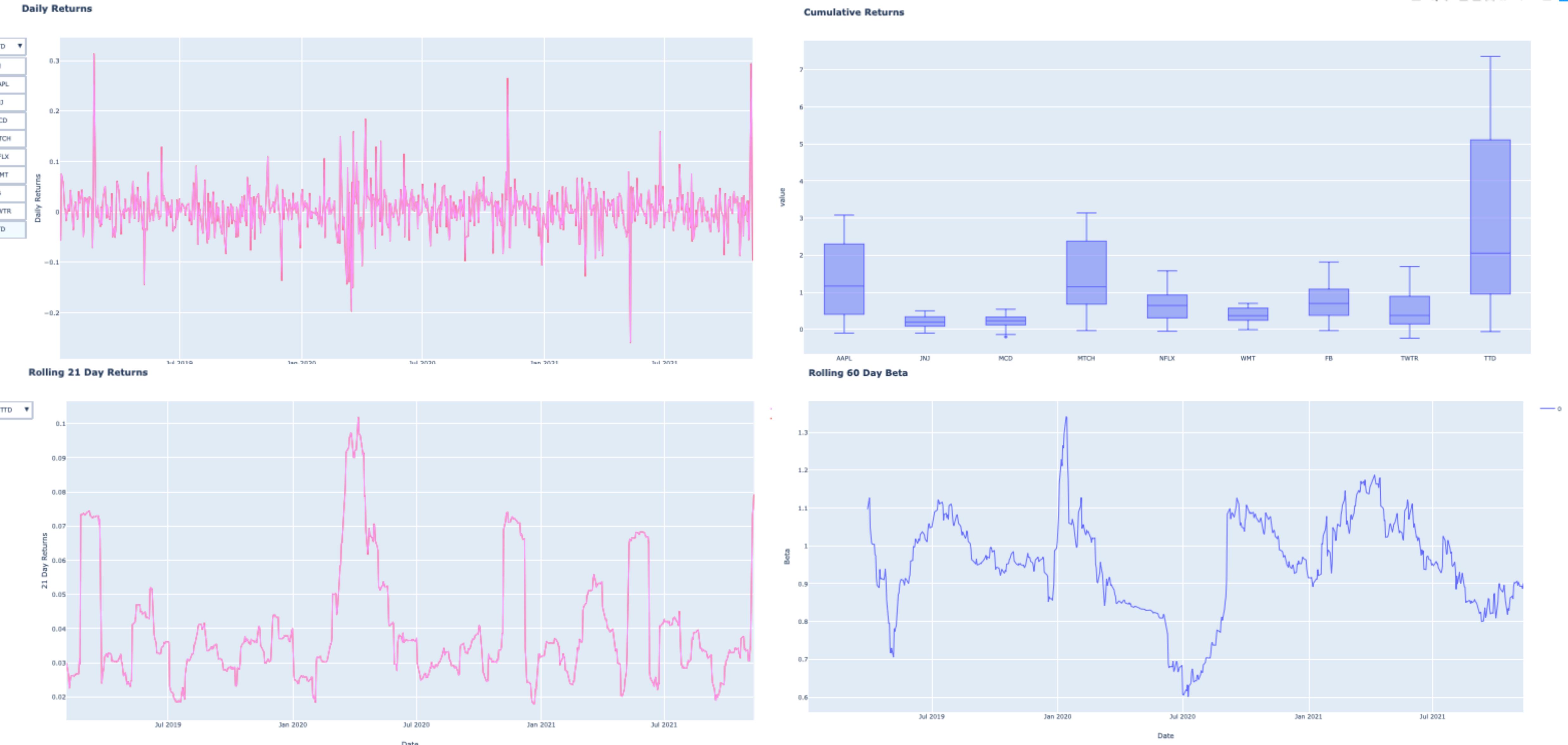


Track allocation

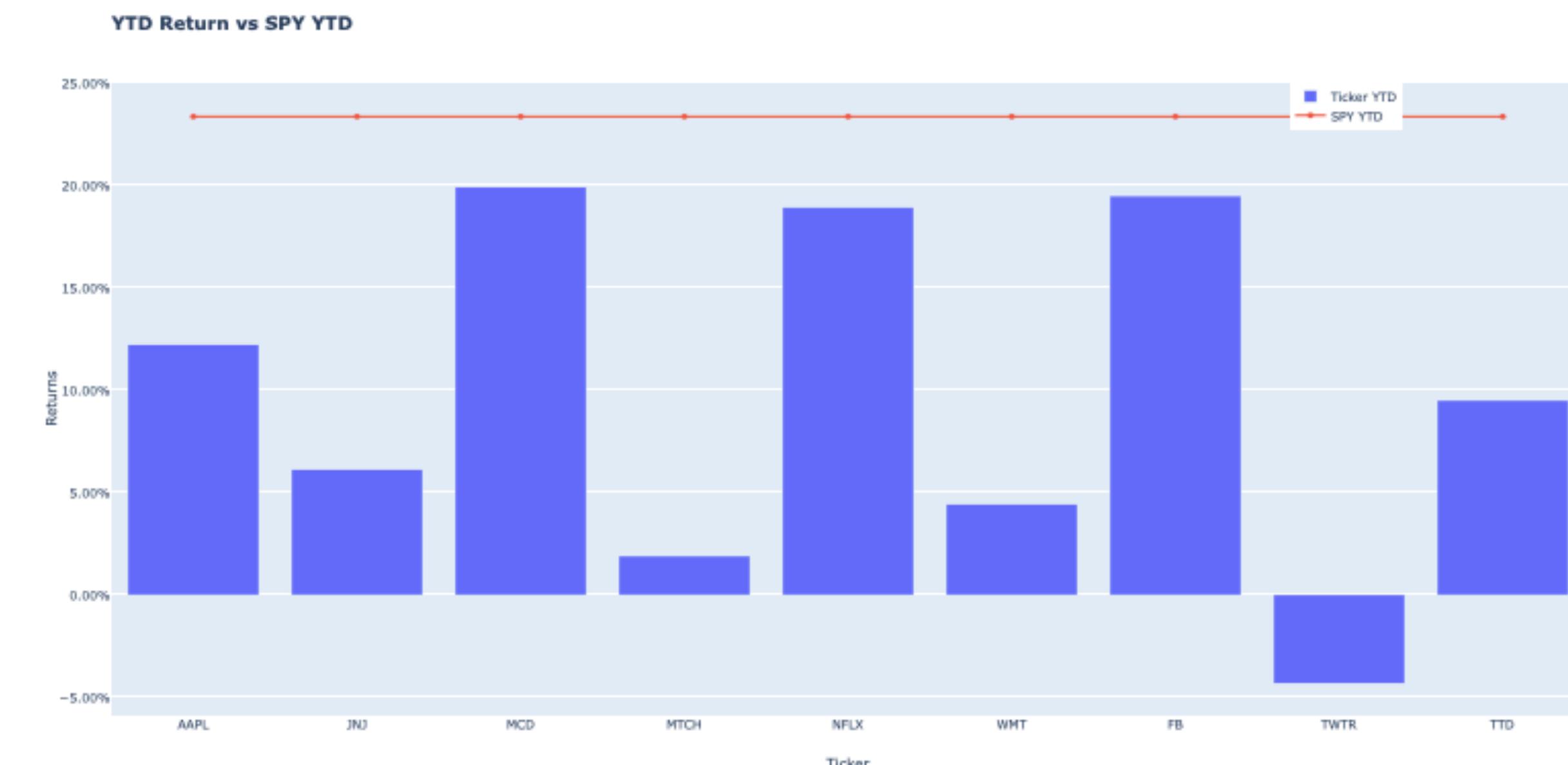
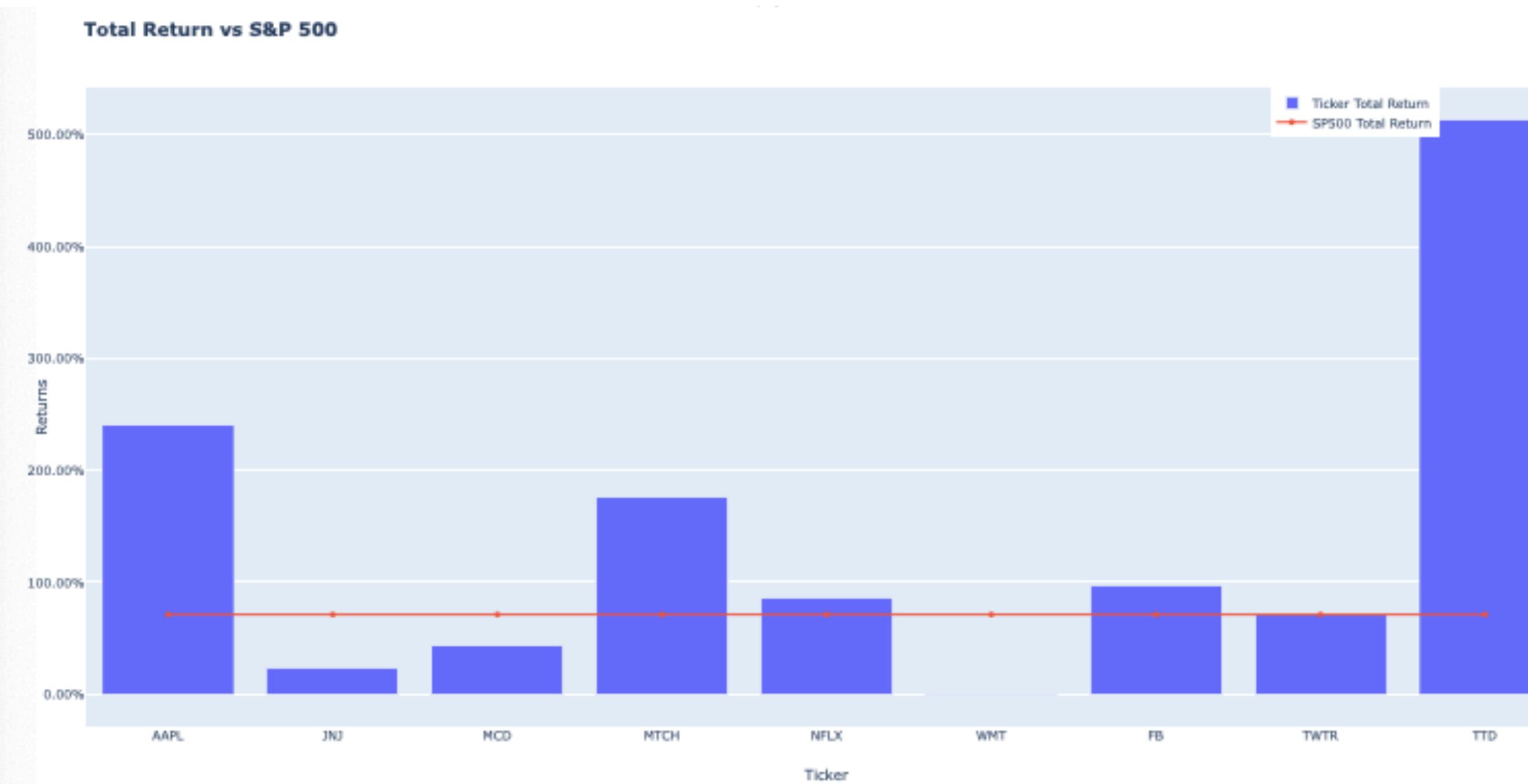
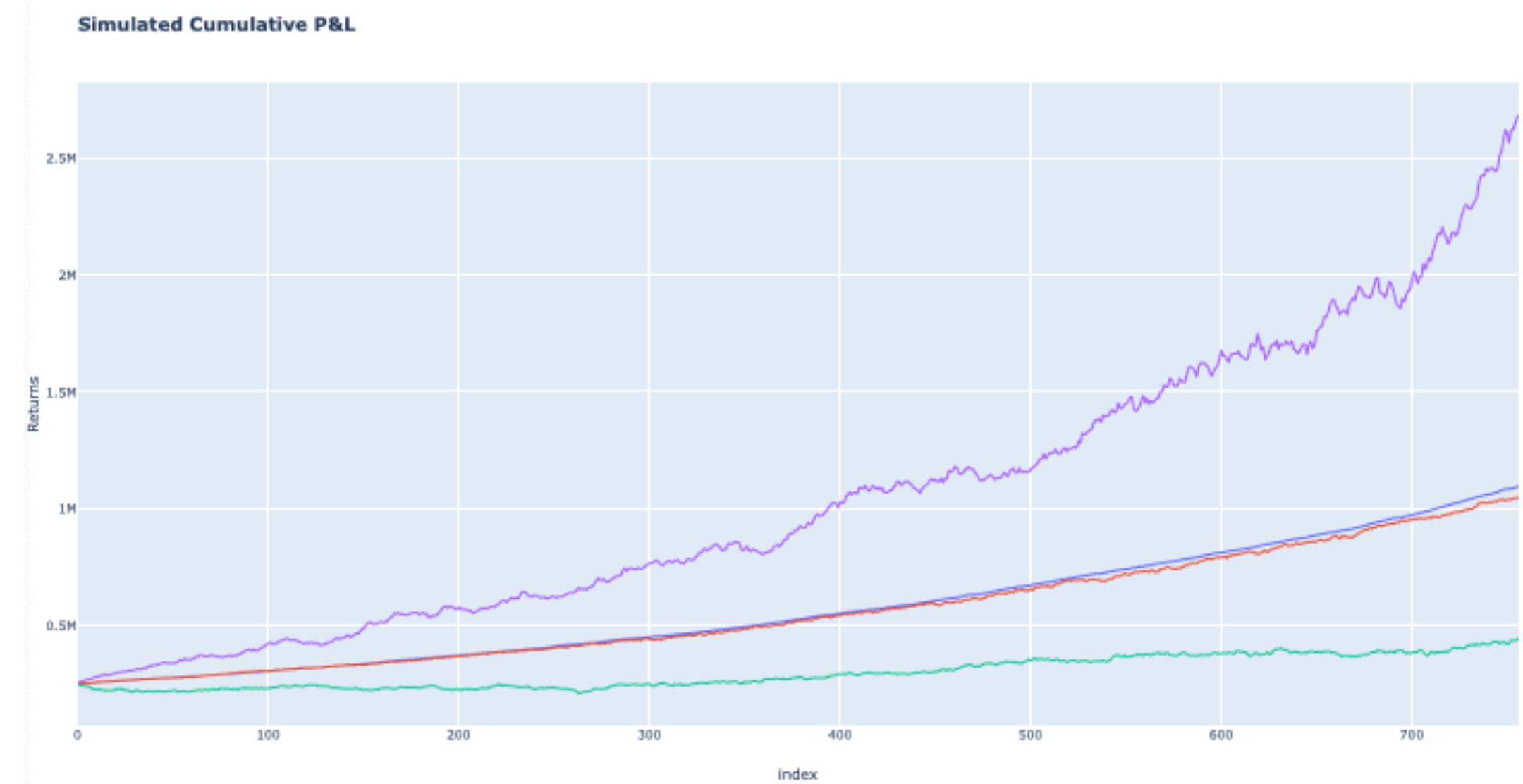
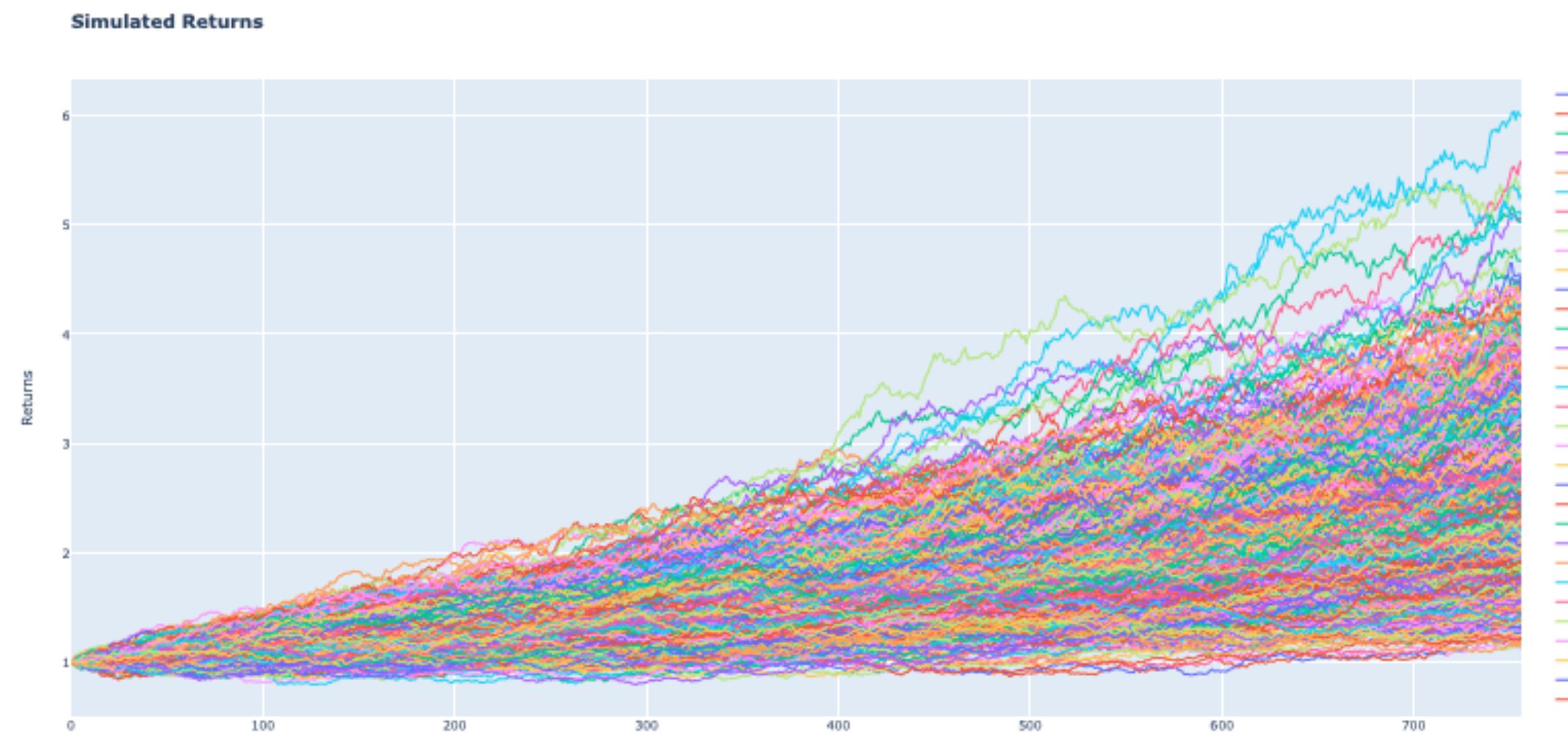
Run Monte Carlo
simulations to see
return probabilities

Summary: There is a 95% chance that an initial investment of \$145,906.00 in the portfolio over the next three years will end within the range of \$211,007.08 and \$607,858.26.

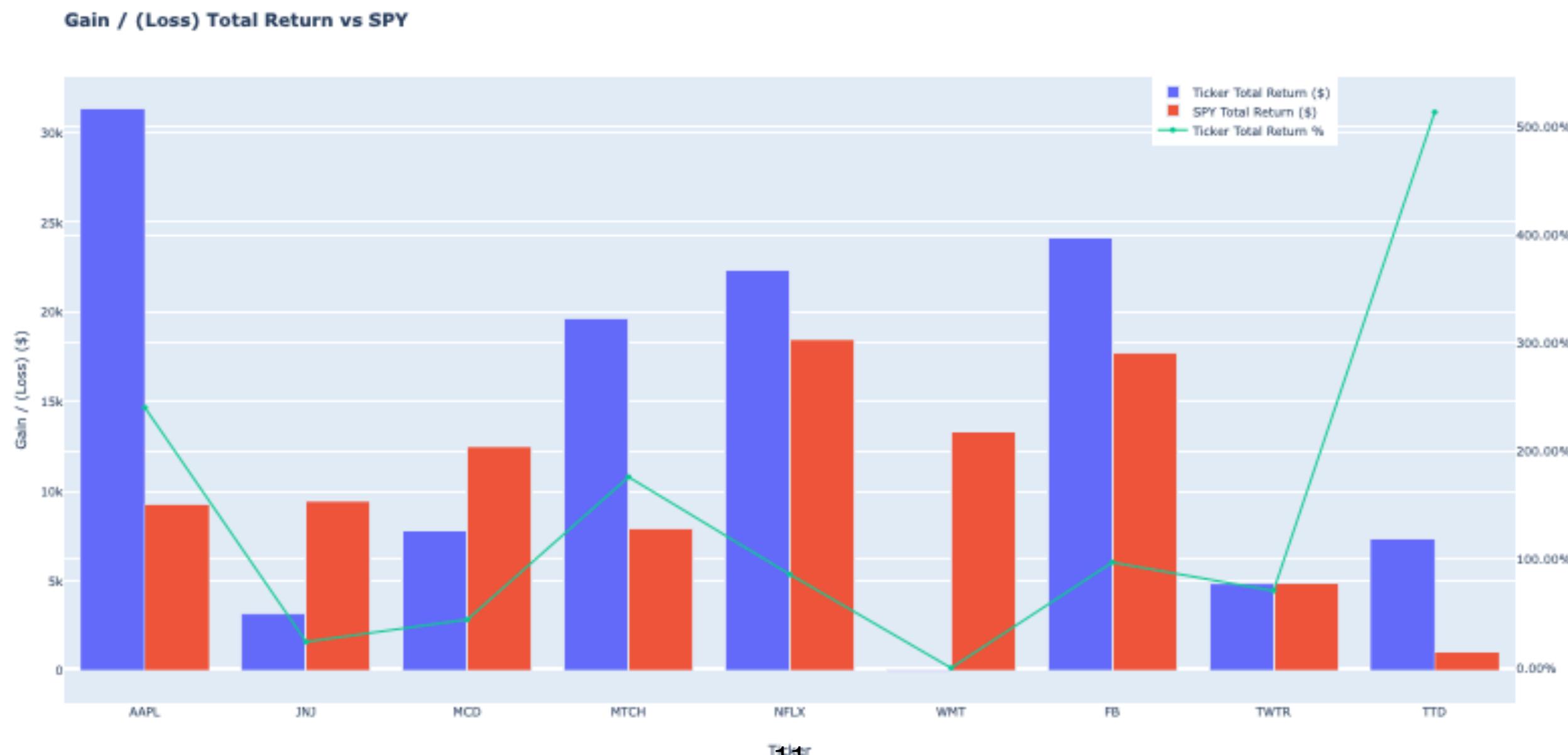
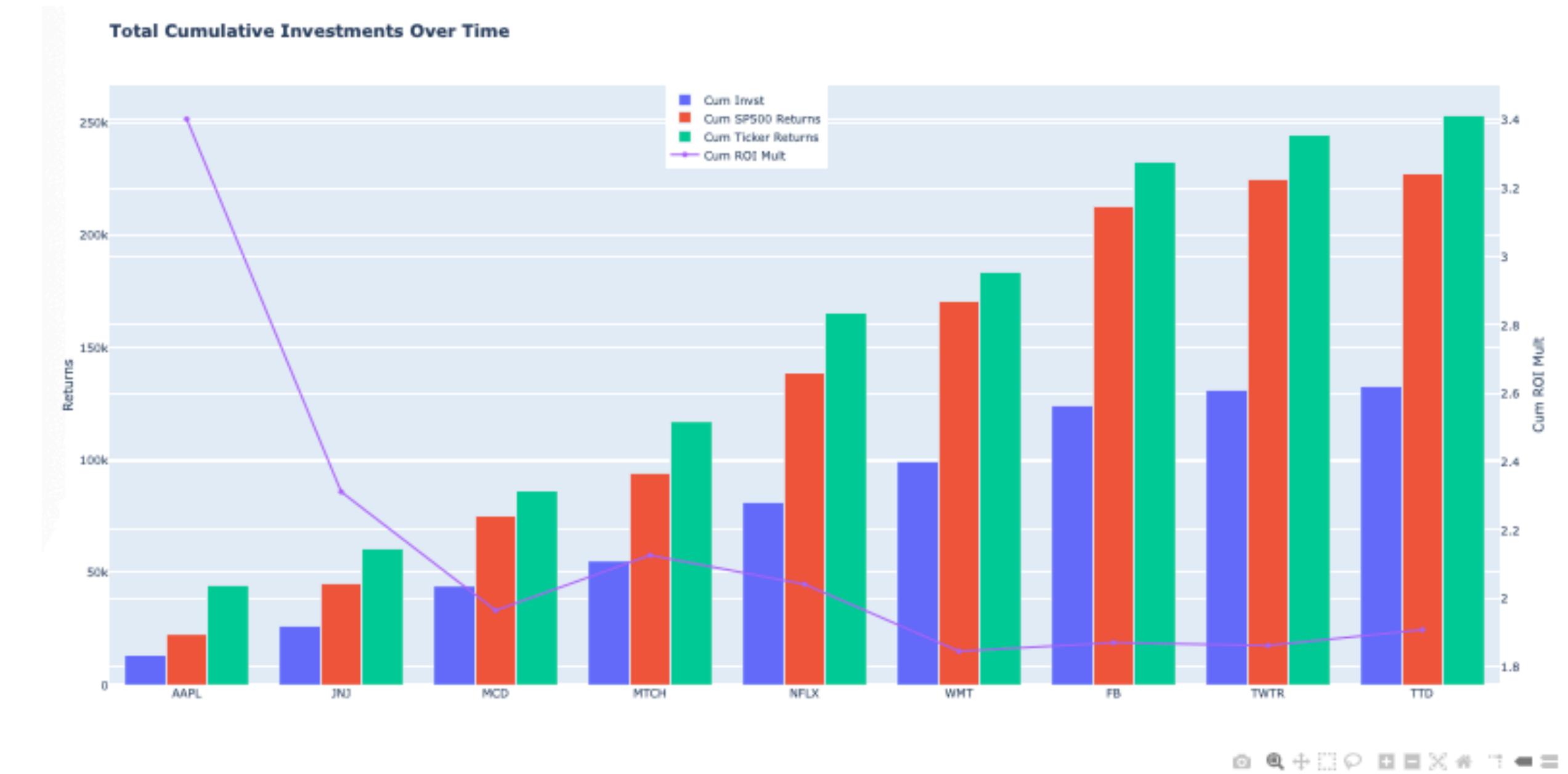
Images from the Analyzer Dashboard



Images from the Analyzer Dashboard



Images from the Analyzer Dashboard



Installed Python Libraries

Main Modules used in the Project

Import initial libraries

yFinance

Numpy

Pandas

Dash and Plotly

Monte Carlo Simulation - MCForecastTools

Matplotlib