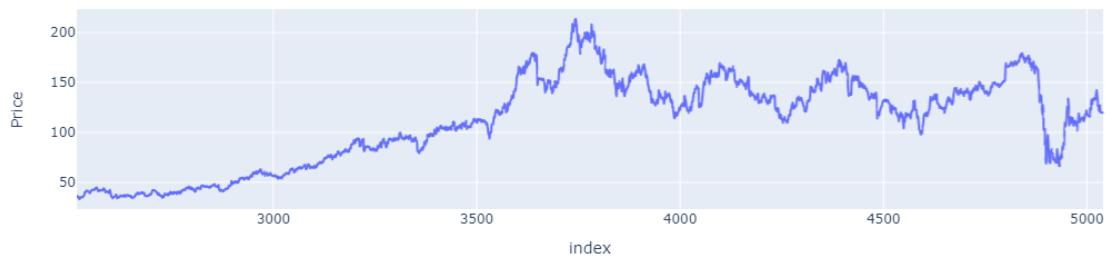


Data Visualisation Dashboard

Stock Price Over Time (Line Chart):

This visualization will show the adjusted closing price of each stock over time.

ALGT Stock Prices Over Time



ALK Stock Prices Over Time



DAL Stock Prices Over Time



HA Stock Prices Over Time



LUV Stock Prices Over Time



BCS Stock Prices Over Time



CS Stock Prices Over Time



DB Stock Prices Over Time



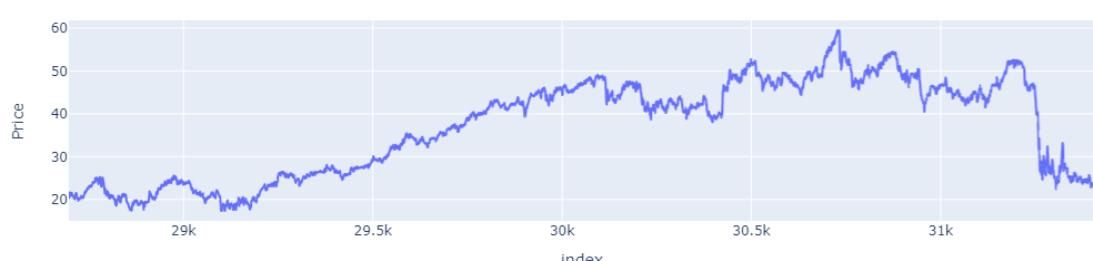
GS Stock Prices Over Time



MS Stock Prices Over Time



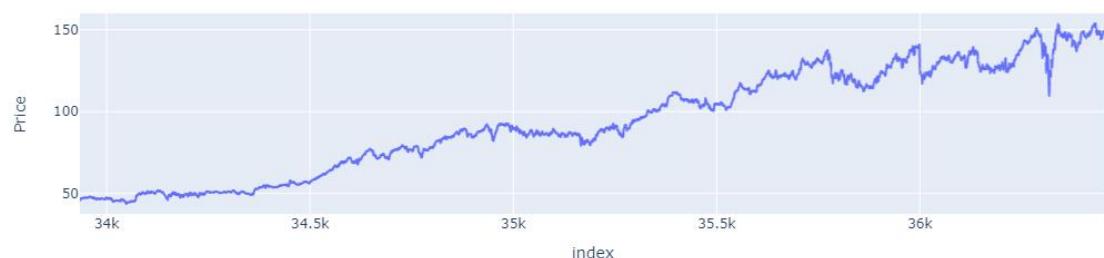
WFC Stock Prices Over Time



BHC Stock Prices Over Time



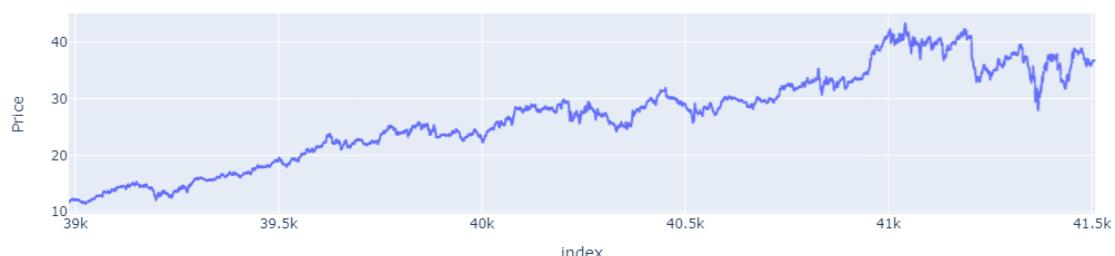
JNJ Stock Prices Over Time



MRK Stock Prices Over Time



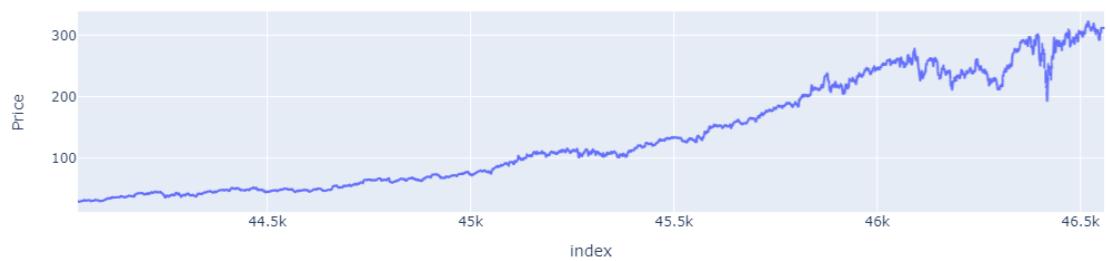
PFE Stock Prices Over Time



RHHBY Stock Prices Over Time



UNH Stock Prices Over Time



AAPL Stock Prices Over Time



FB Stock Prices Over Time



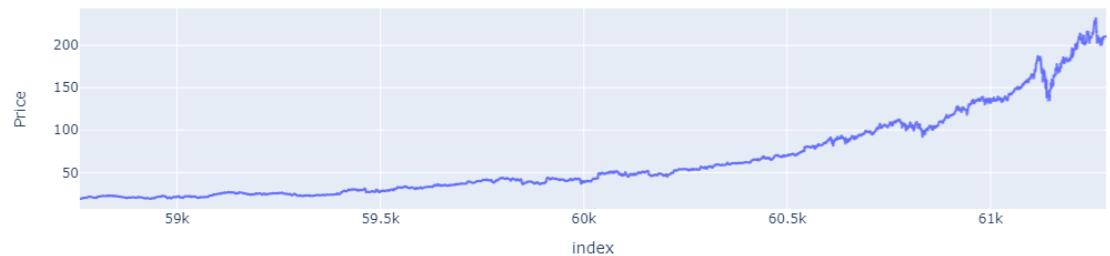
GOOG Stock Prices Over Time



IBM Stock Prices Over Time

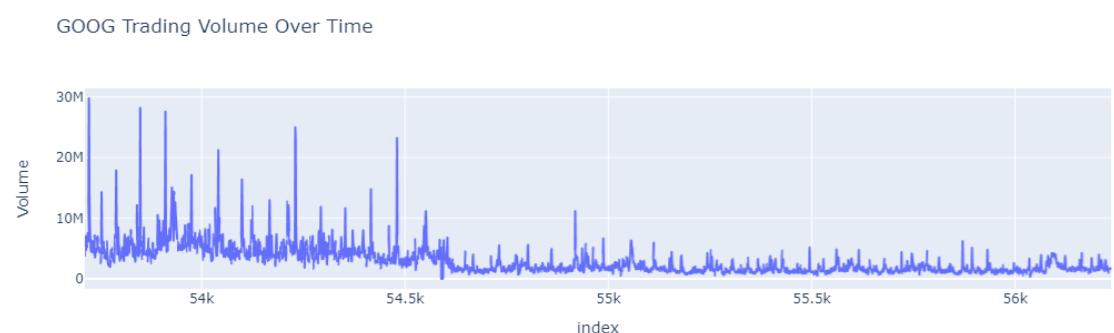
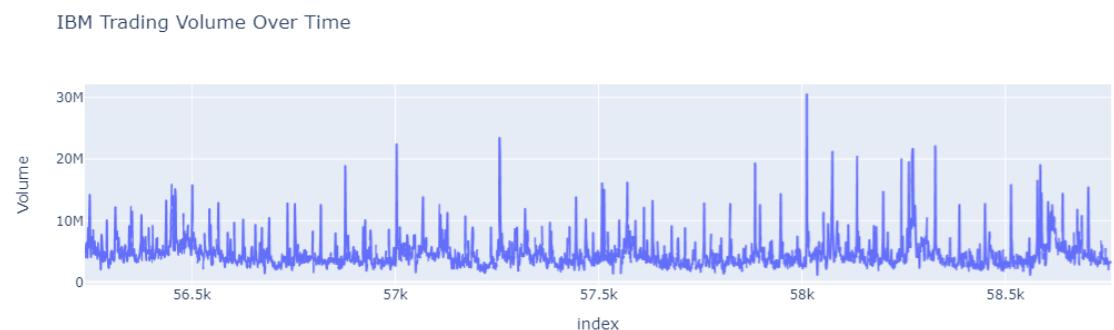
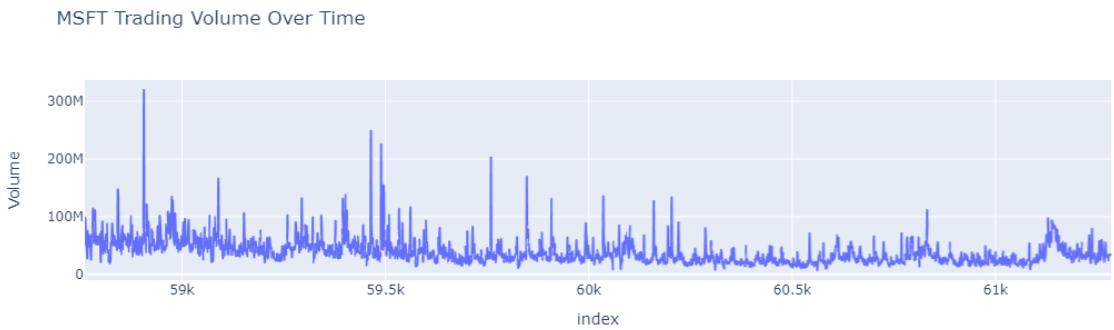


MSFT Stock Prices Over Time

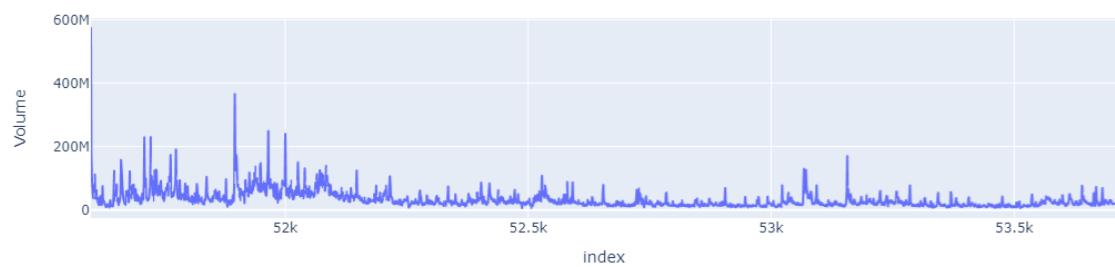


Trading Volume Over Time (Line Chart):

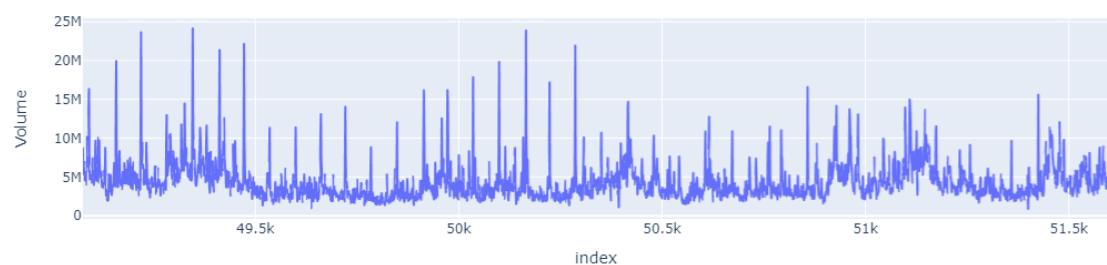
This visualization will show how the trading volume for each stock has changed over time.



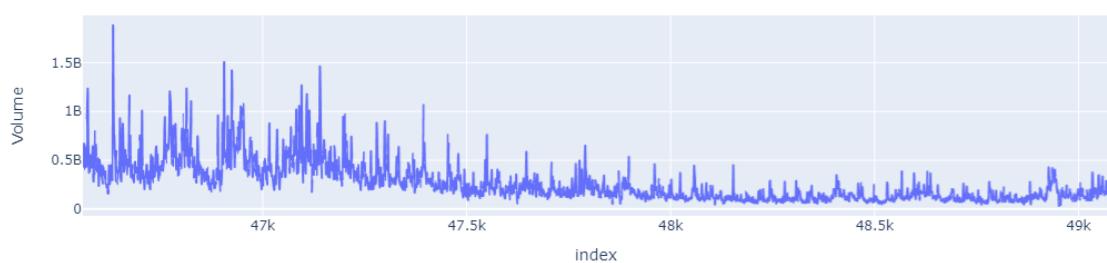
FB Trading Volume Over Time



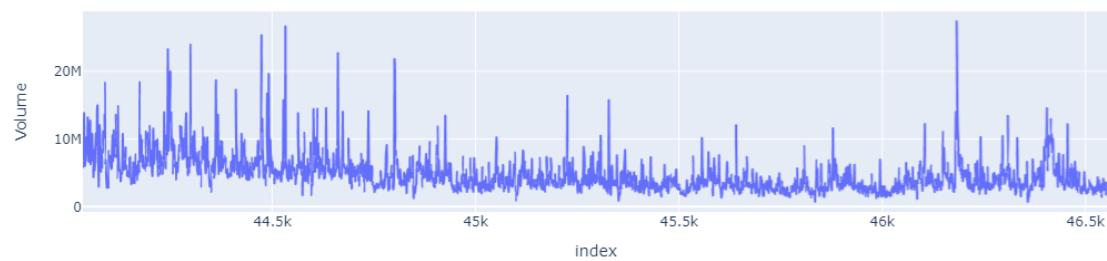
AMZN Trading Volume Over Time



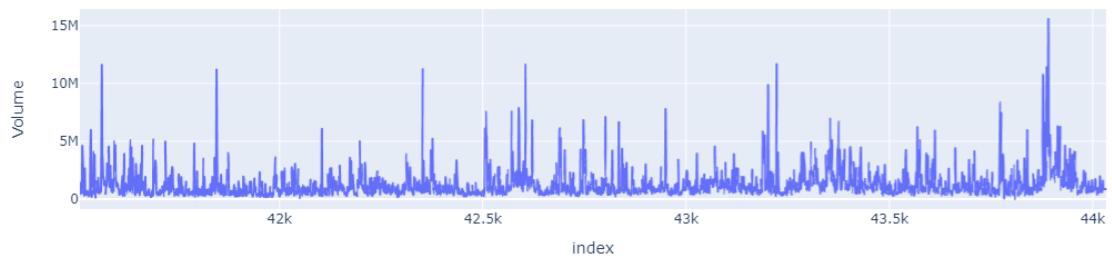
AAPL Trading Volume Over Time



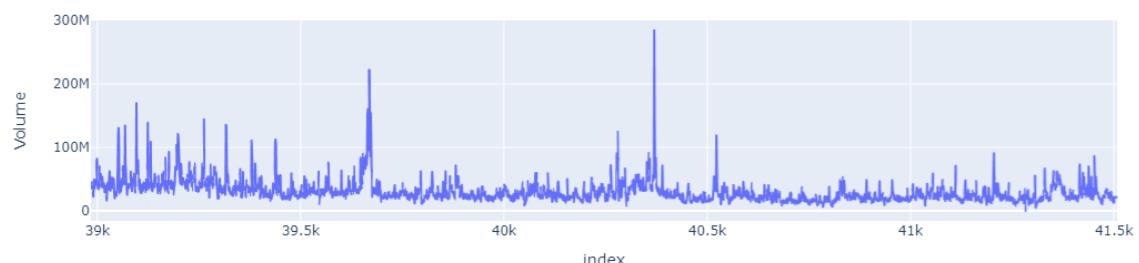
UNH Trading Volume Over Time



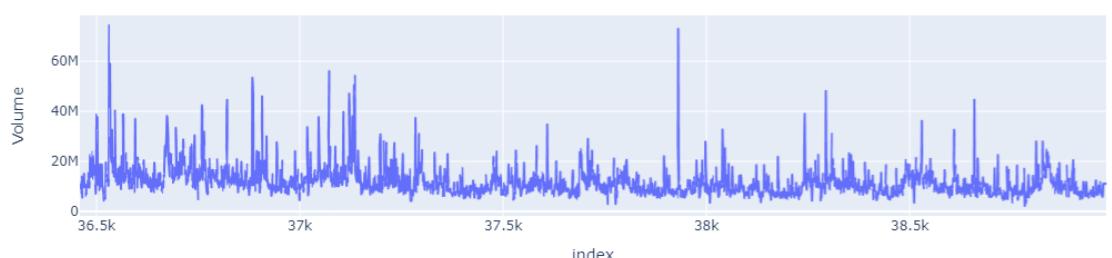
RHHBY Trading Volume Over Time



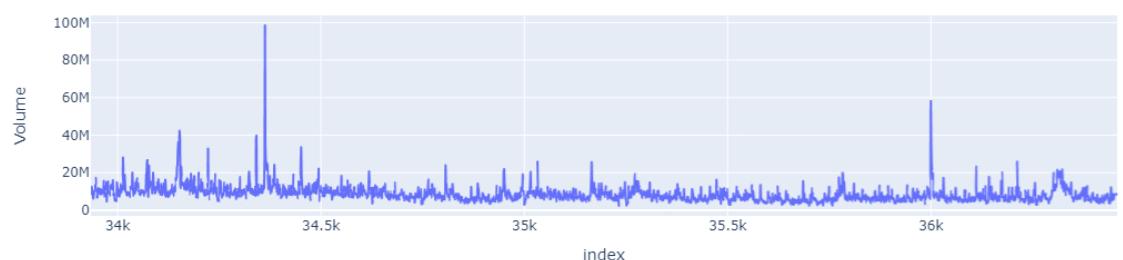
PFE Trading Volume Over Time



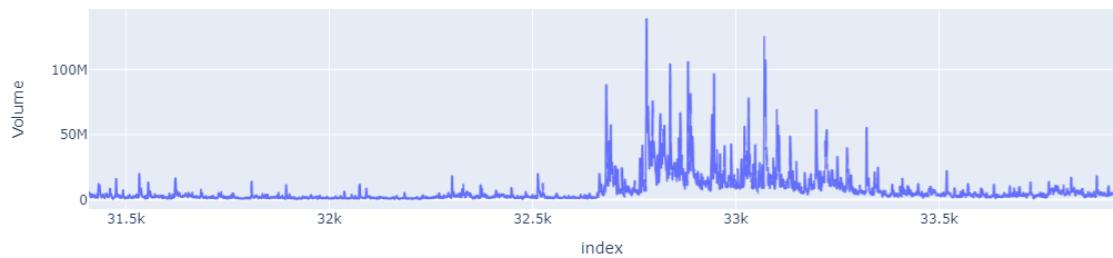
MRK Trading Volume Over Time



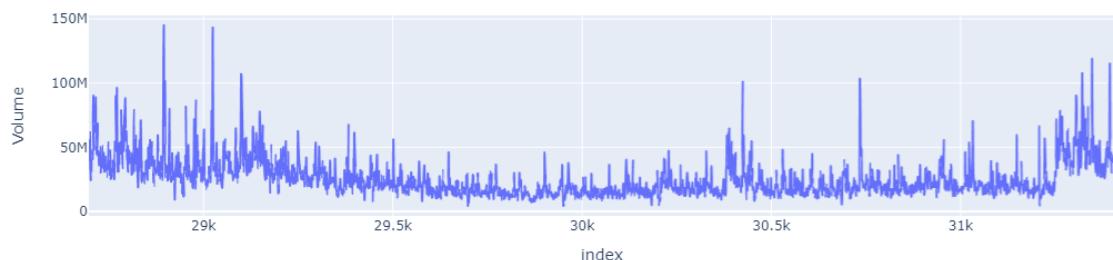
JNJ Trading Volume Over Time



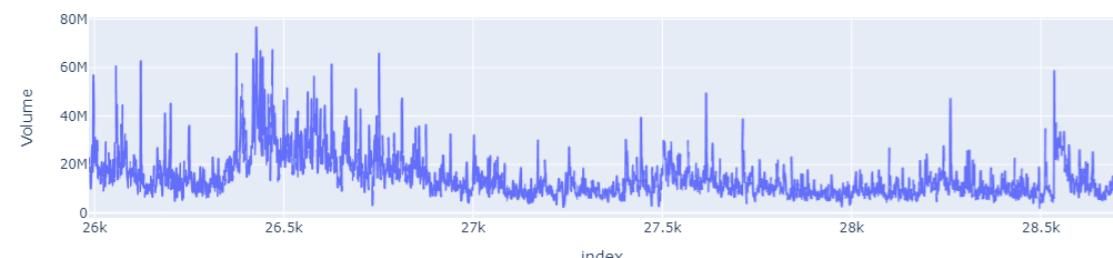
BHC Trading Volume Over Time



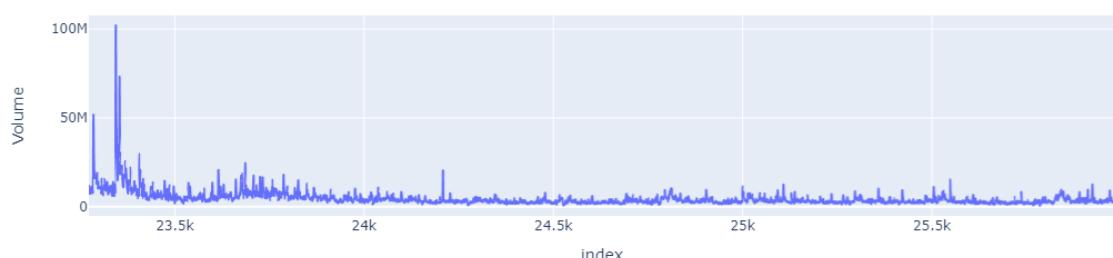
WFC Trading Volume Over Time



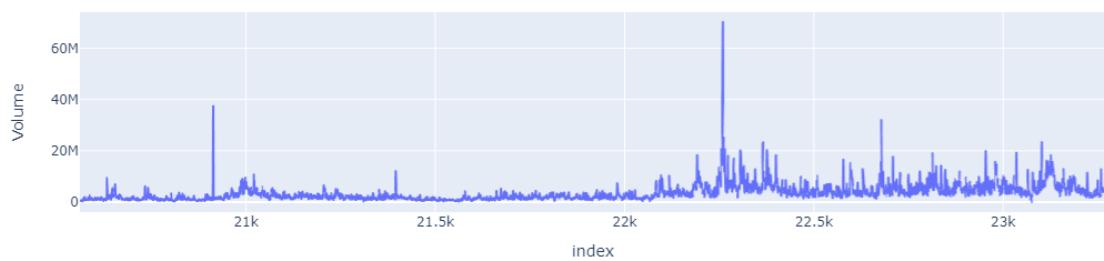
MS Trading Volume Over Time



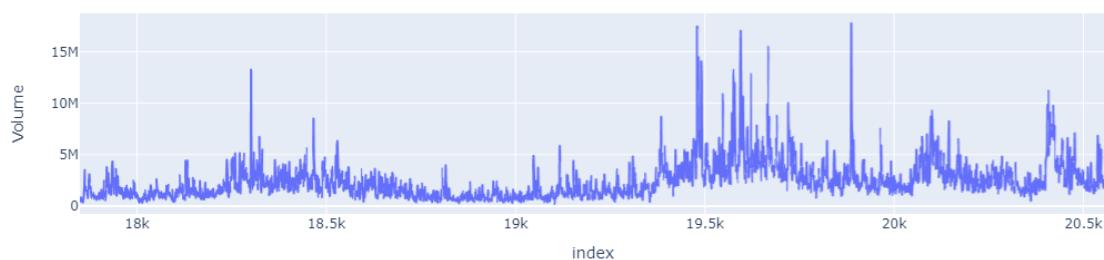
GS Trading Volume Over Time



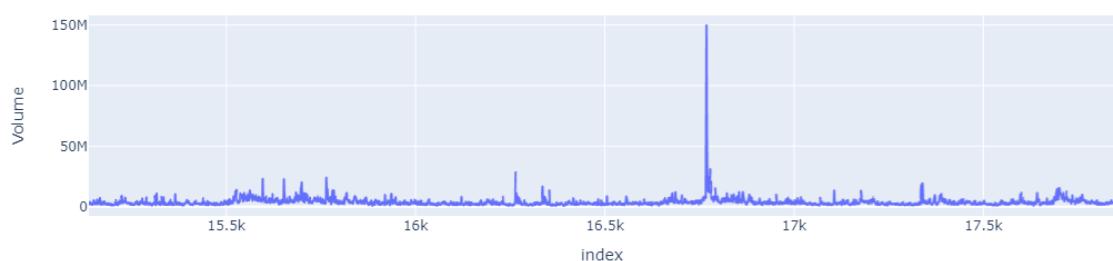
DB Trading Volume Over Time



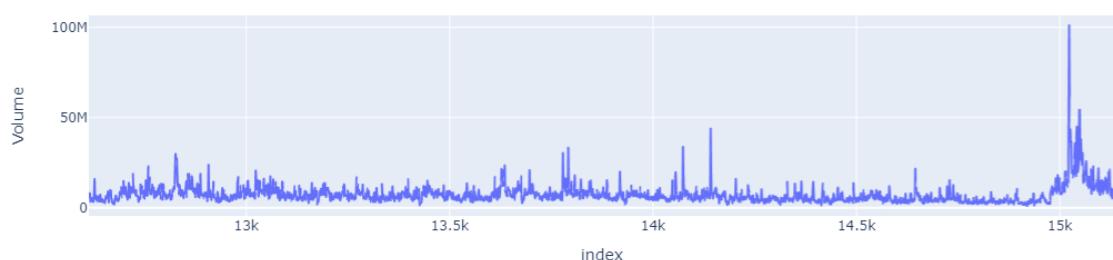
CS Trading Volume Over Time



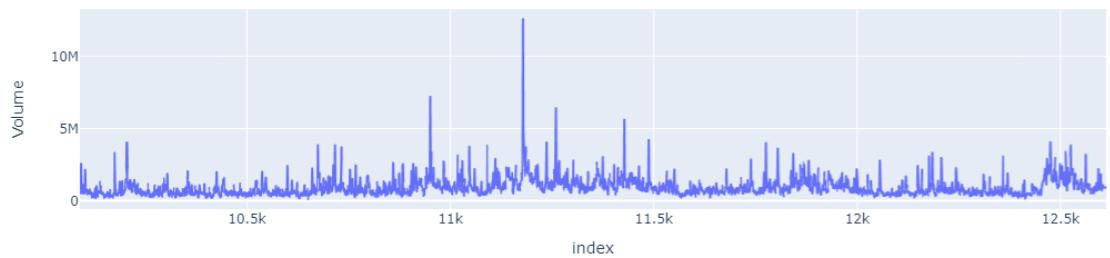
BCS Trading Volume Over Time



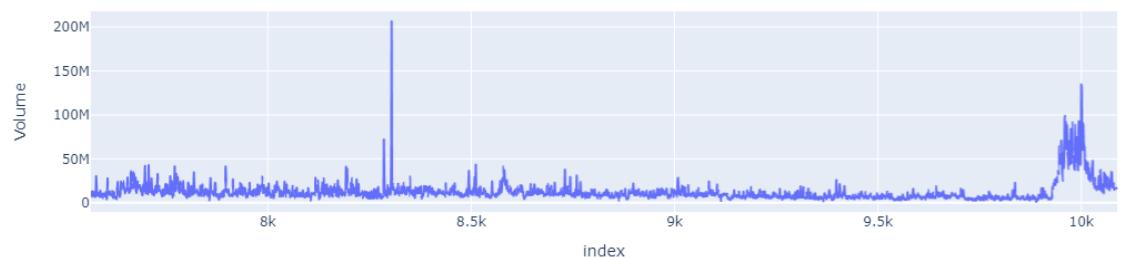
LUV Trading Volume Over Time



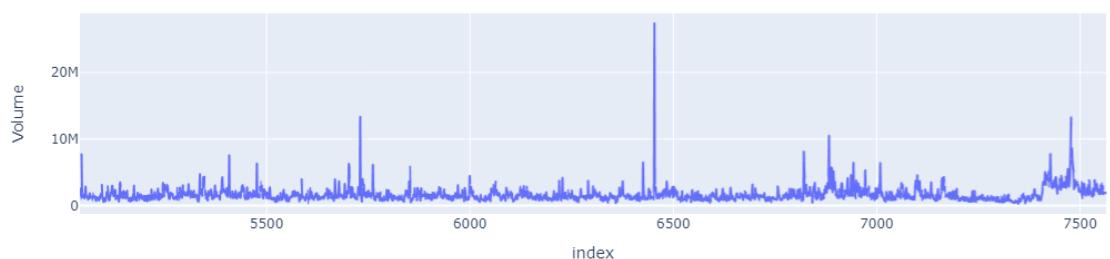
HA Trading Volume Over Time



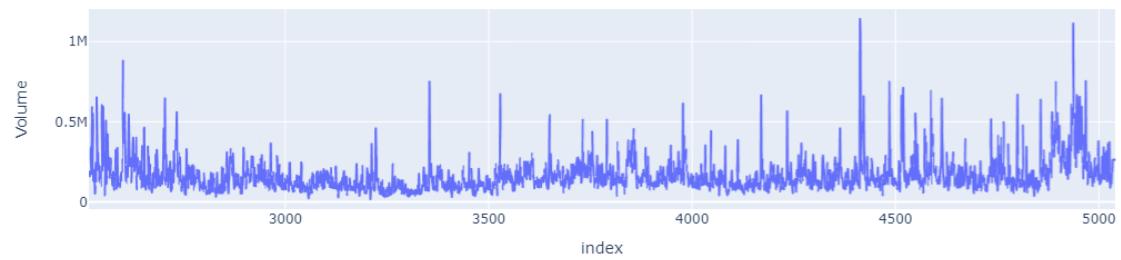
DAL Trading Volume Over Time



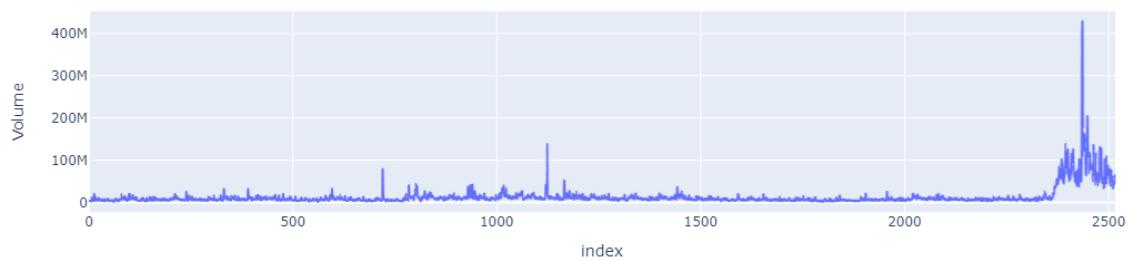
ALK Trading Volume Over Time



ALGT Trading Volume Over Time



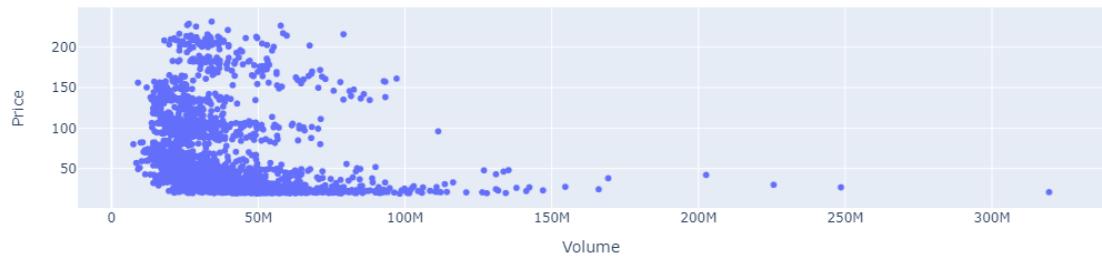
AAL Trading Volume Over Time



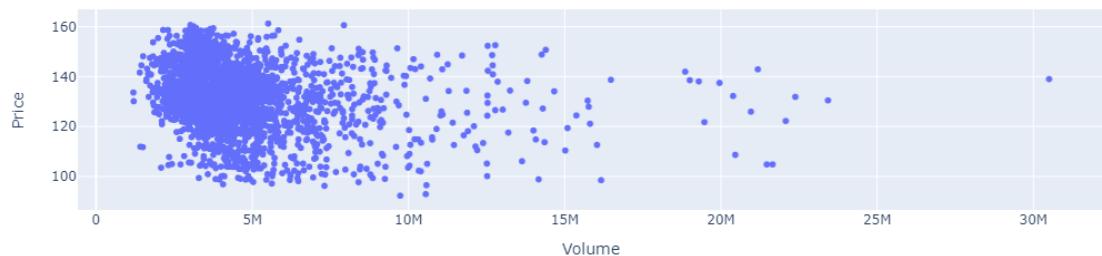
Stock Price vs. Trading Volume (Scatter Plot):

This scatter plot will show the relationship between the adjusted close price and the trading volume.

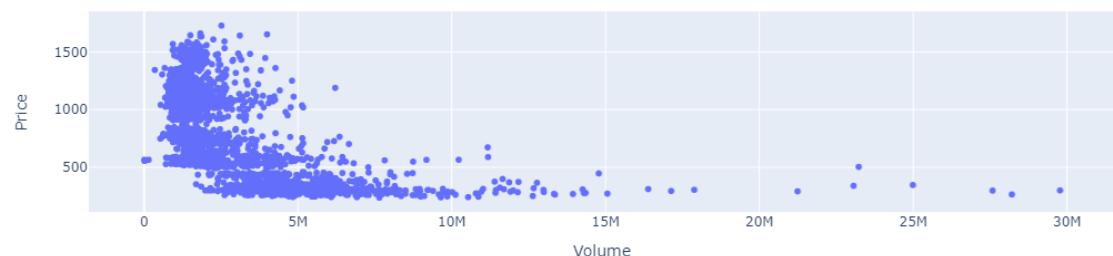
MSFT Stock Prices vs Trading Volume



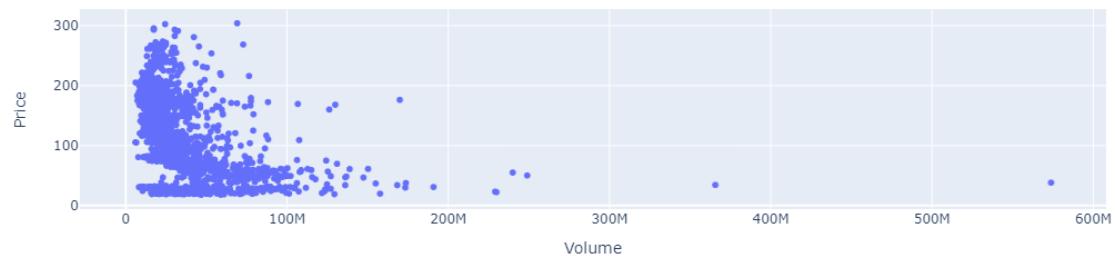
IBM Stock Prices vs Trading Volume



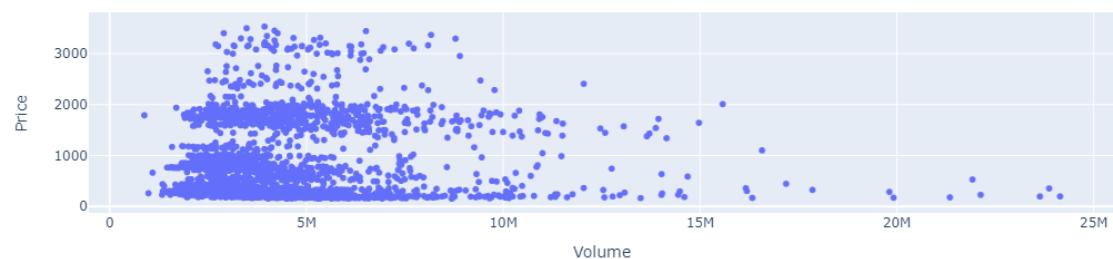
GOOG Stock Prices vs Trading Volume



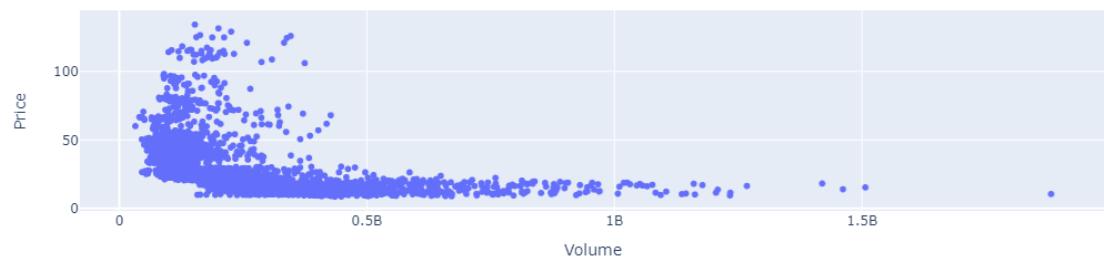
FB Stock Prices vs Trading Volume



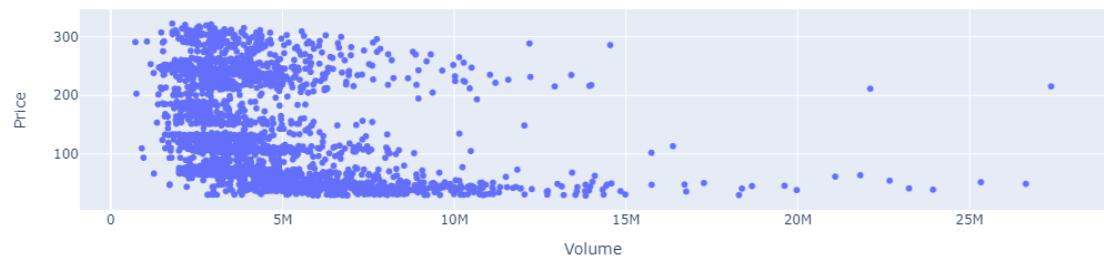
AMZN Stock Prices vs Trading Volume



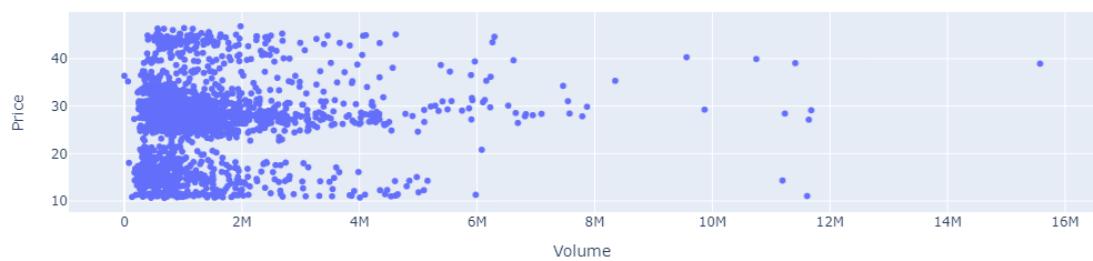
AAPL Stock Prices vs Trading Volume



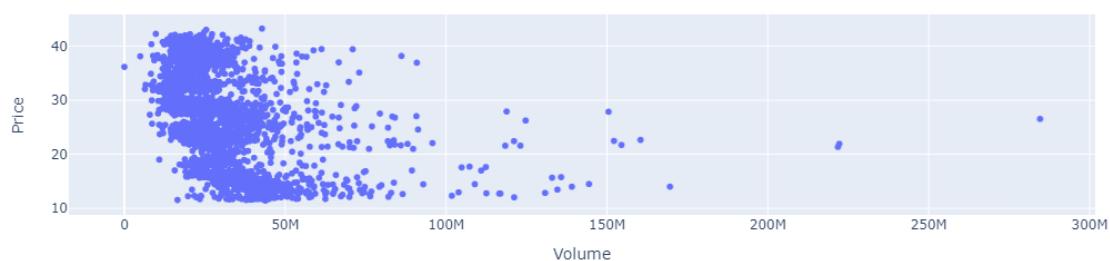
UNH Stock Prices vs Trading Volume



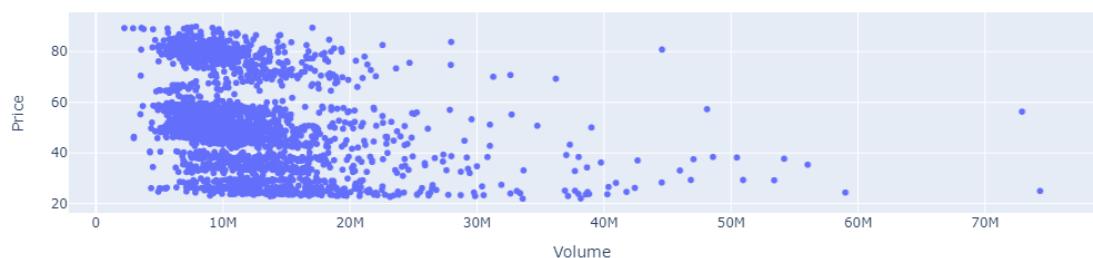
RHHBY Stock Prices vs Trading Volume



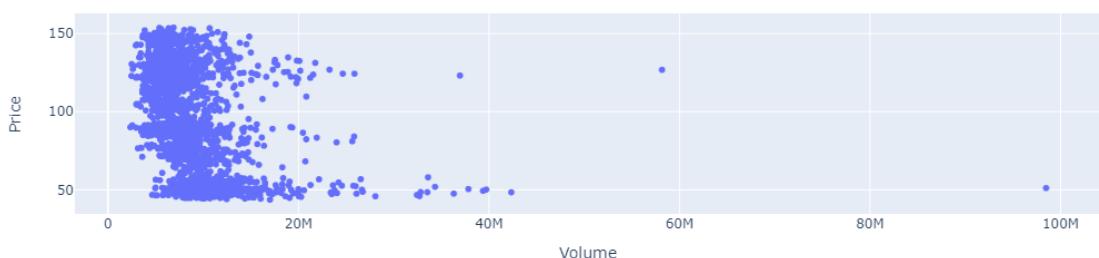
PFE Stock Prices vs Trading Volume



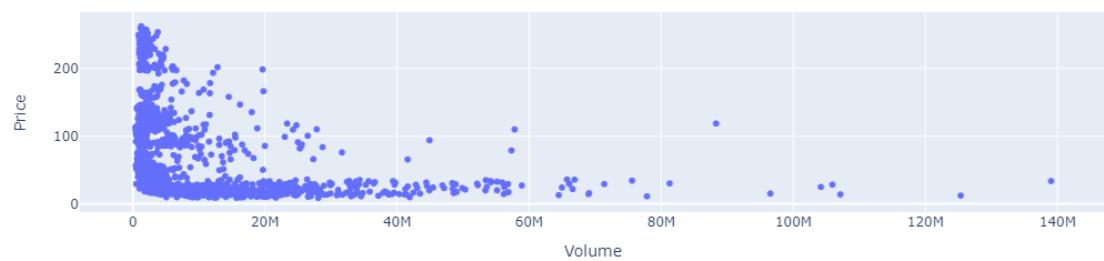
MRK Stock Prices vs Trading Volume



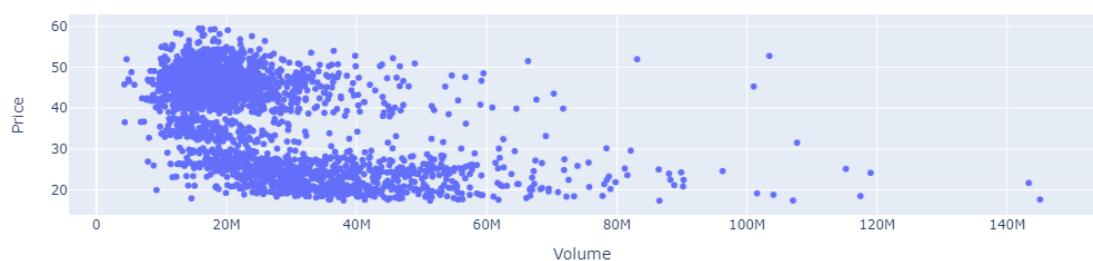
JNJ Stock Prices vs Trading Volume



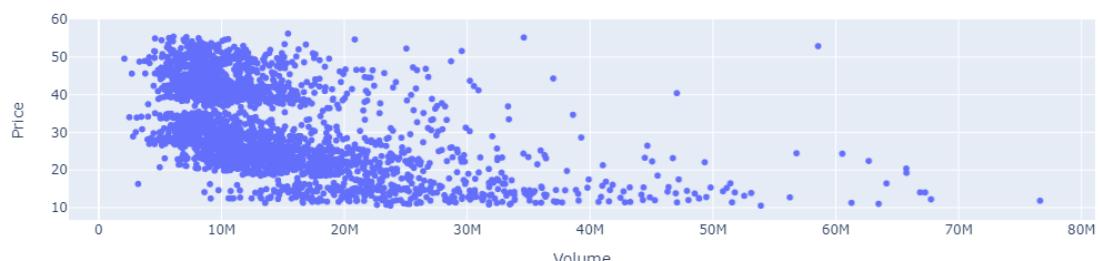
BHC Stock Prices vs Trading Volume



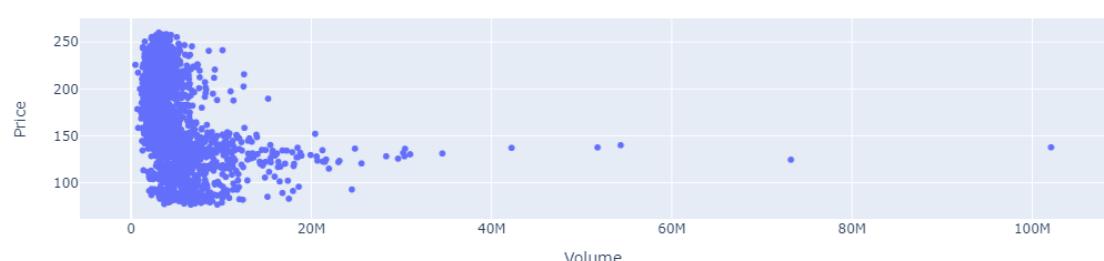
WFC Stock Prices vs Trading Volume



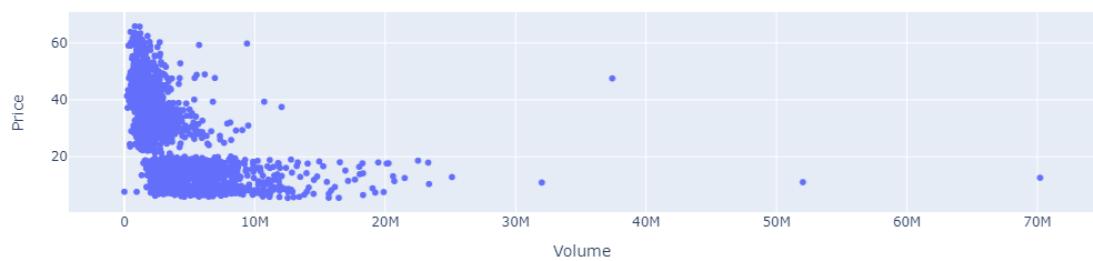
MS Stock Prices vs Trading Volume



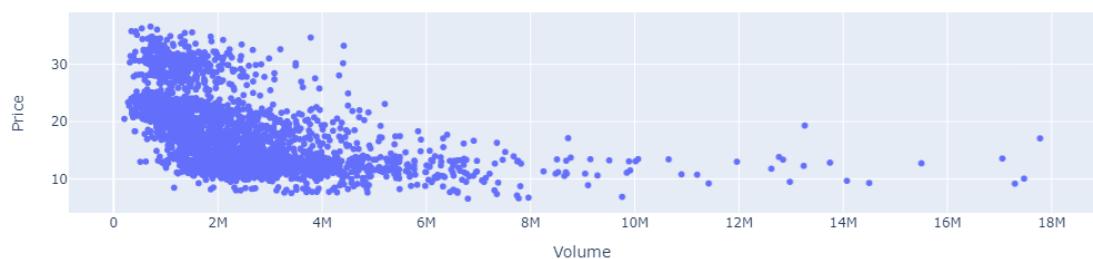
GS Stock Prices vs Trading Volume



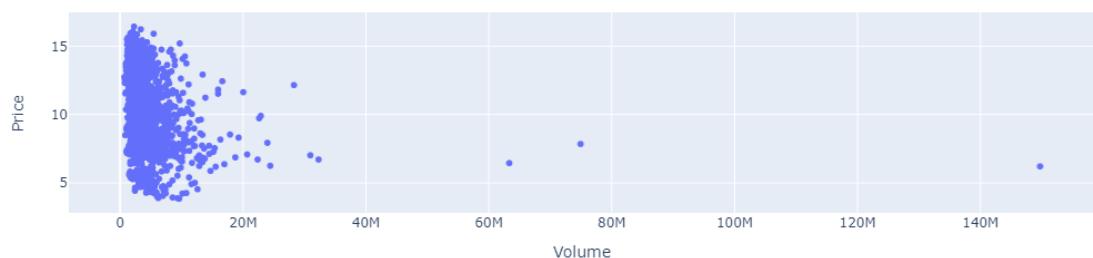
DB Stock Prices vs Trading Volume



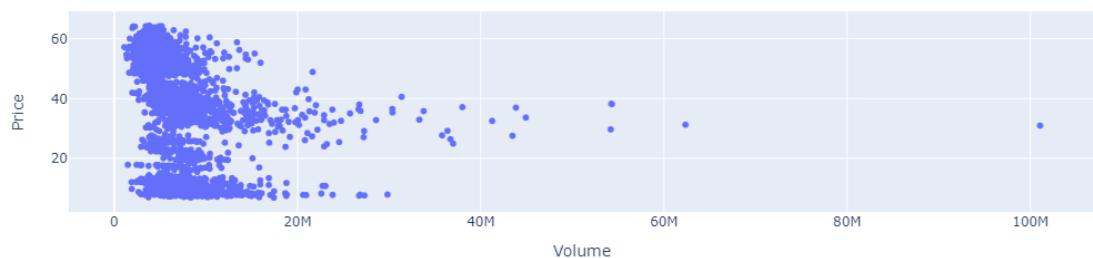
CS Stock Prices vs Trading Volume



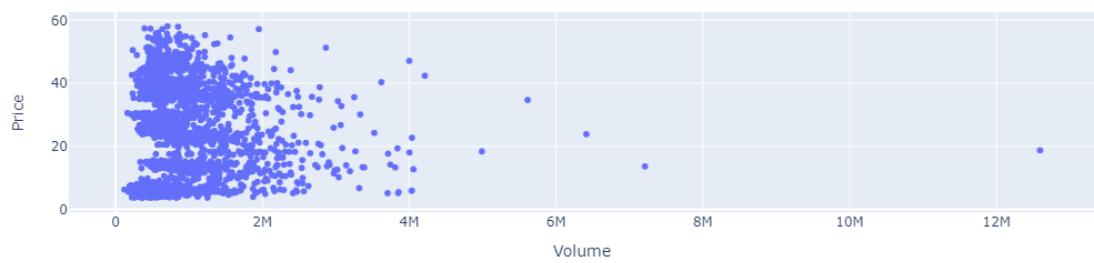
BCS Stock Prices vs Trading Volume



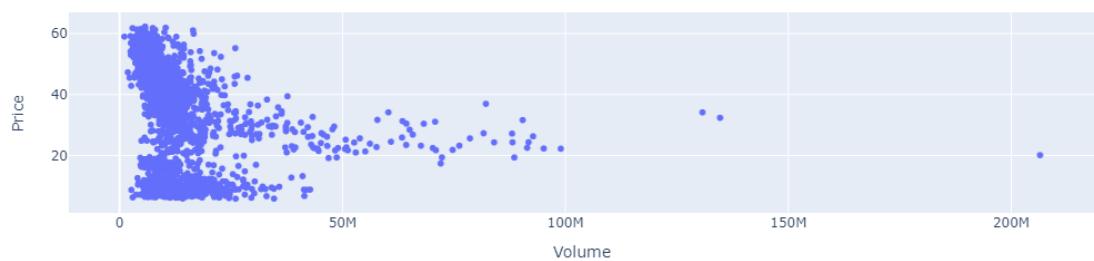
LUV Stock Prices vs Trading Volume



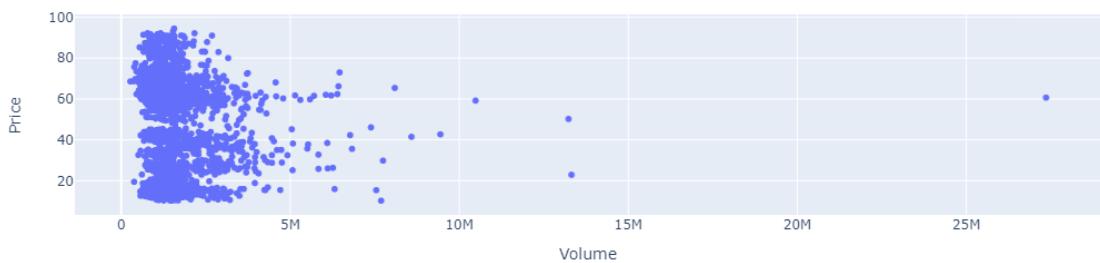
HA Stock Prices vs Trading Volume



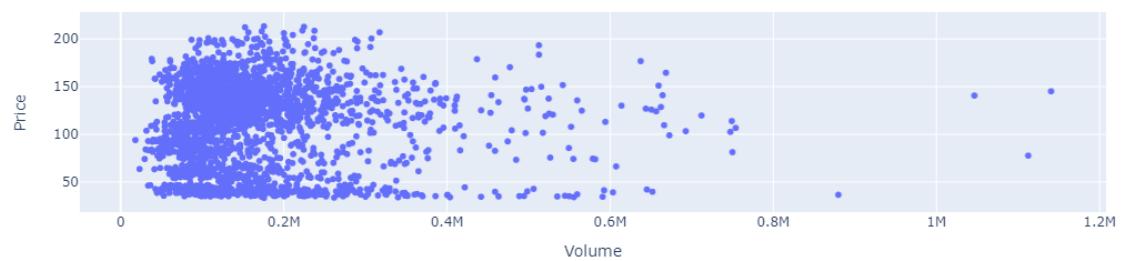
DAL Stock Prices vs Trading Volume



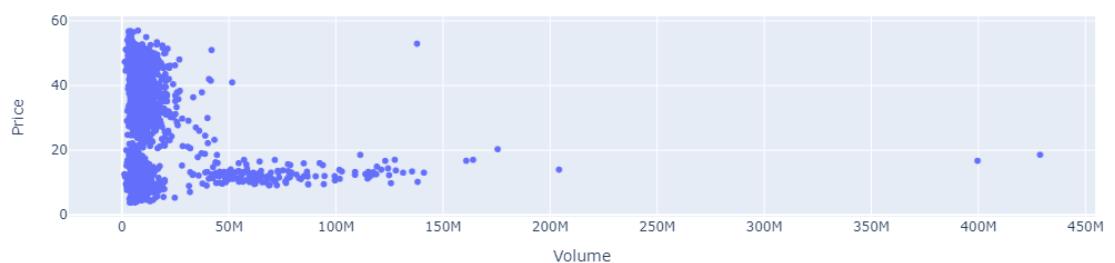
ALK Stock Prices vs Trading Volume



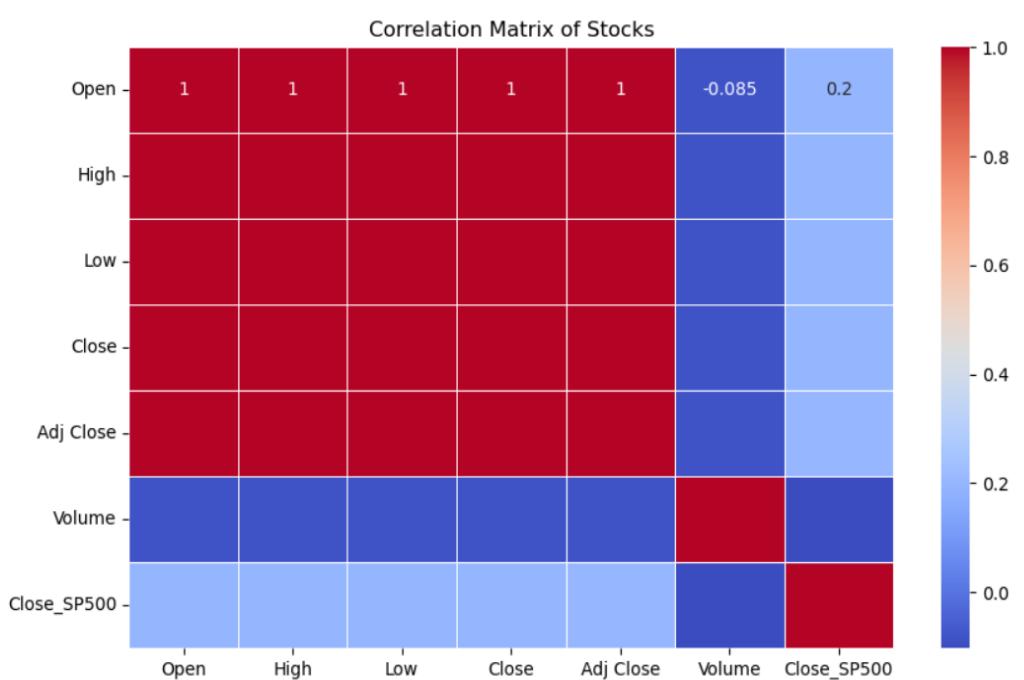
ALGT Stock Prices vs Trading Volume



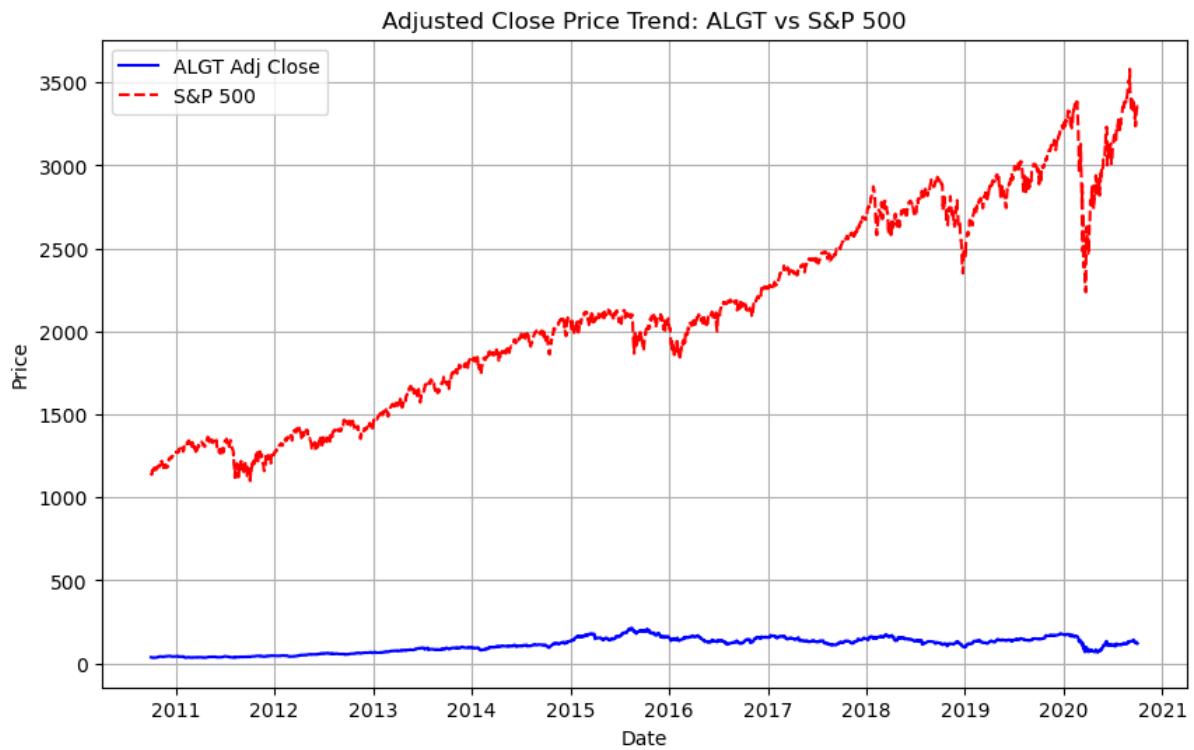
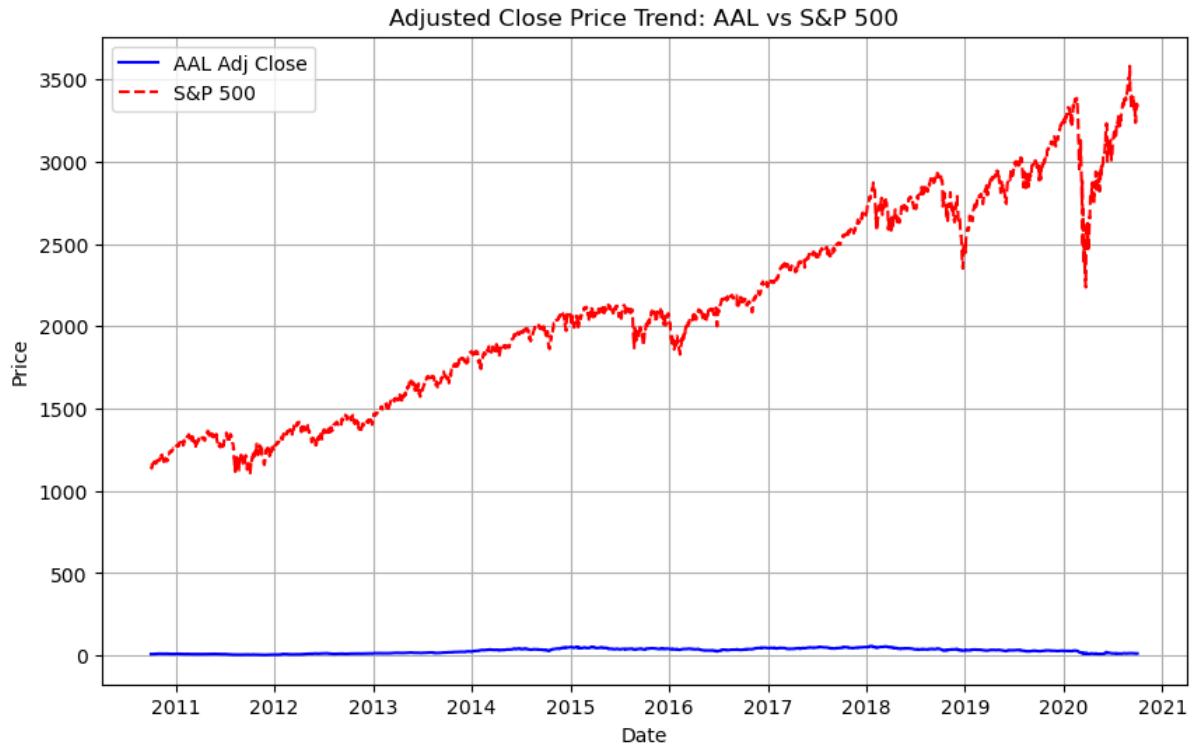
AAL Stock Prices vs Trading Volume



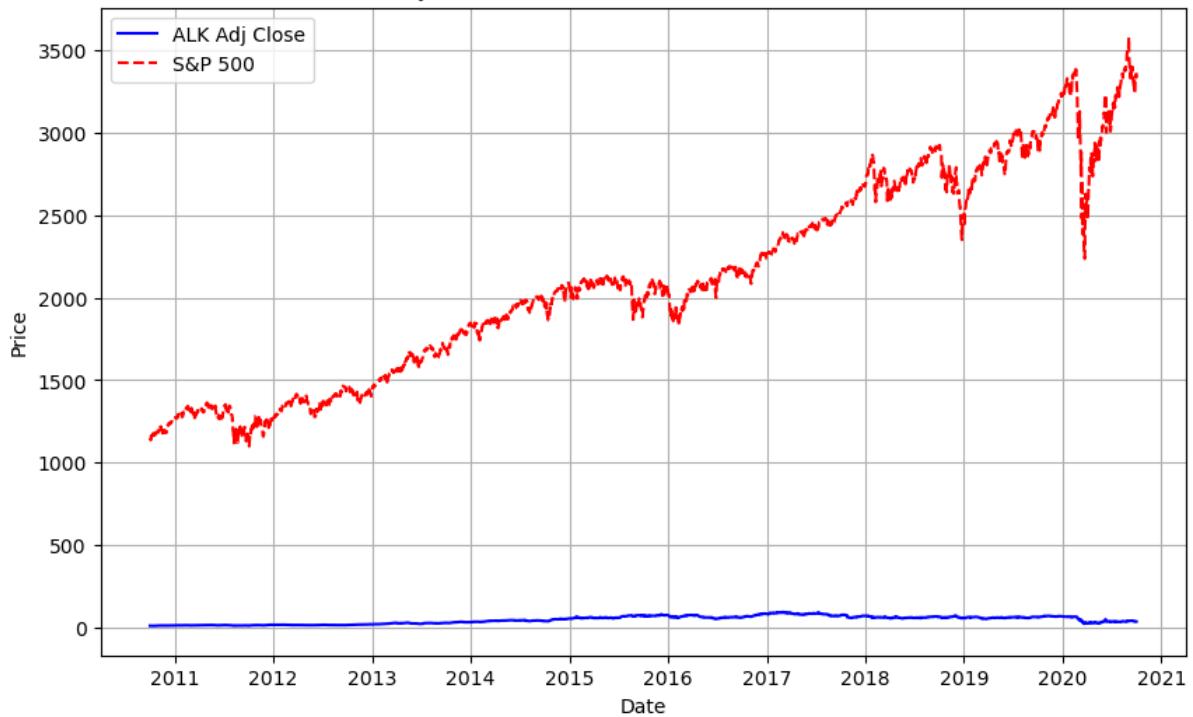
Correlation Plot:



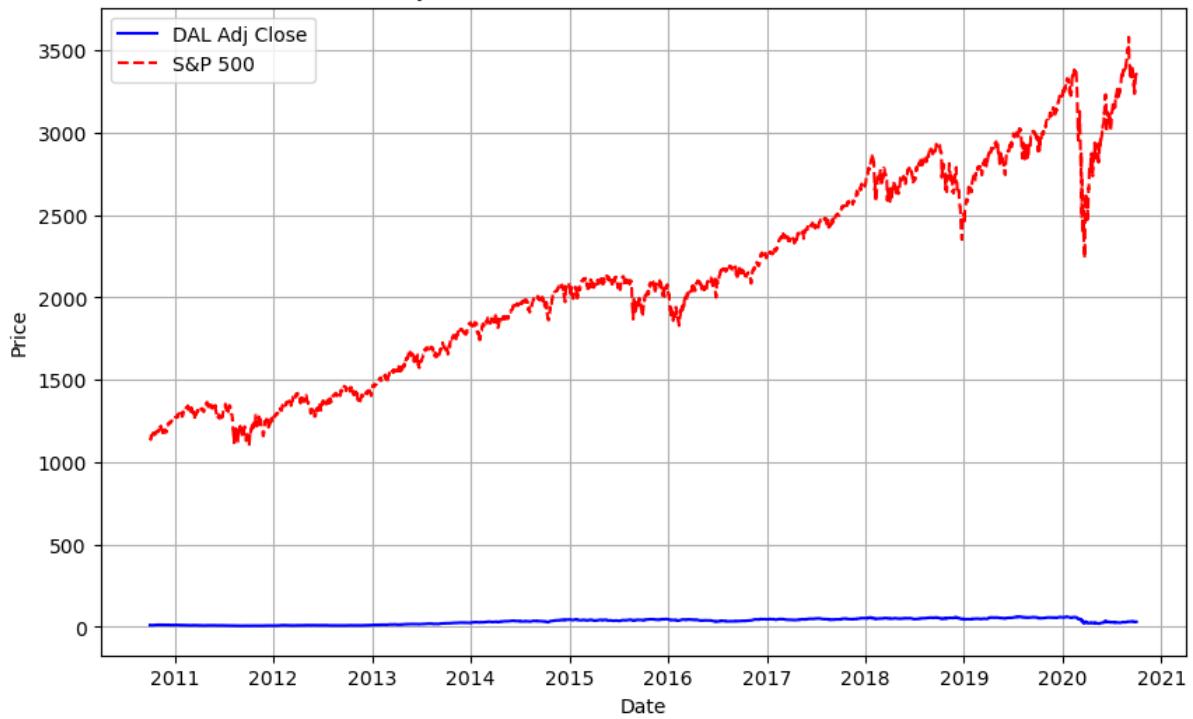
Adjusted Close Price Trend Analysis:



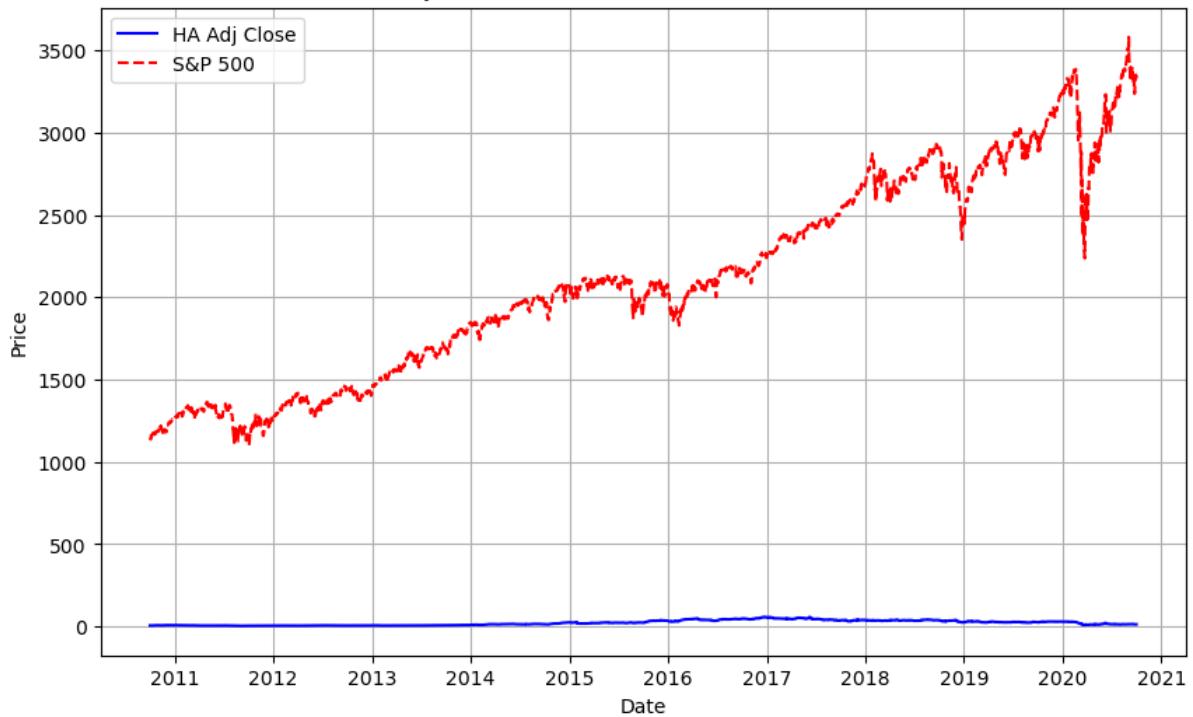
Adjusted Close Price Trend: ALK vs S&P 500



Adjusted Close Price Trend: DAL vs S&P 500



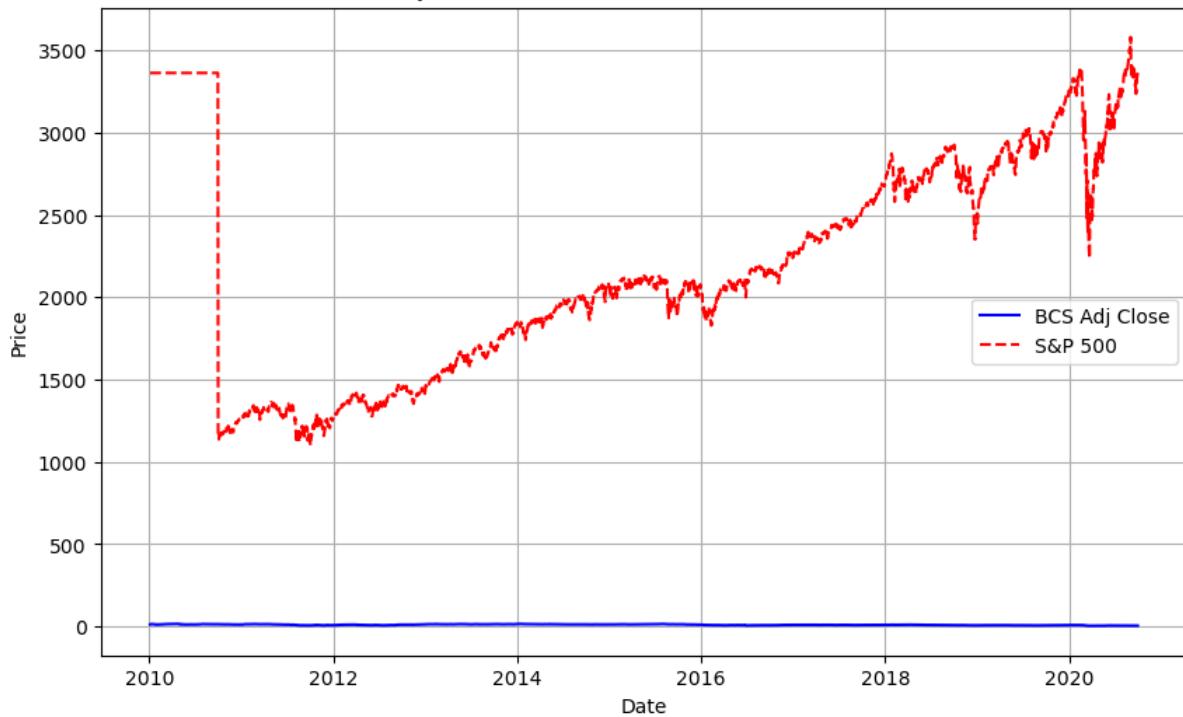
Adjusted Close Price Trend: HA vs S&P 500



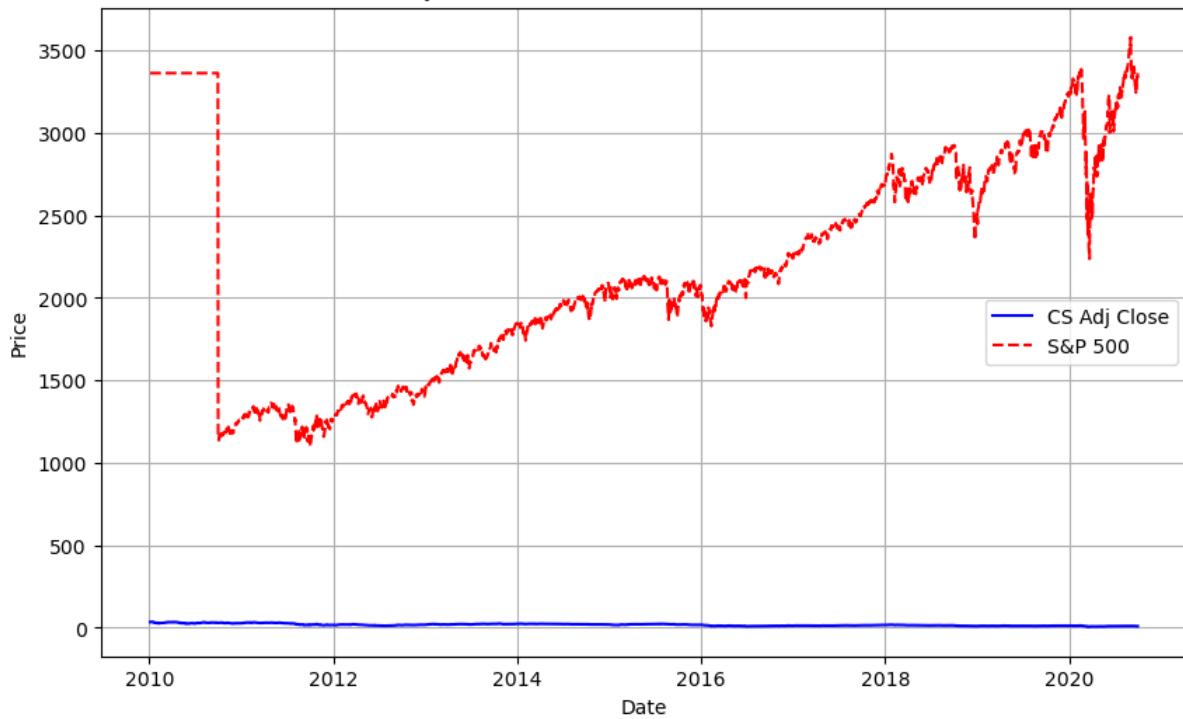
Adjusted Close Price Trend: LUV vs S&P 500



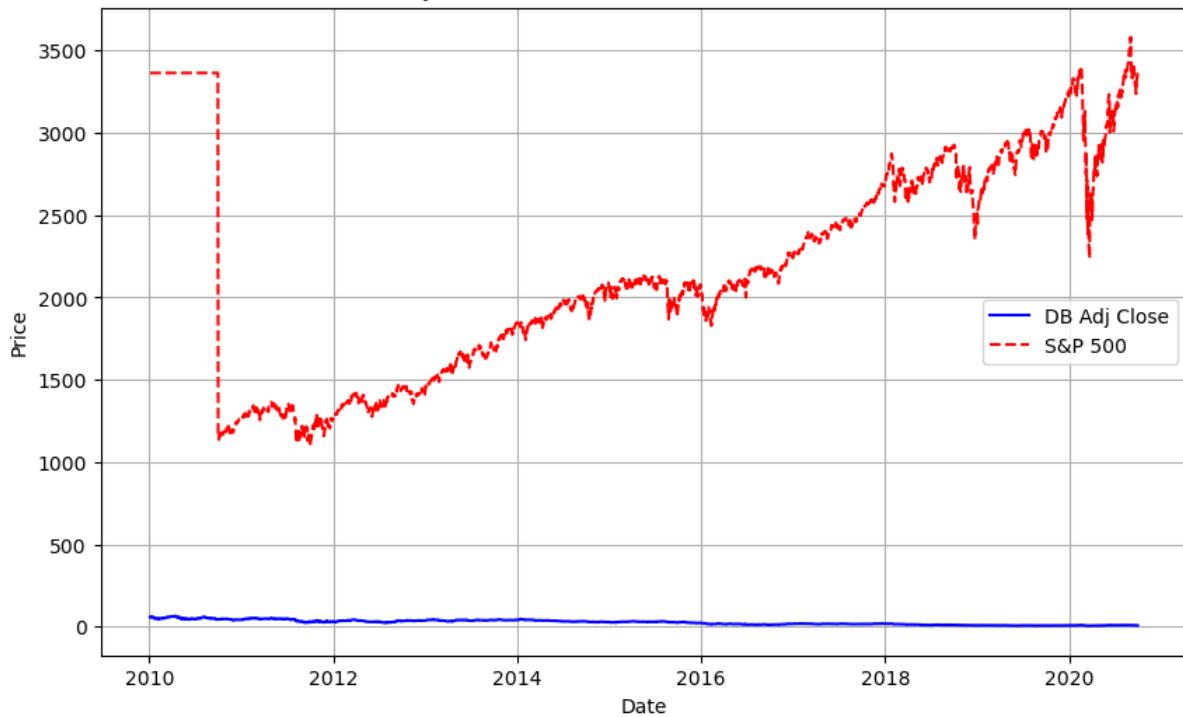
Adjusted Close Price Trend: BCS vs S&P 500



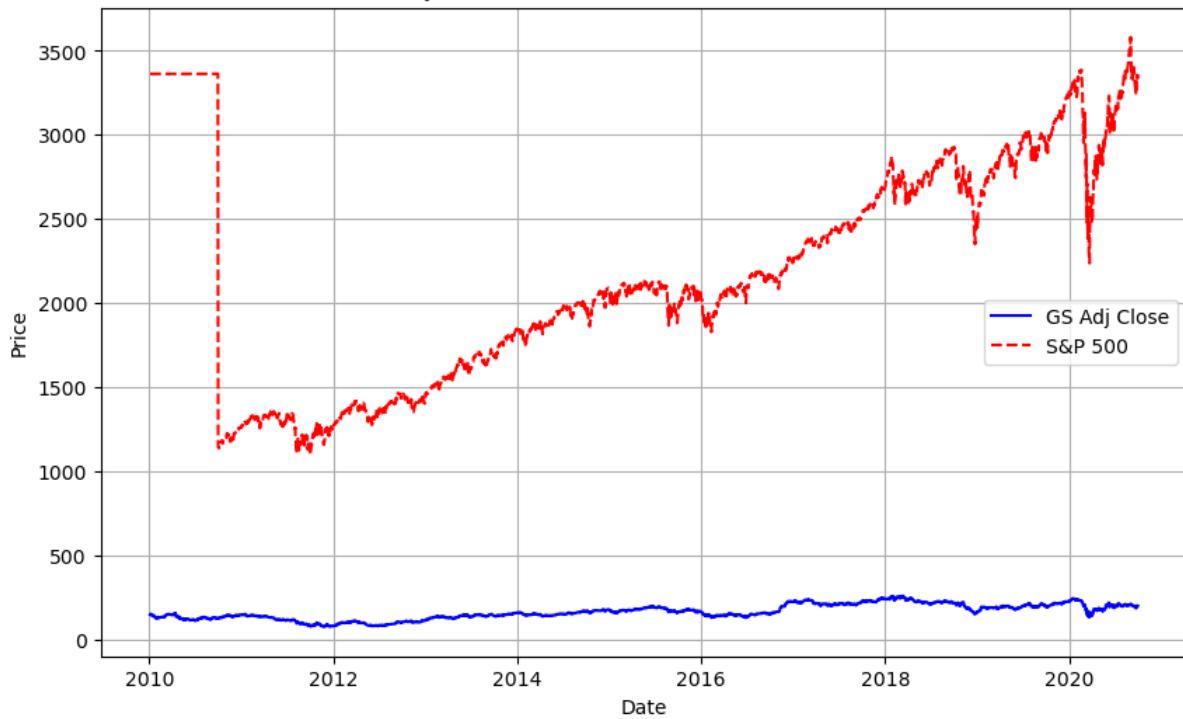
Adjusted Close Price Trend: CS vs S&P 500



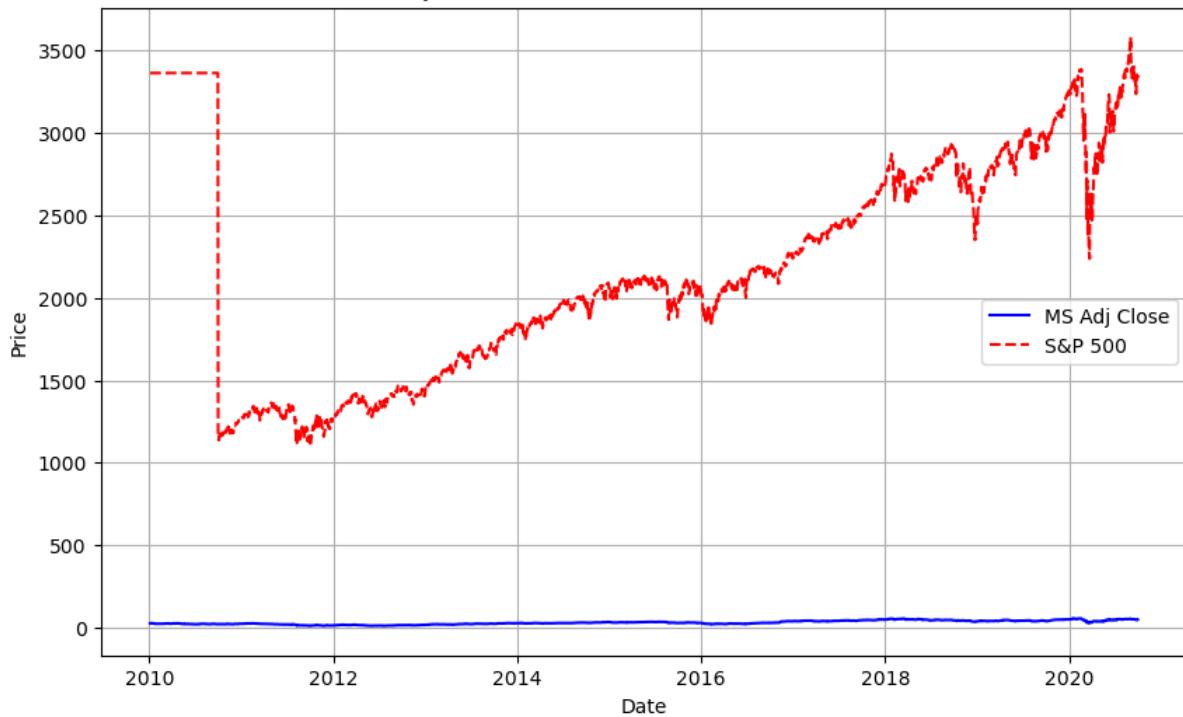
Adjusted Close Price Trend: DB vs S&P 500



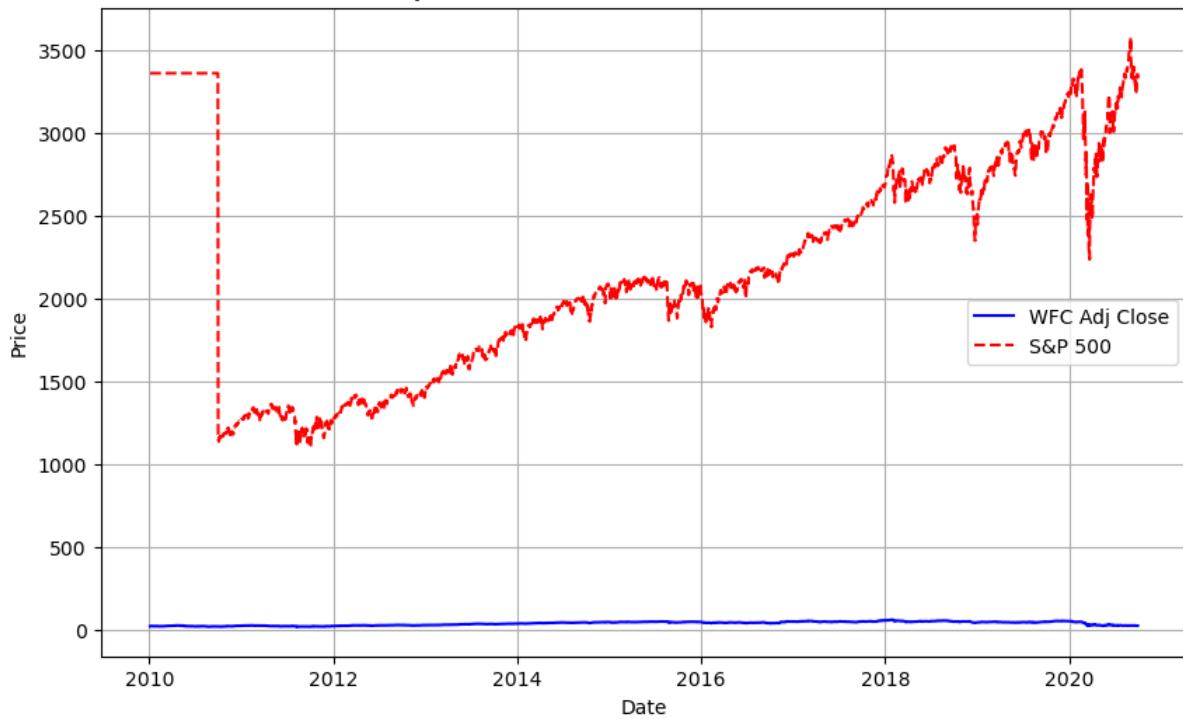
Adjusted Close Price Trend: GS vs S&P 500



Adjusted Close Price Trend: MS vs S&P 500



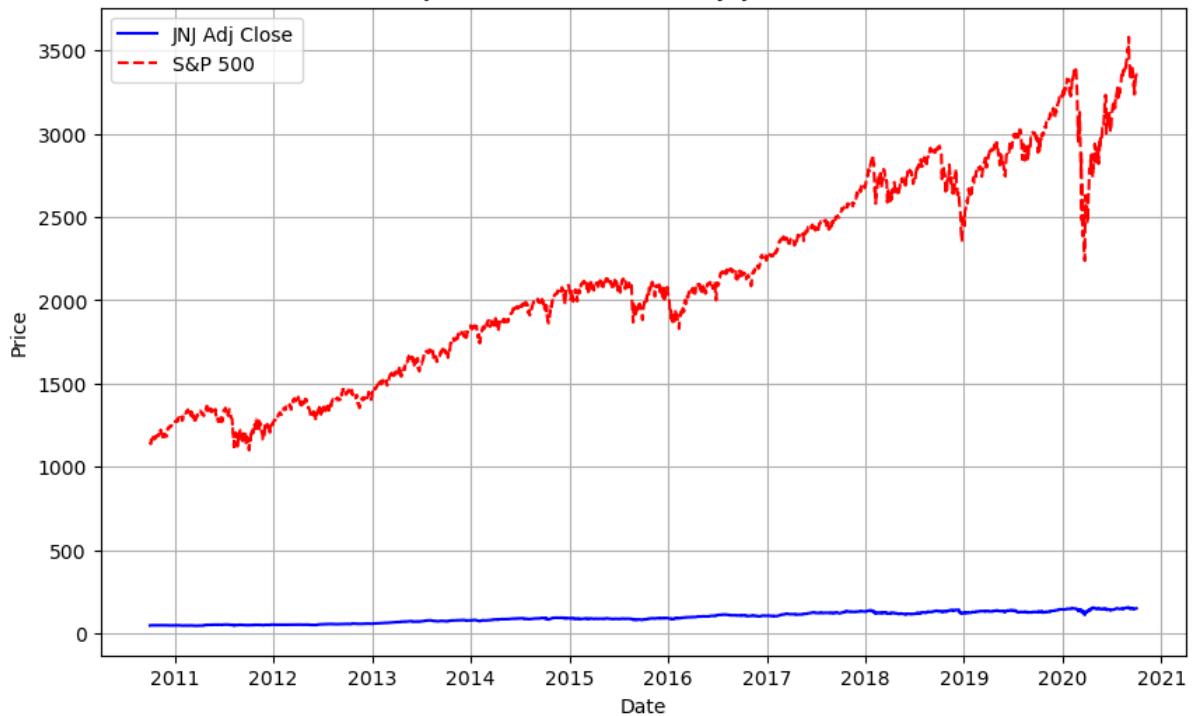
Adjusted Close Price Trend: WFC vs S&P 500



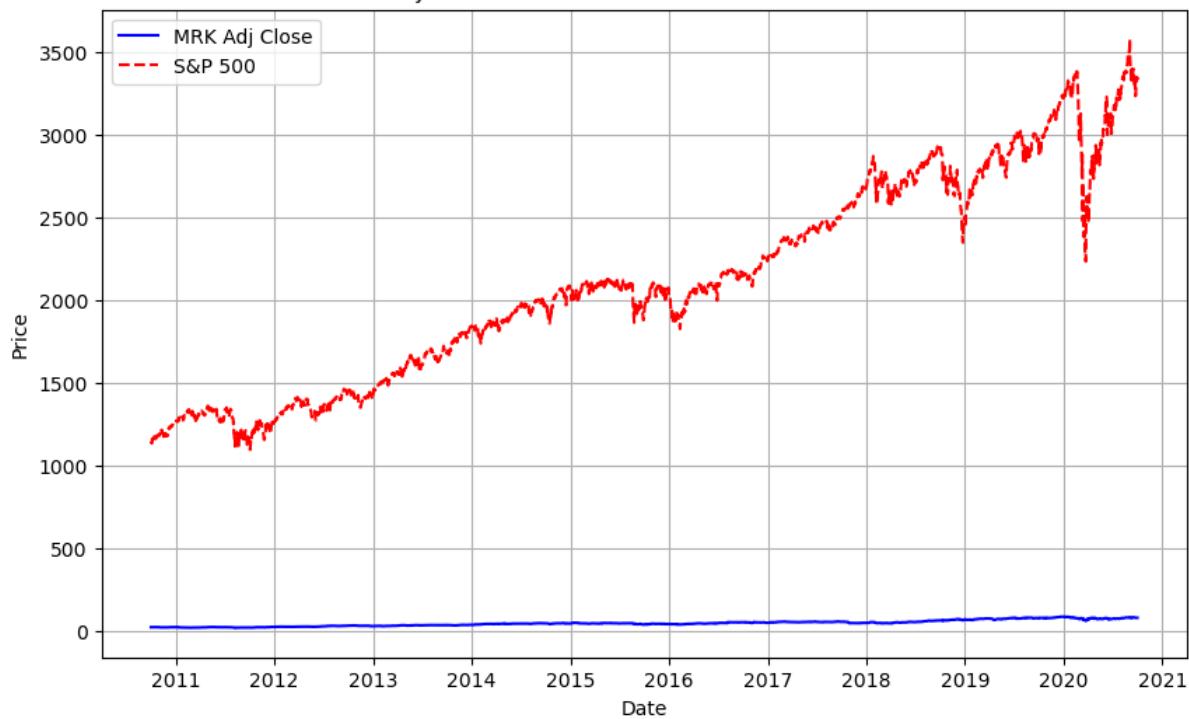
Adjusted Close Price Trend: BHC vs S&P 500



Adjusted Close Price Trend: JNJ vs S&P 500



Adjusted Close Price Trend: MRK vs S&P 500



Adjusted Close Price Trend: PFE vs S&P 500



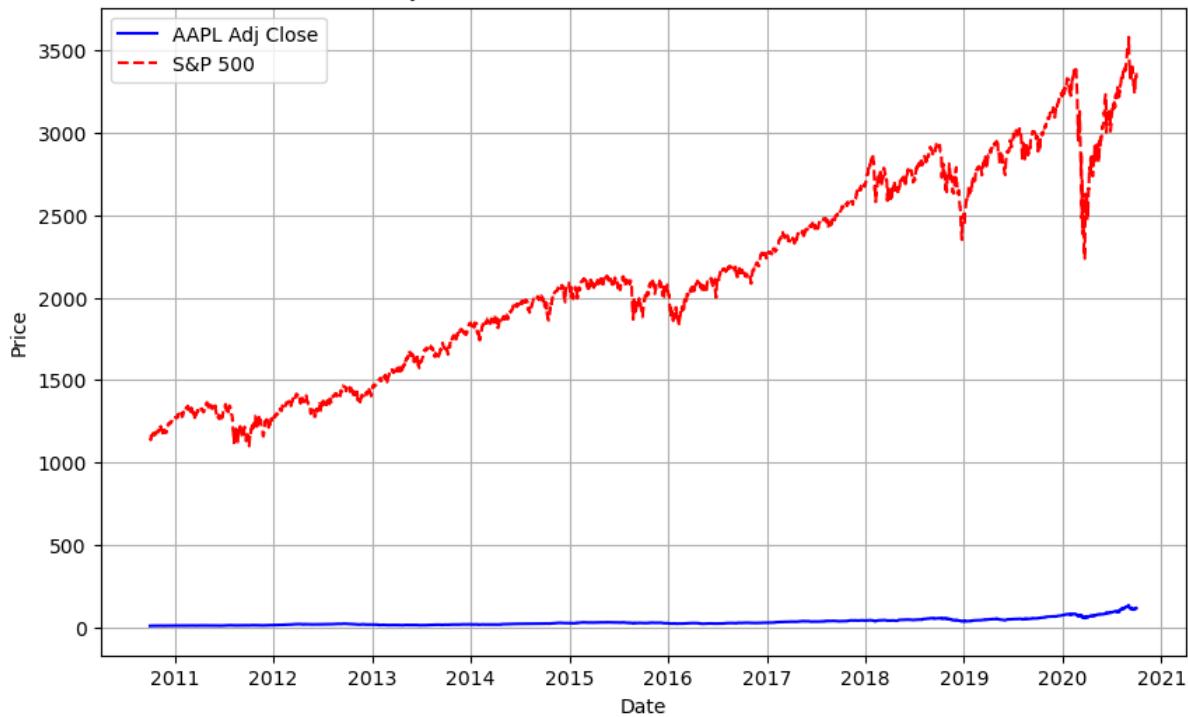
Adjusted Close Price Trend: RHHBY vs S&P 500



Adjusted Close Price Trend: UNH vs S&P 500



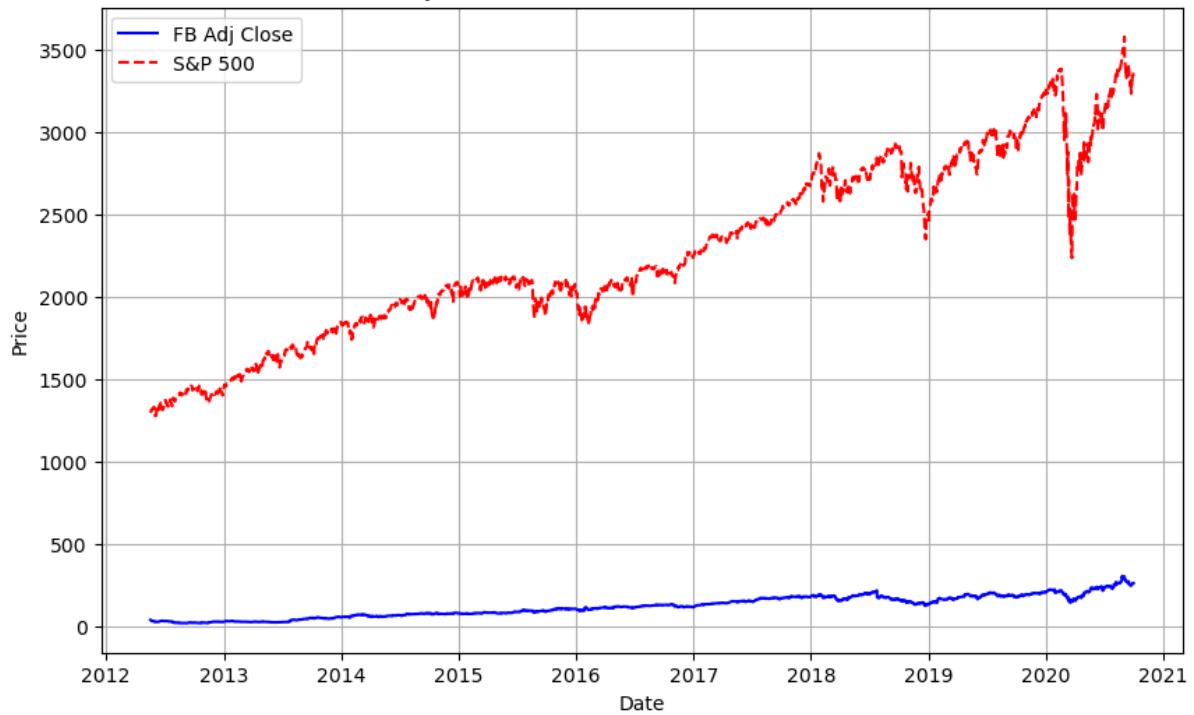
Adjusted Close Price Trend: AAPL vs S&P 500



Adjusted Close Price Trend: AMZN vs S&P 500



Adjusted Close Price Trend: FB vs S&P 500



Adjusted Close Price Trend: GOOG vs S&P 500



Adjusted Close Price Trend: IBM vs S&P 500

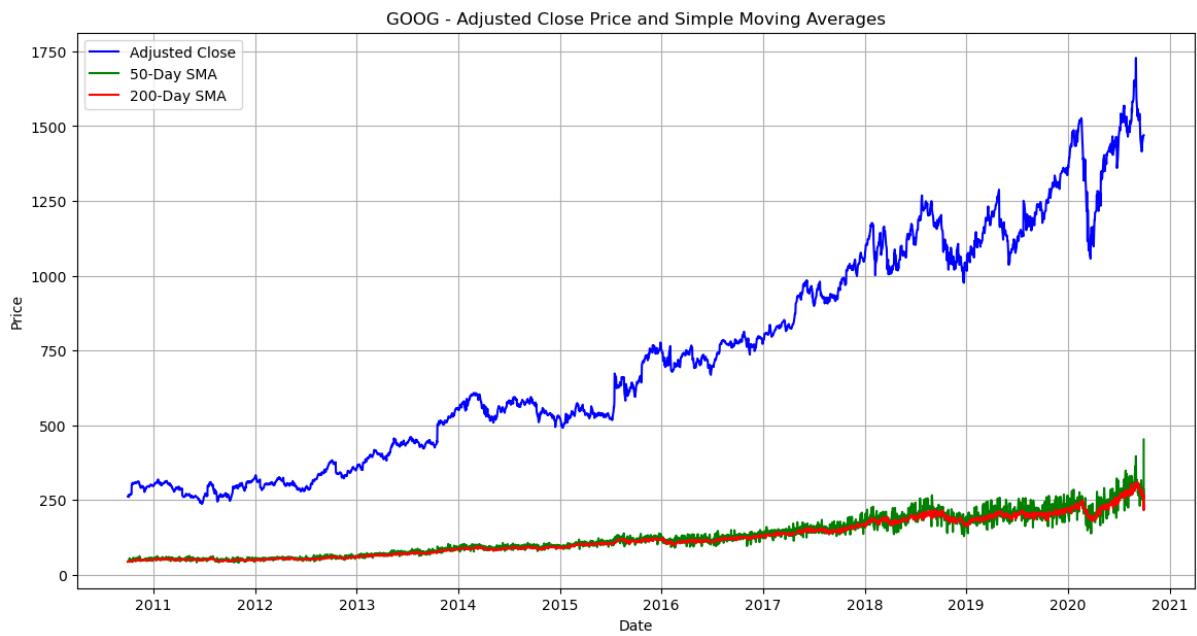
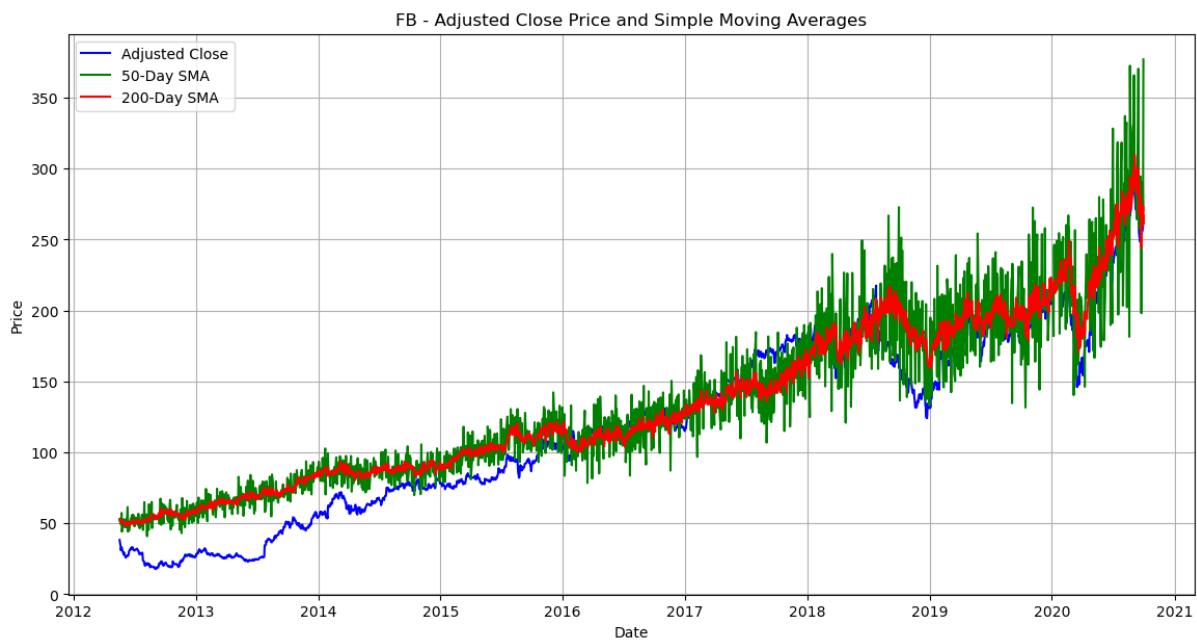


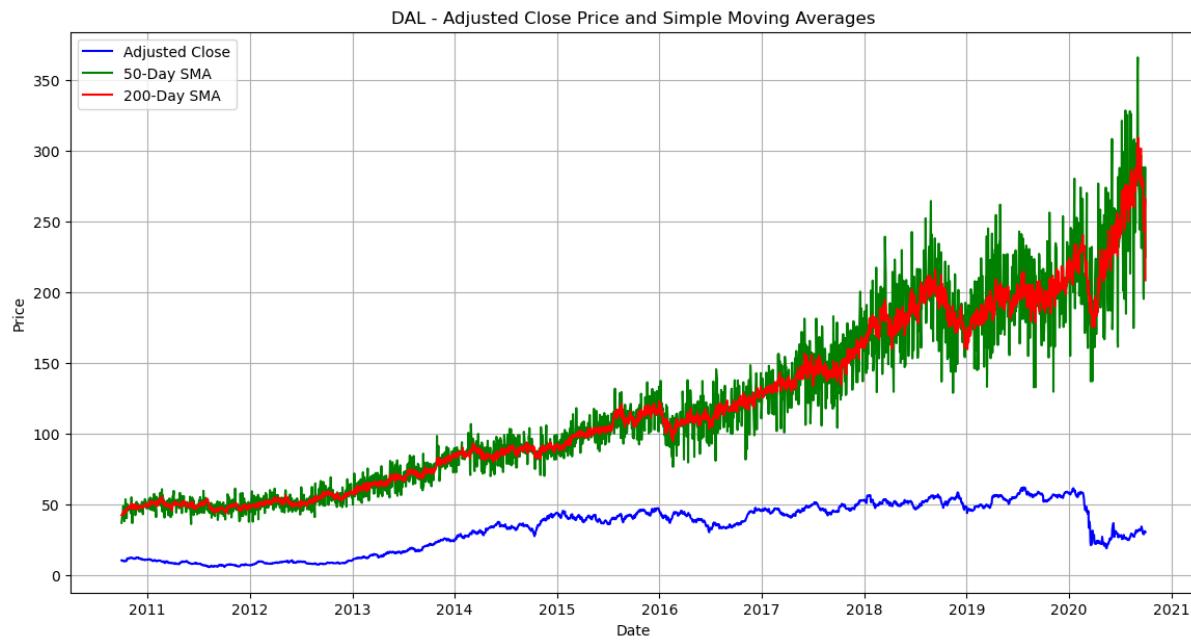
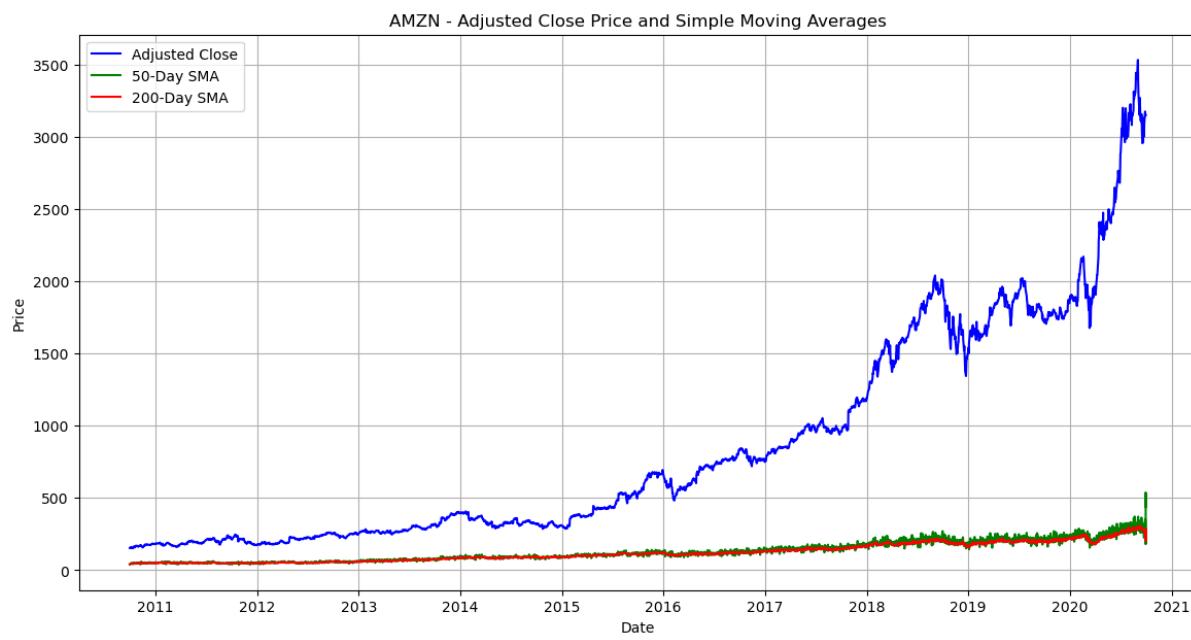
Adjusted Close Price Trend: MSFT vs S&P 500

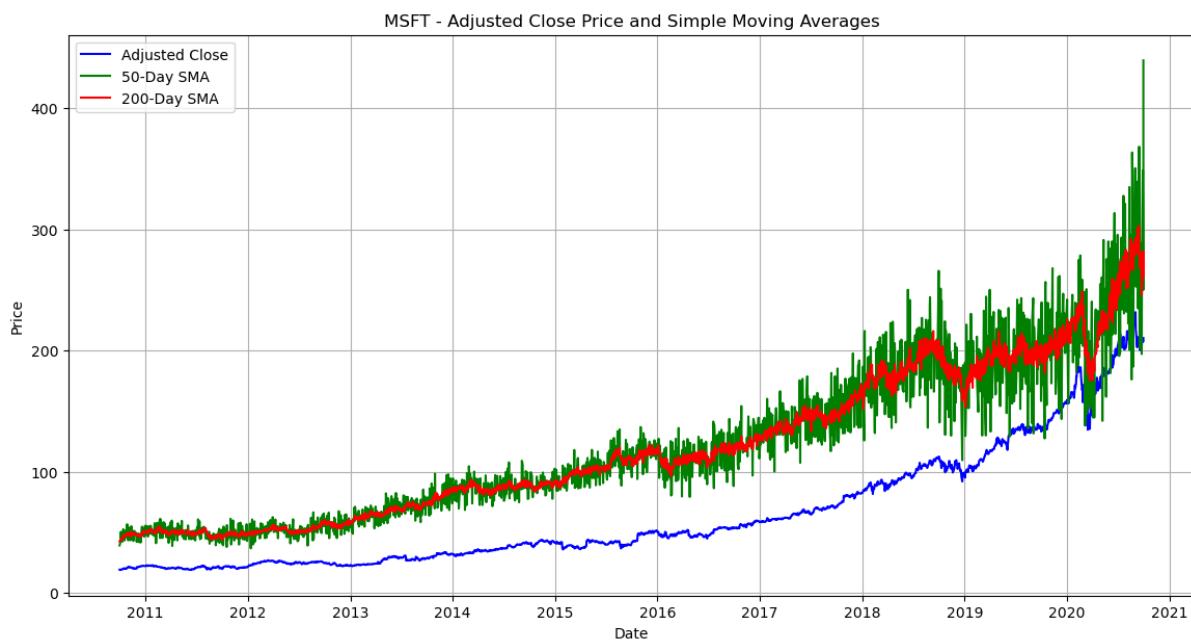
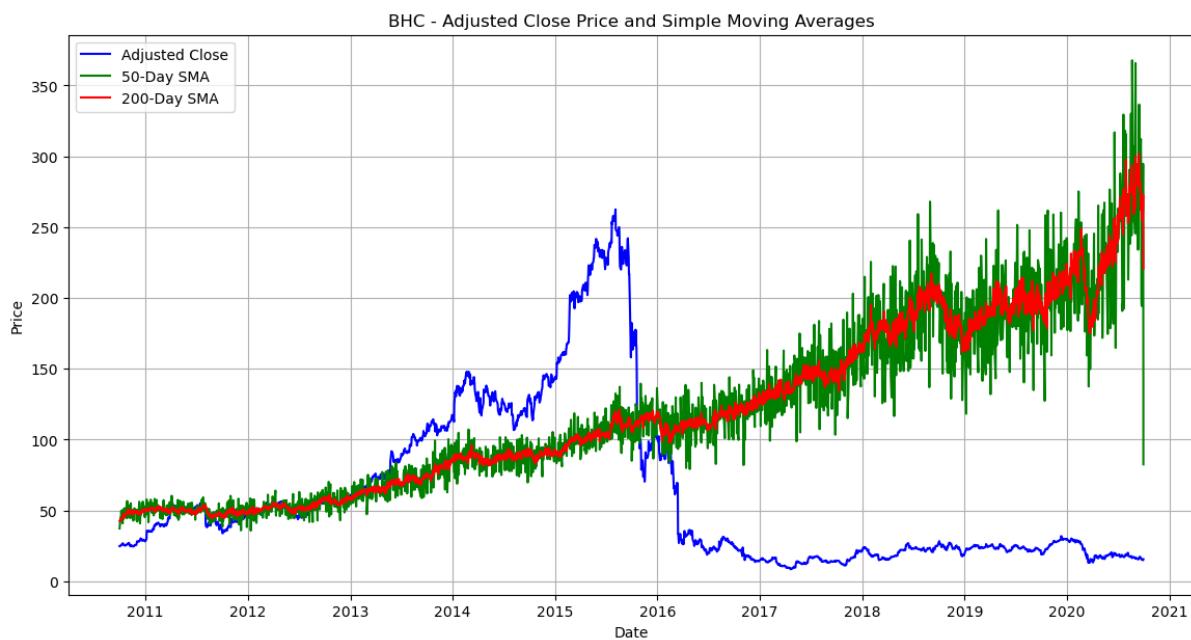


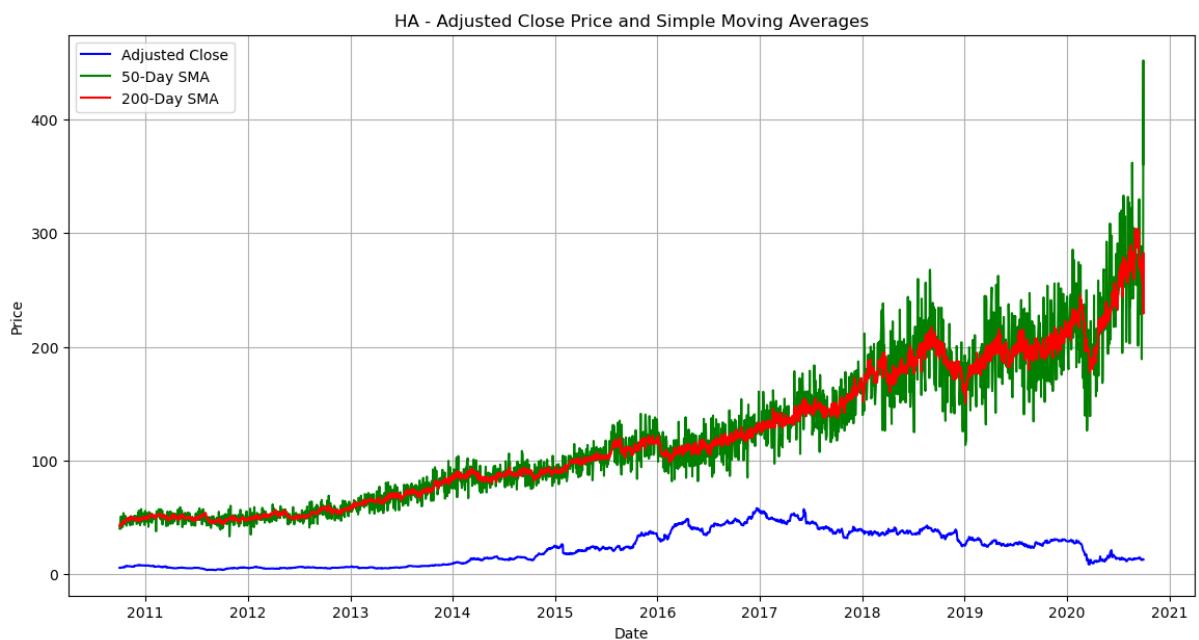
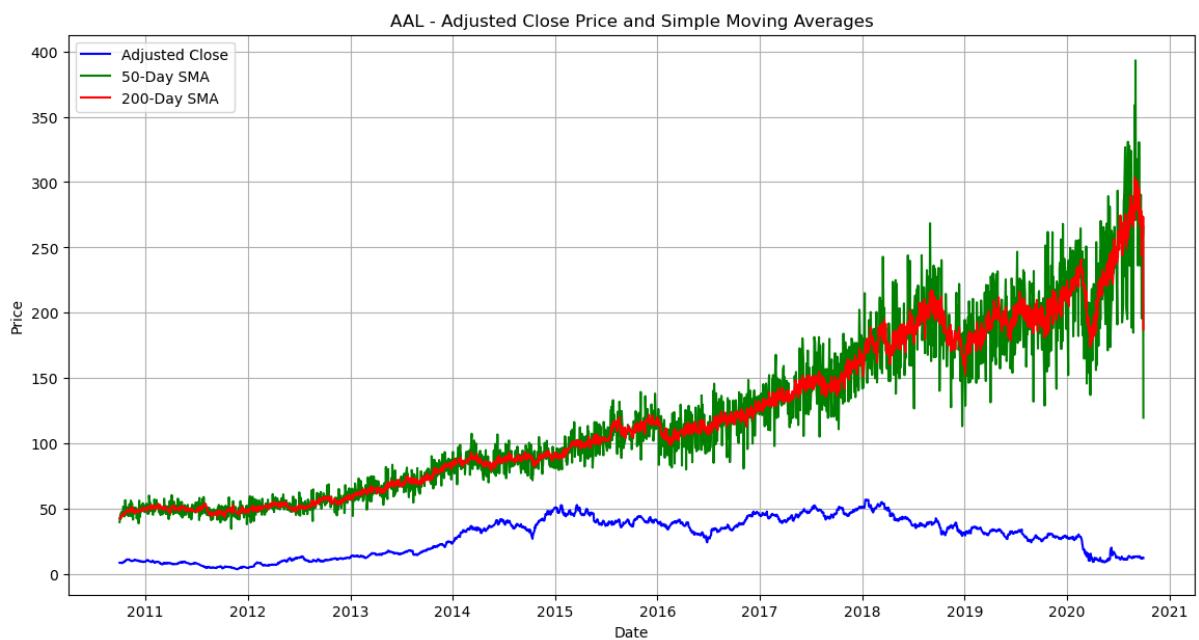
Moving Averages (SMA):

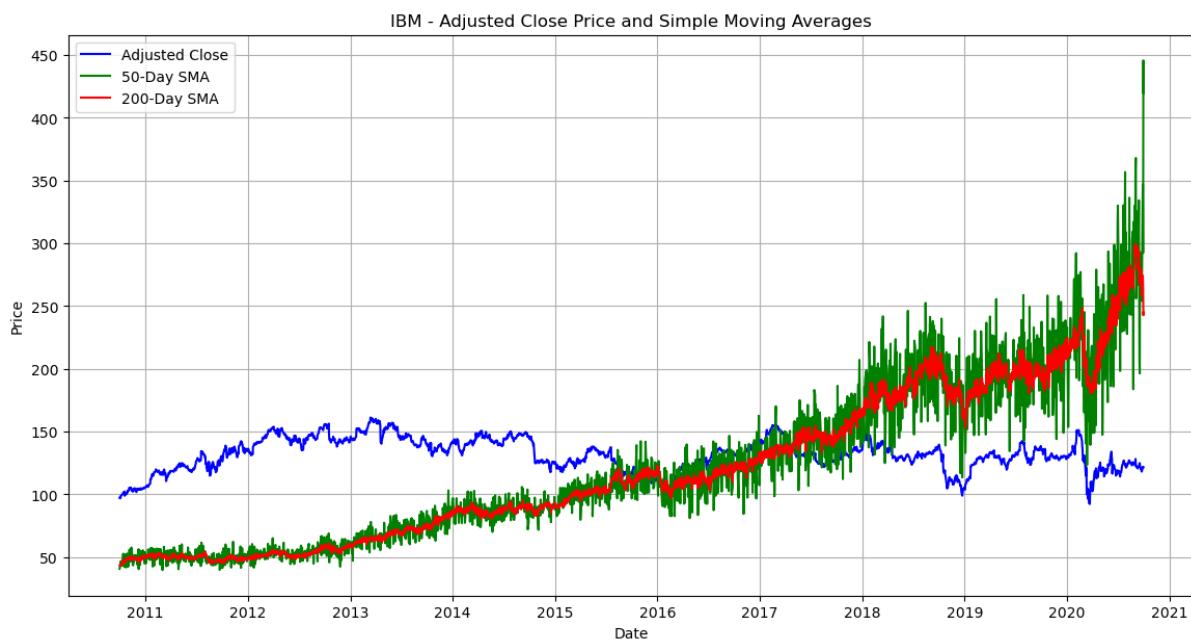
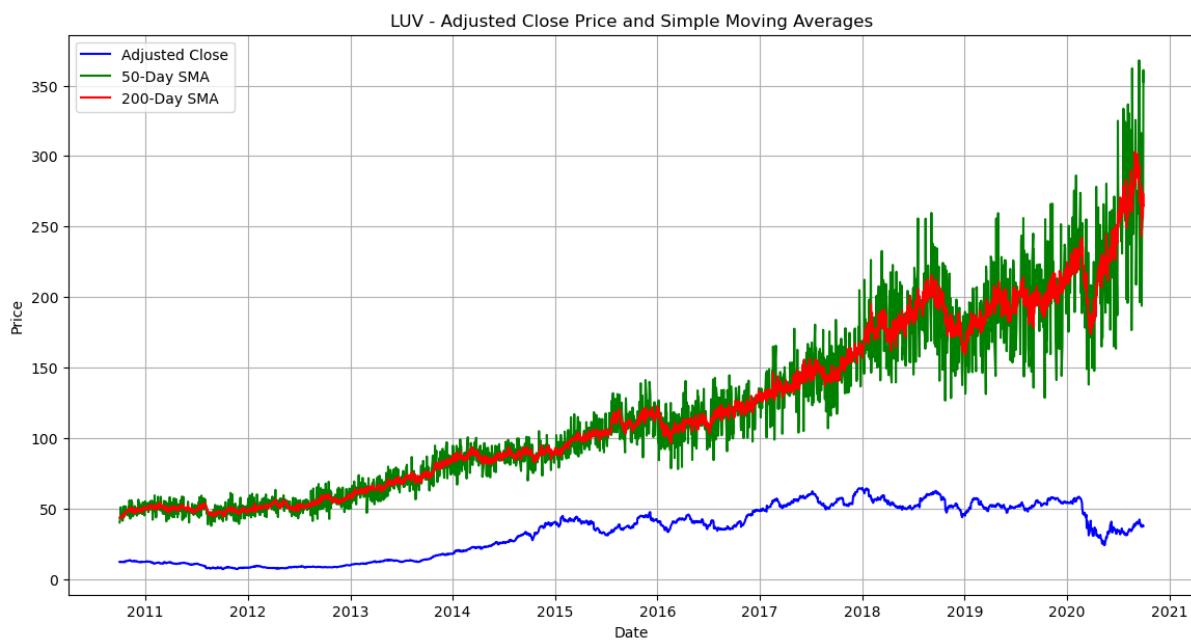
Calculation of Simple Moving Averages (SMA) to smooth out short-term fluctuations and understand the overall direction.

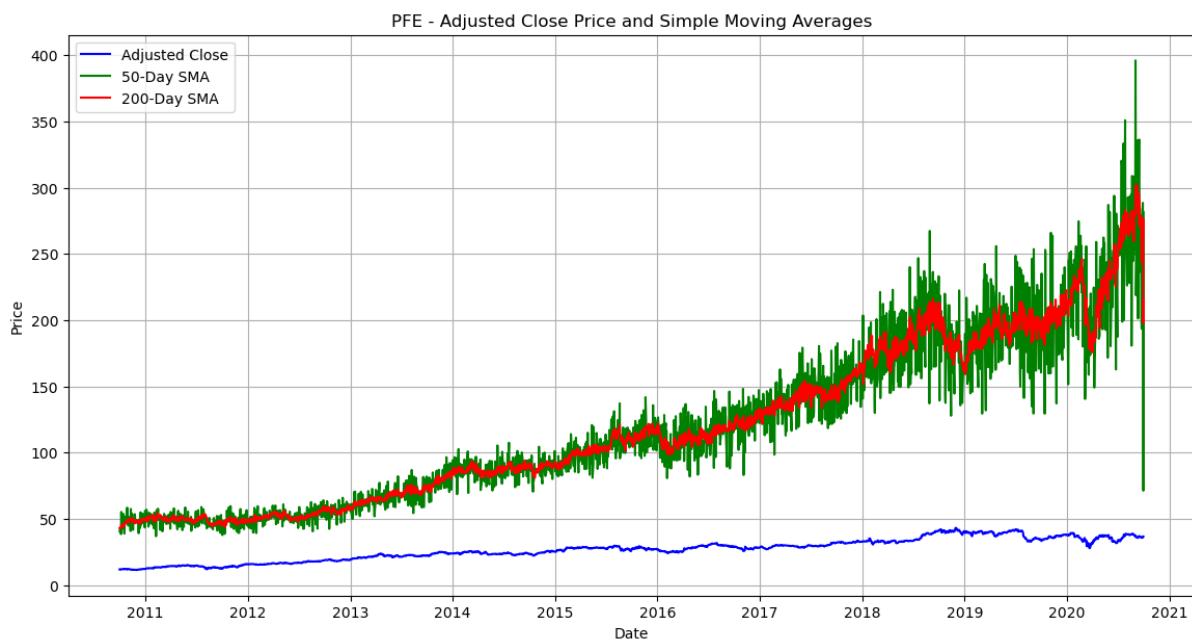
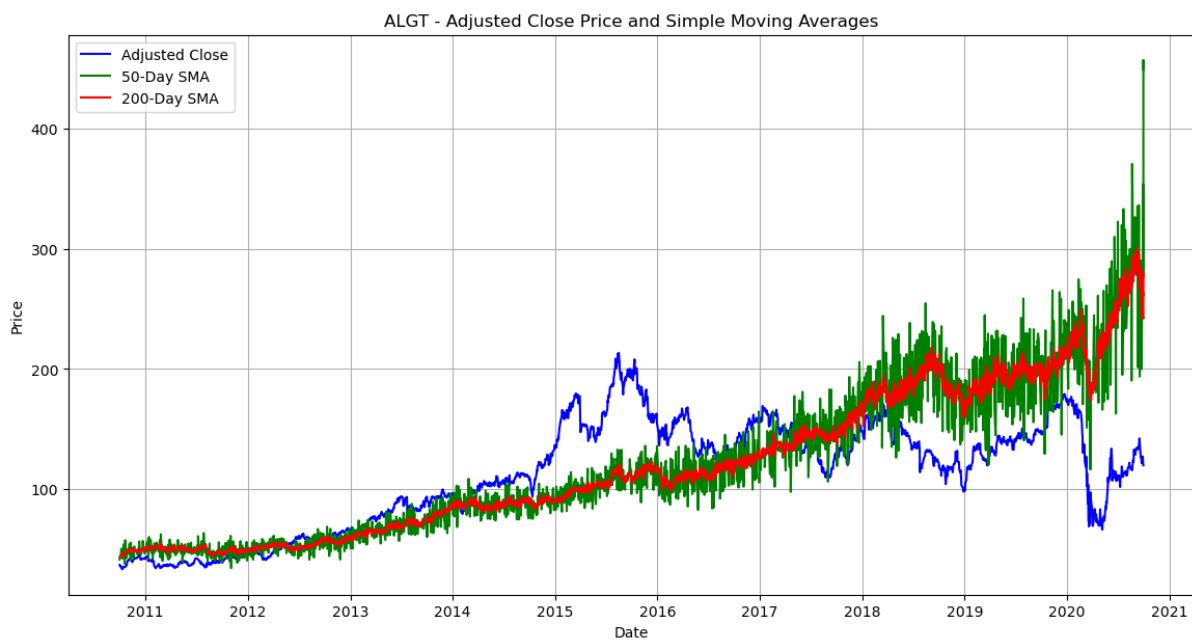


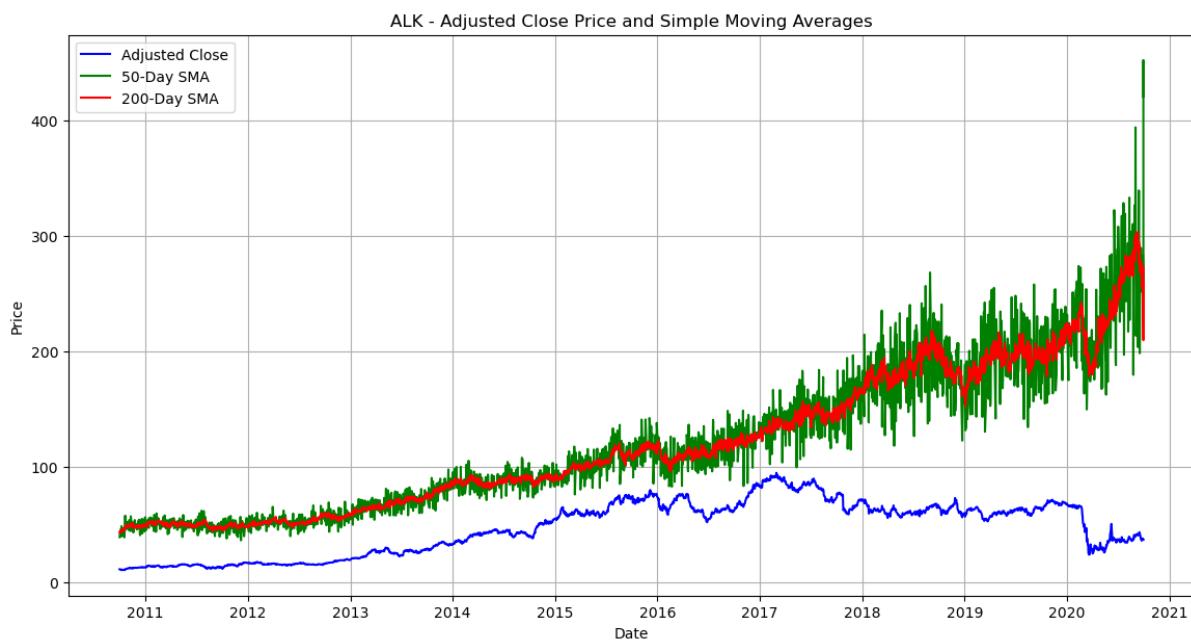
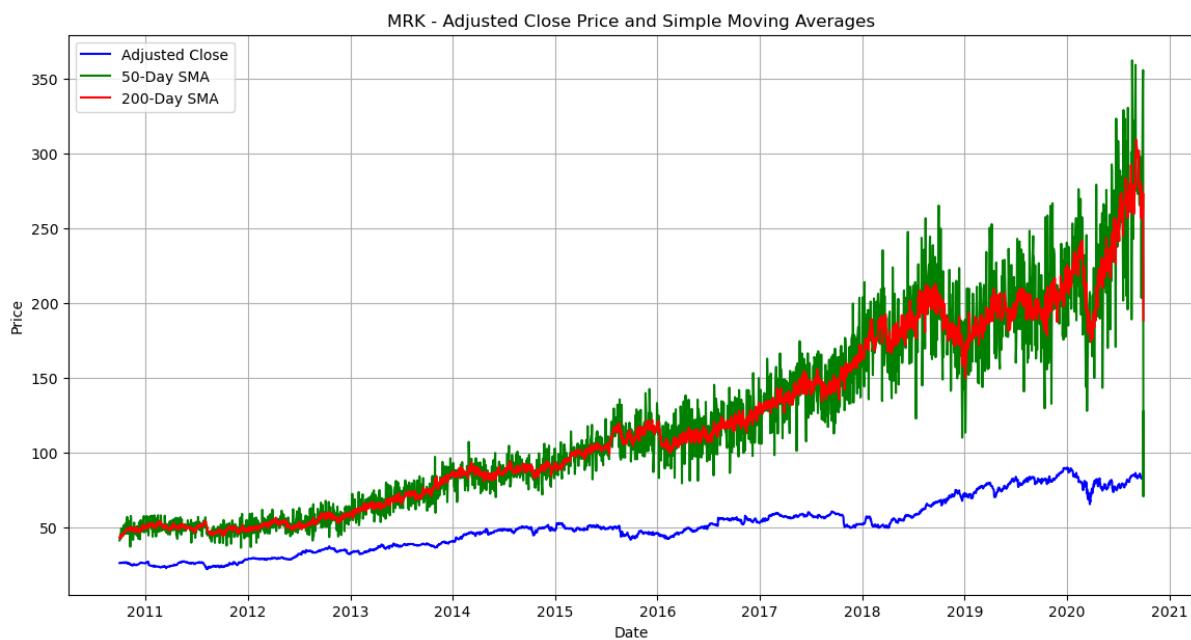


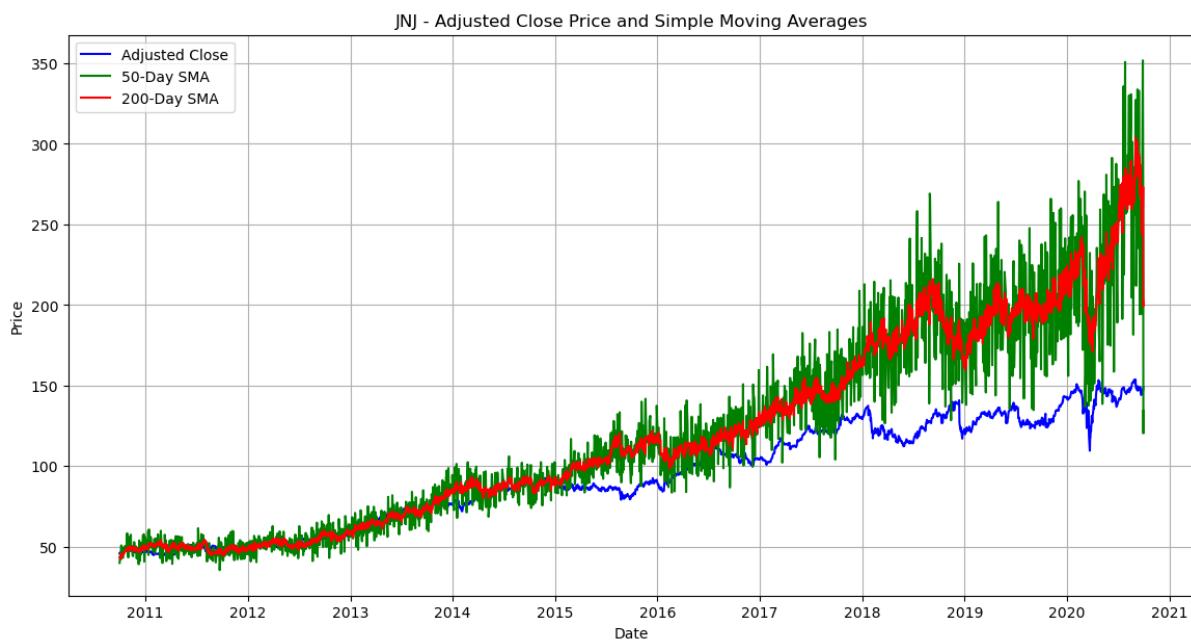
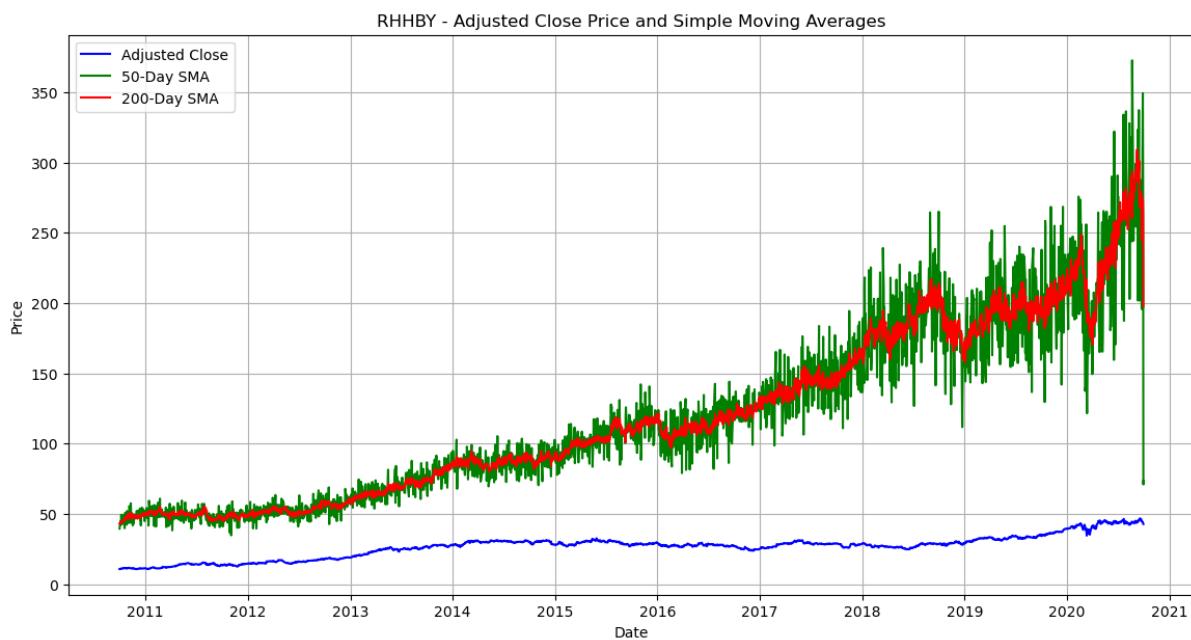


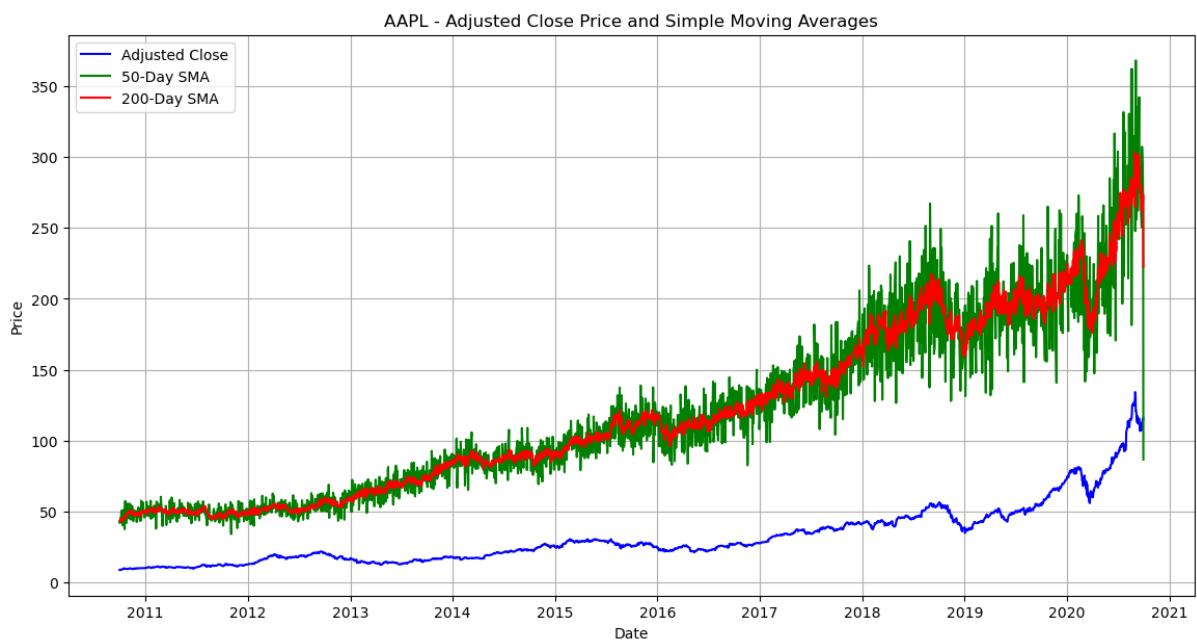
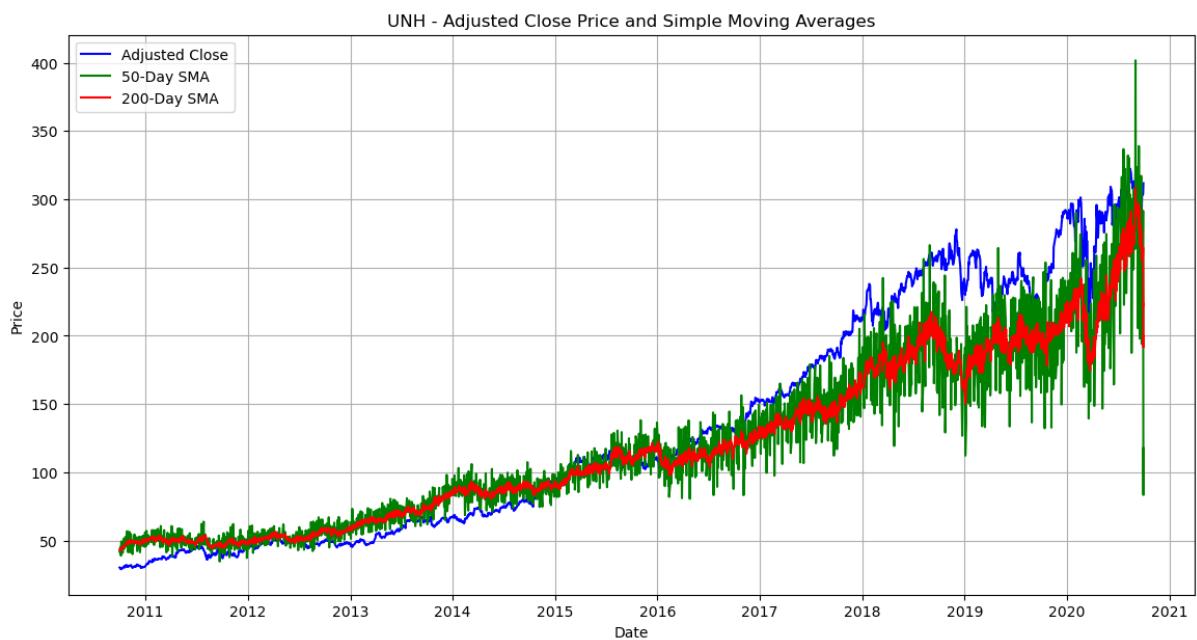


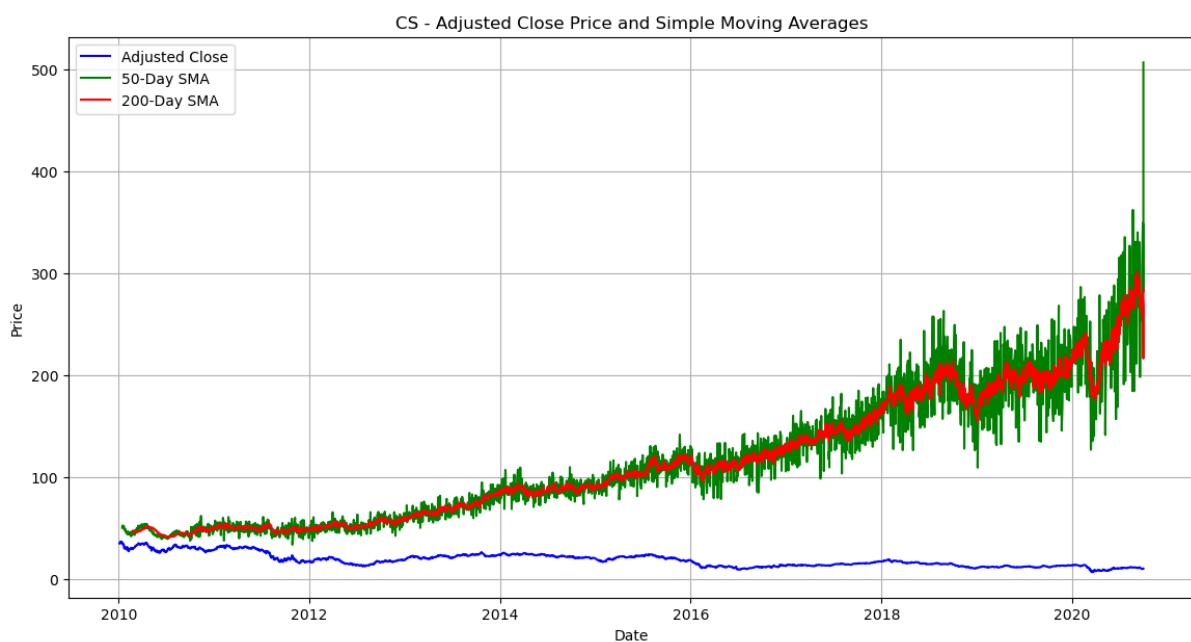
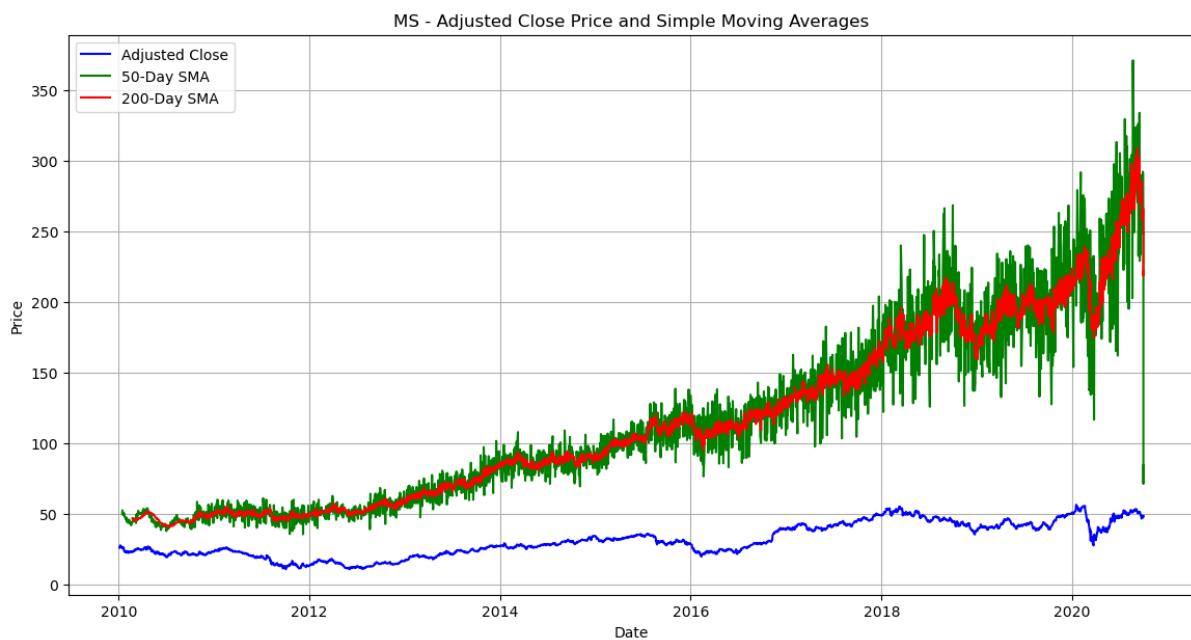


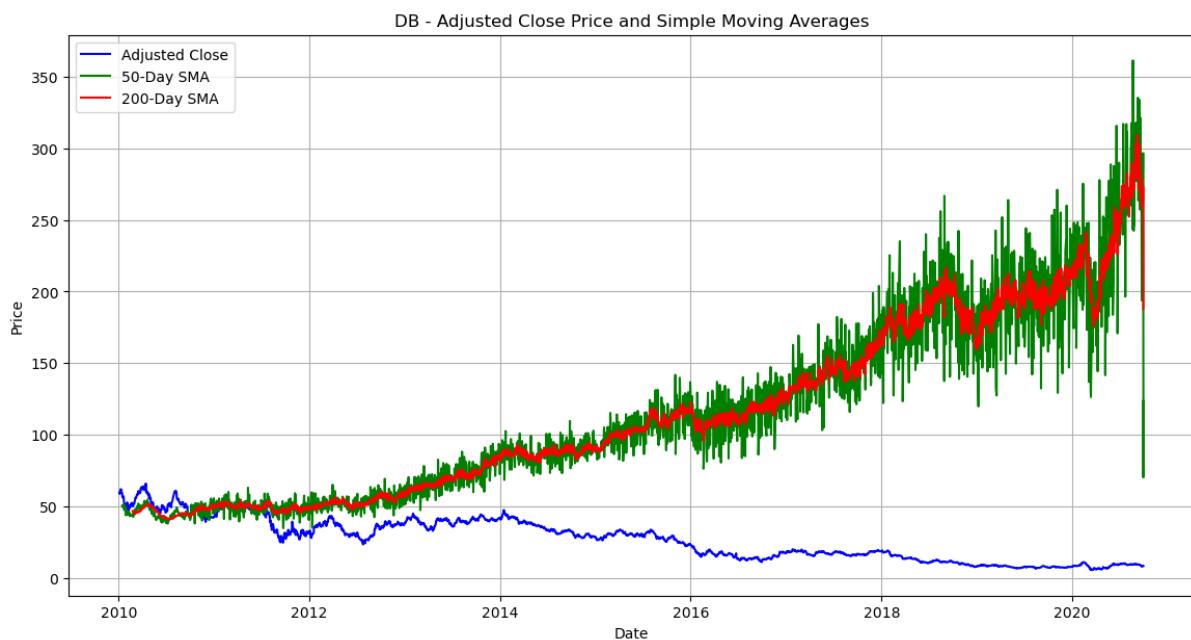
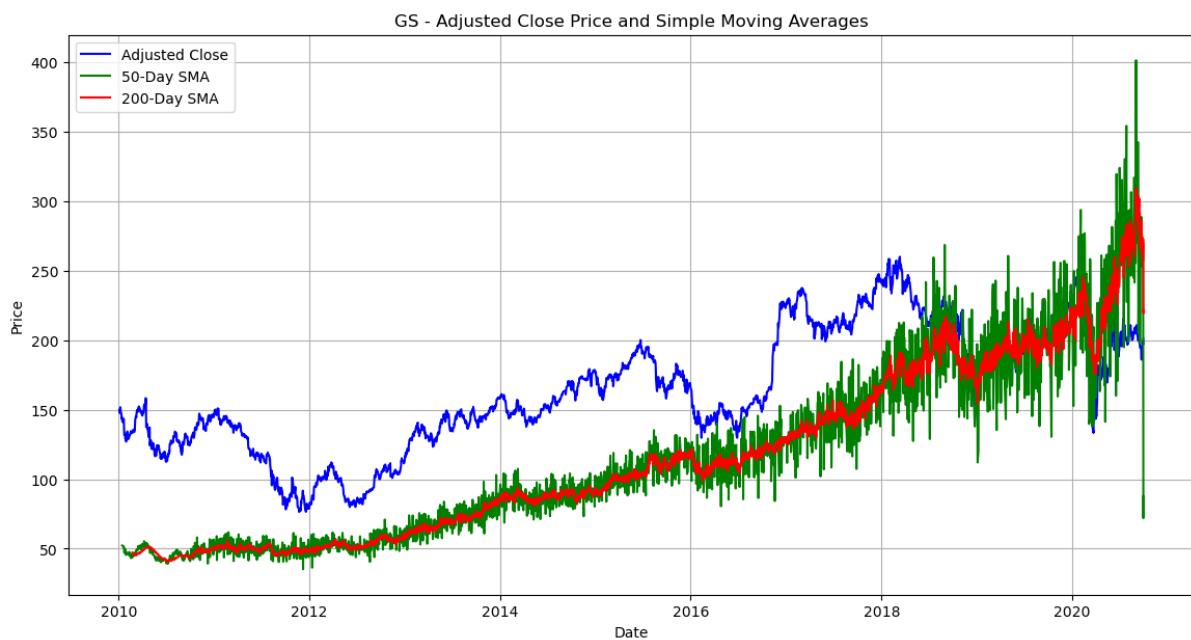


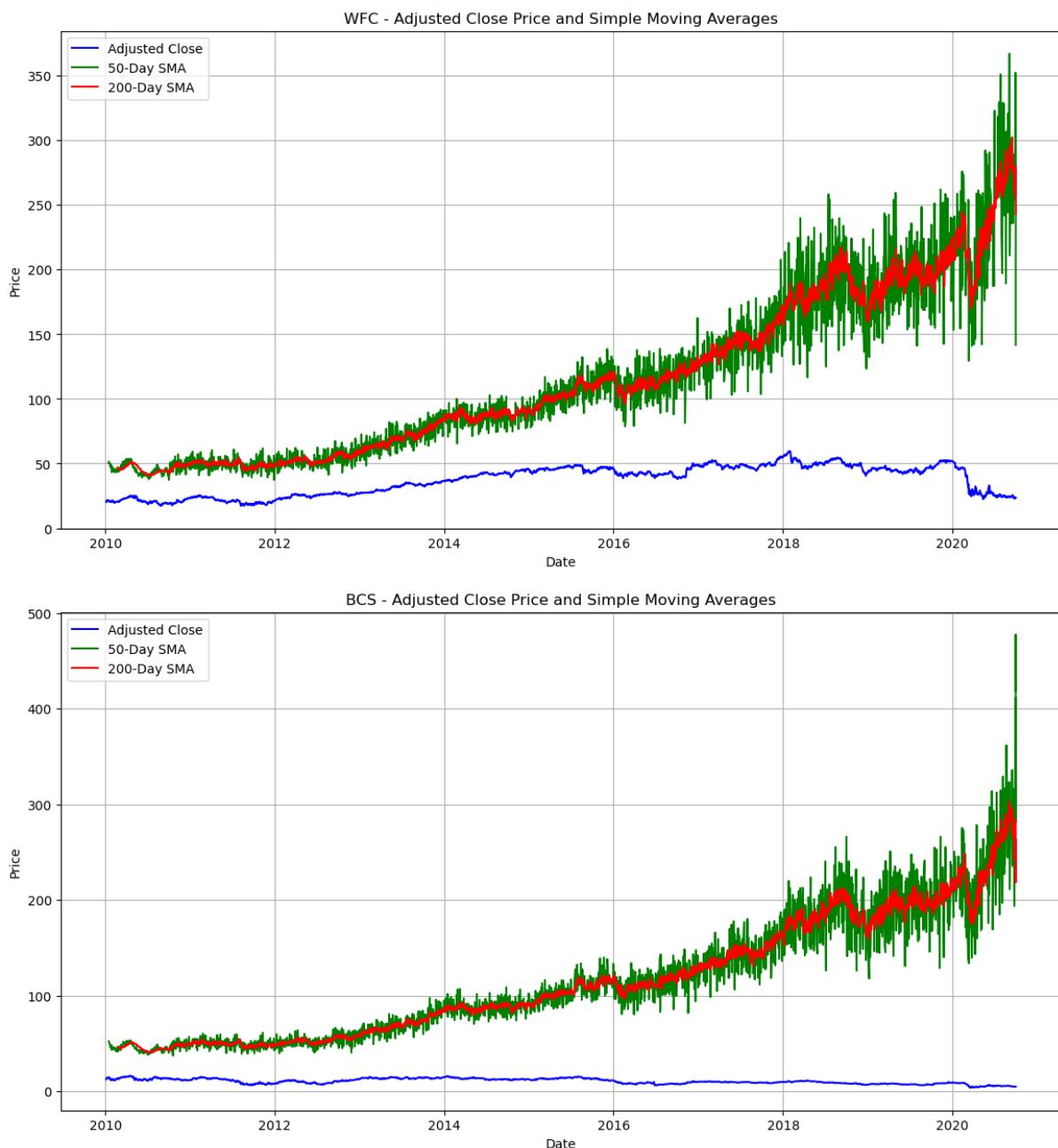












Relative Strength Index (RSI):

RSI helps determine whether a stock is overbought or oversold. It's a momentum oscillator that ranges from 0 to 100.

Latest RSI DataFrame:

	Company	RSI
0	AAL	1.27
1	AAPL	59.21
2	ALGT	34.93
3	ALK	33.82
4	AMZN	100.00

Most Oversold Stocks:

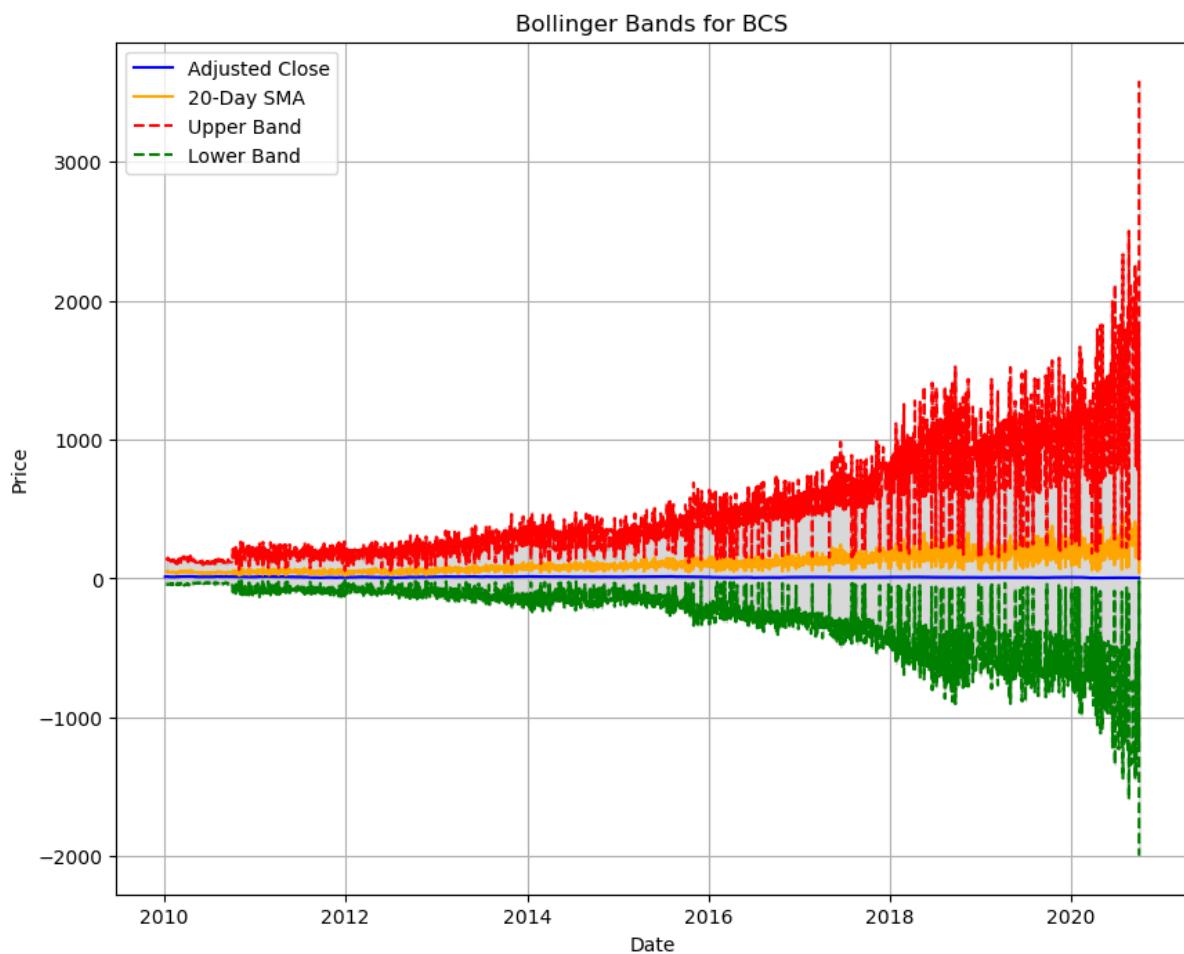
	Company	RSI
0	AAL	1.27
9	DB	0.00
15	JNJ	0.00
17	MRK	0.00

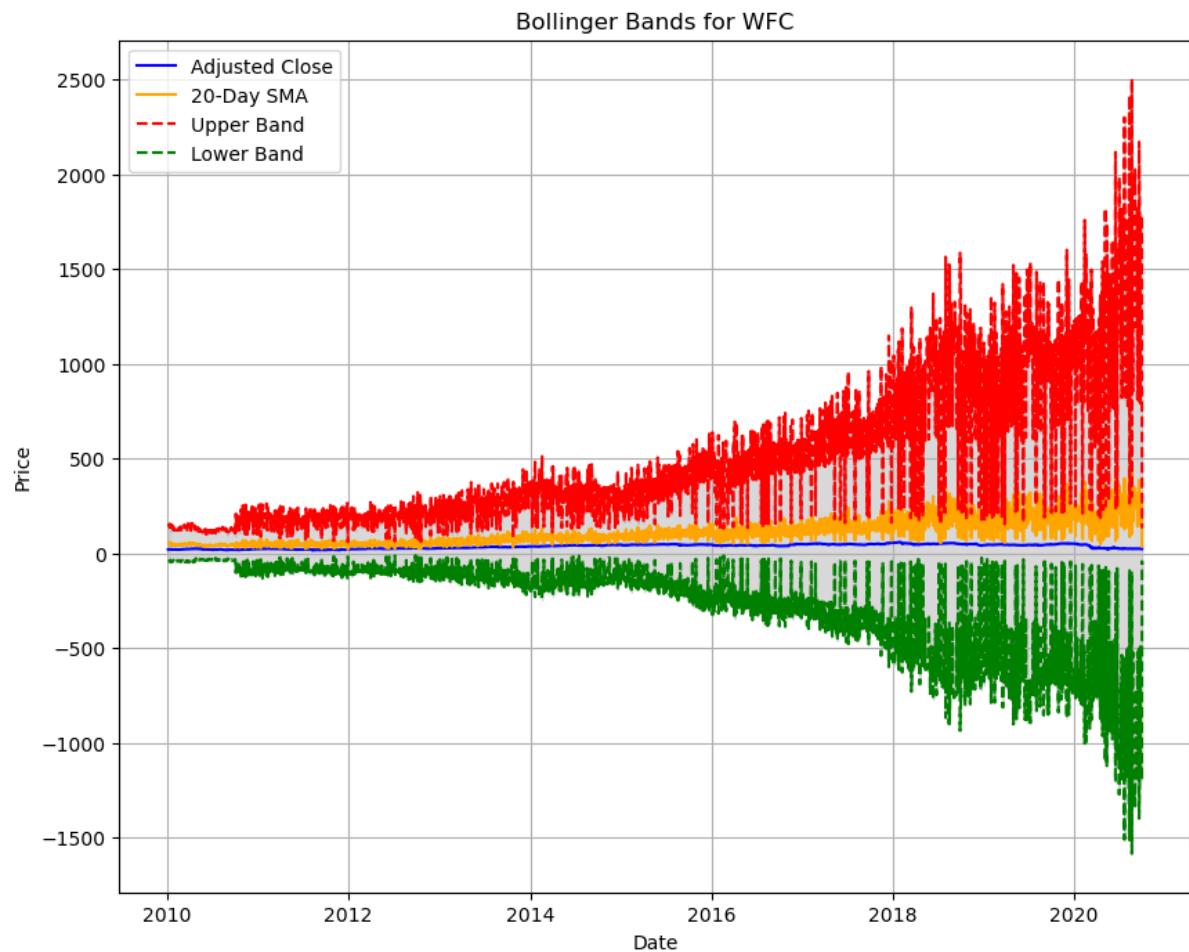
Most Overbought Stocks:

	Company	RSI
4	AMZN	100.00
10	FB	100.00
16	LUV	86.76
20	PFE	74.06
22	UNH	100.00

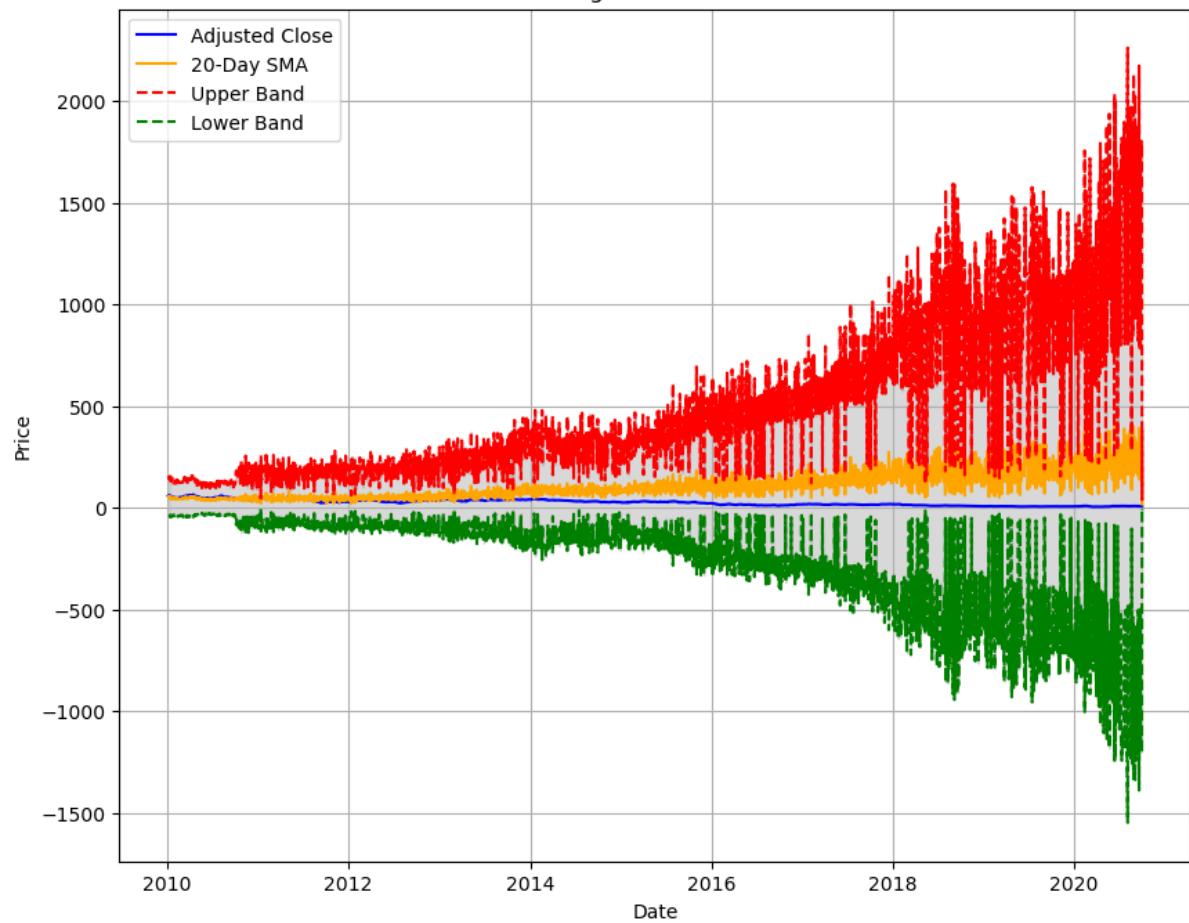
Bollinger Bands:

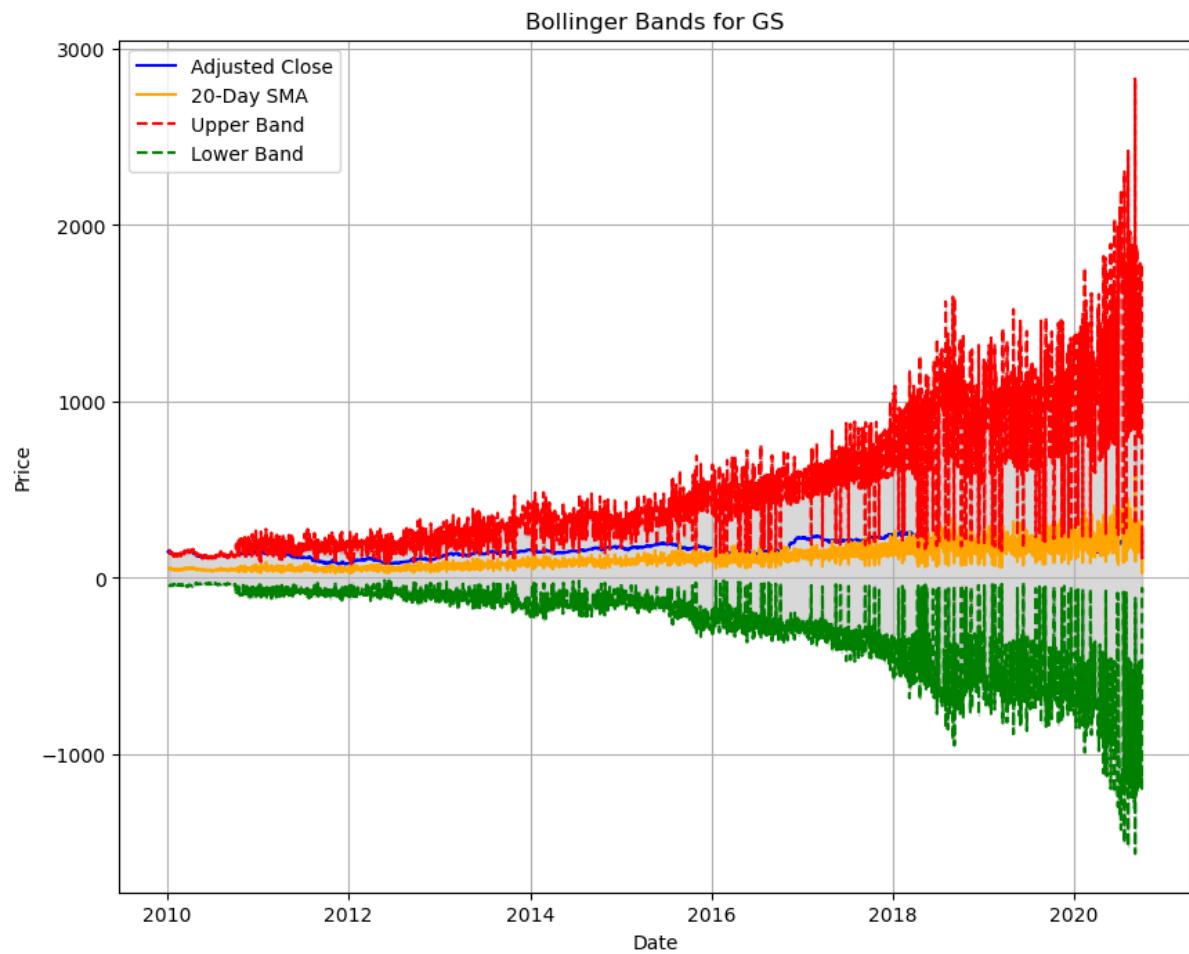
Bollinger Bands plot a range that the stock price is expected to trade within, based on its recent volatility.



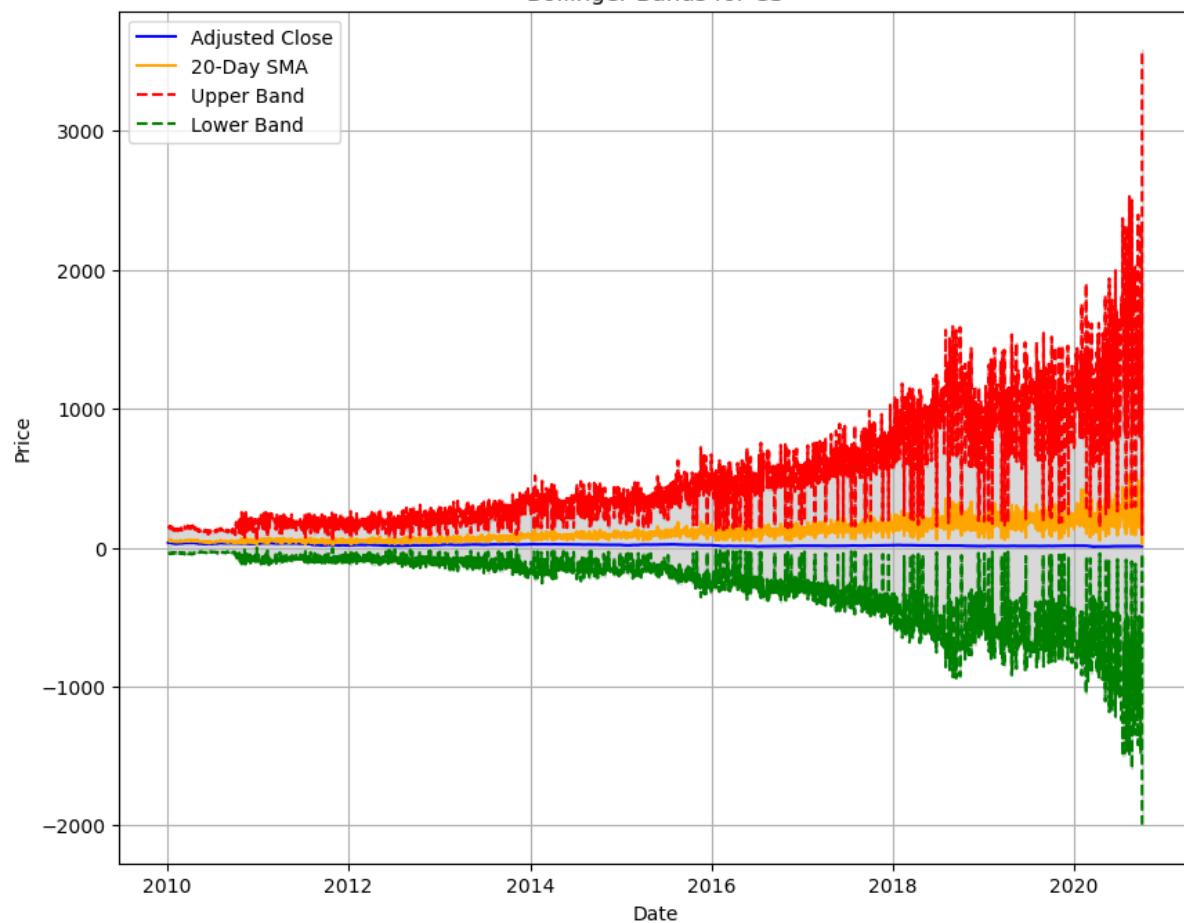


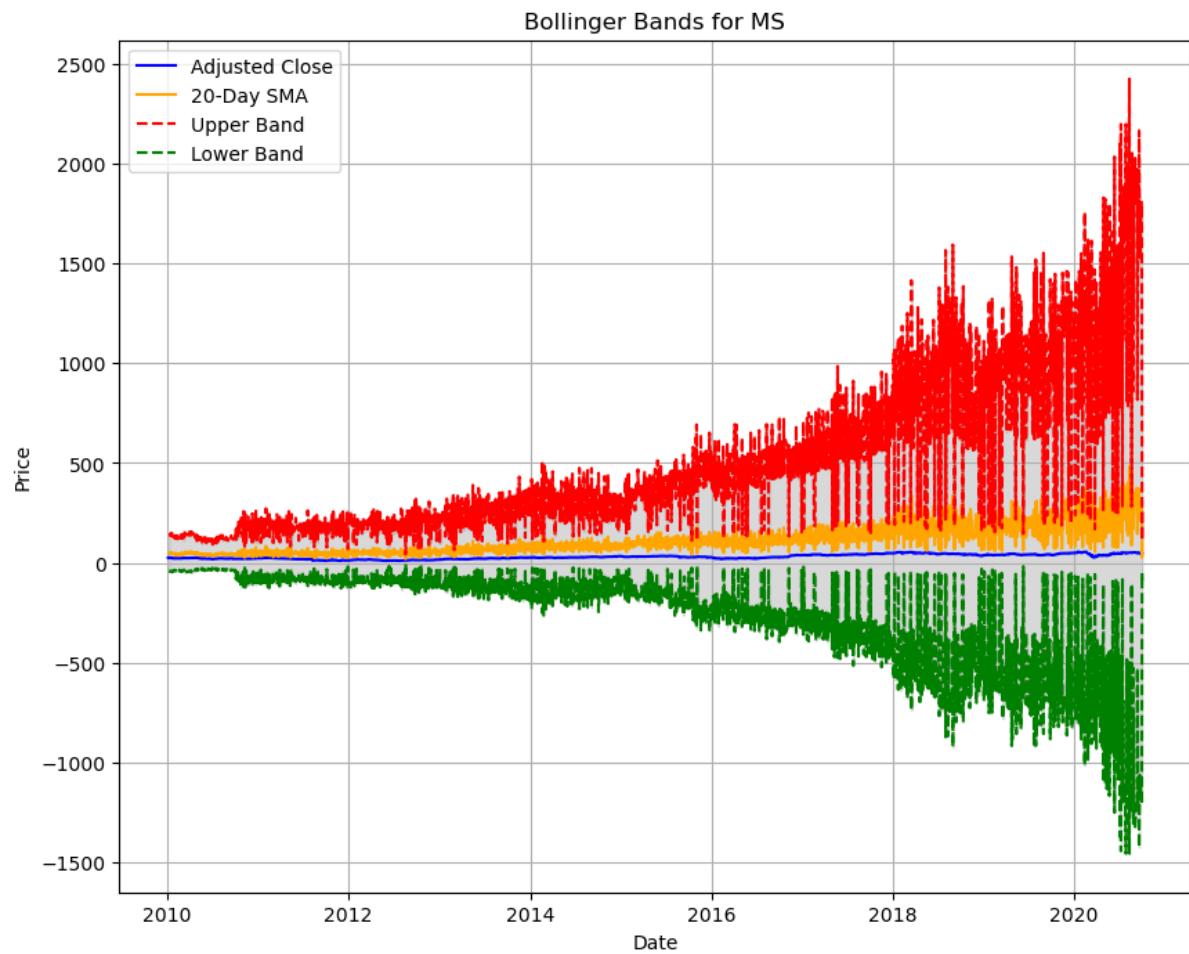
Bollinger Bands for DB

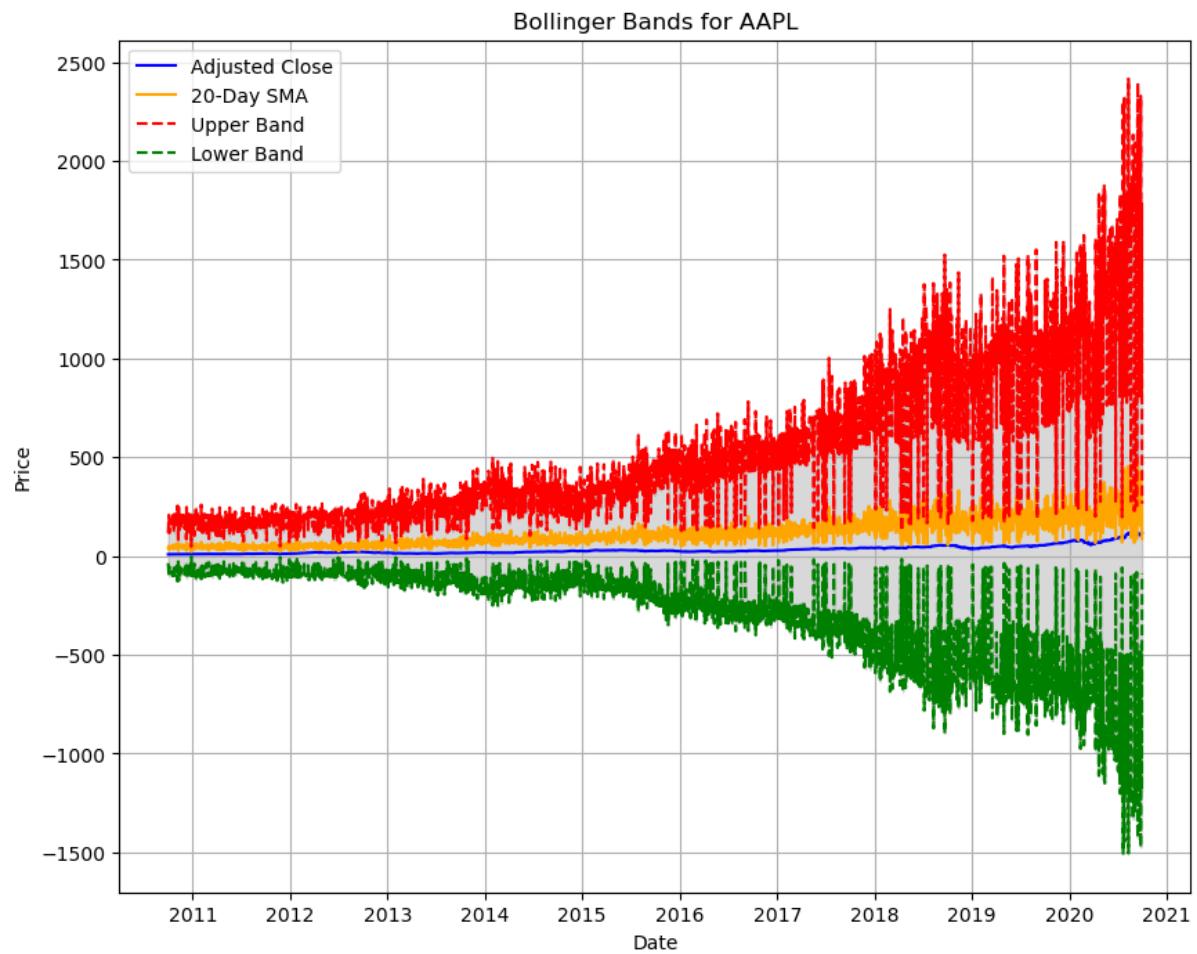


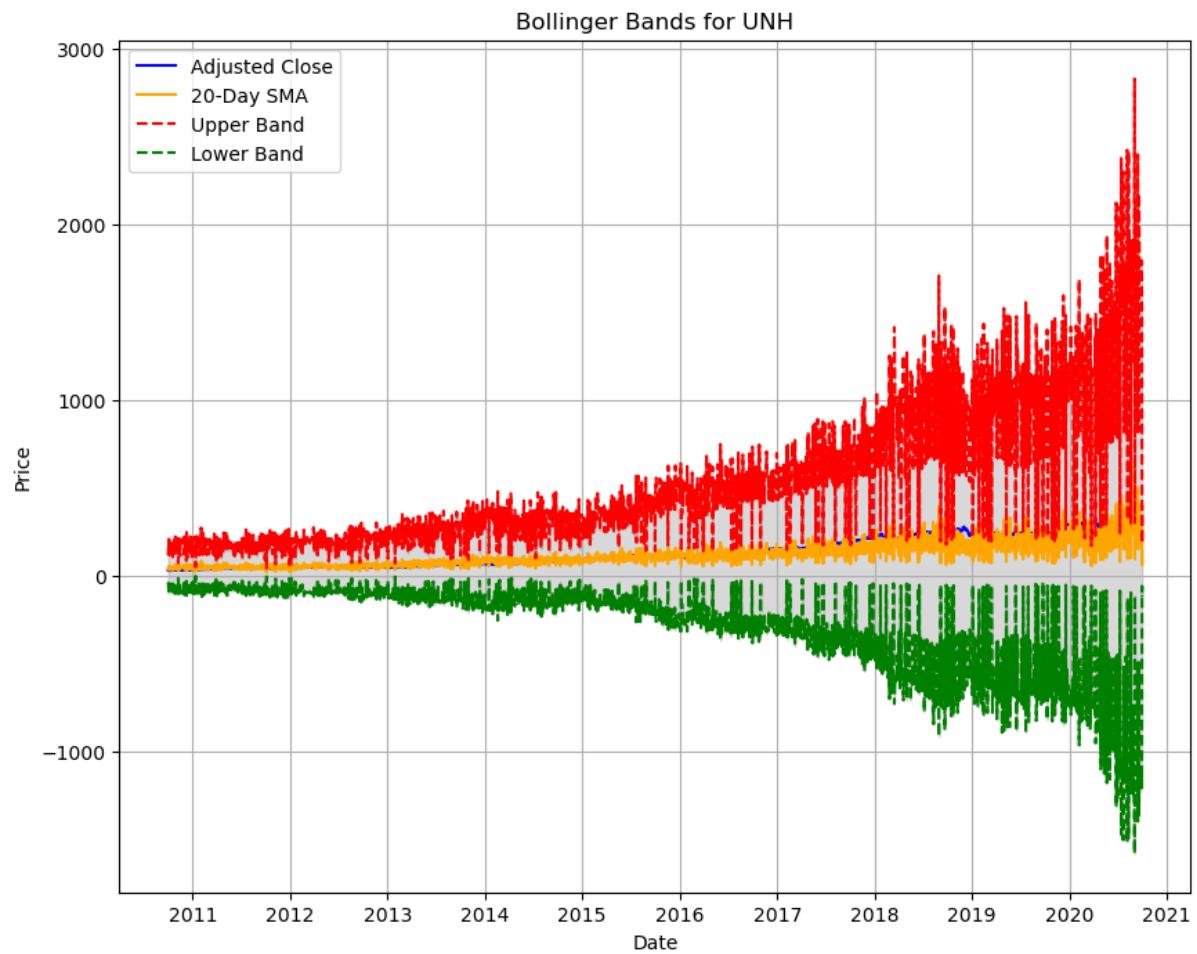


Bollinger Bands for CS

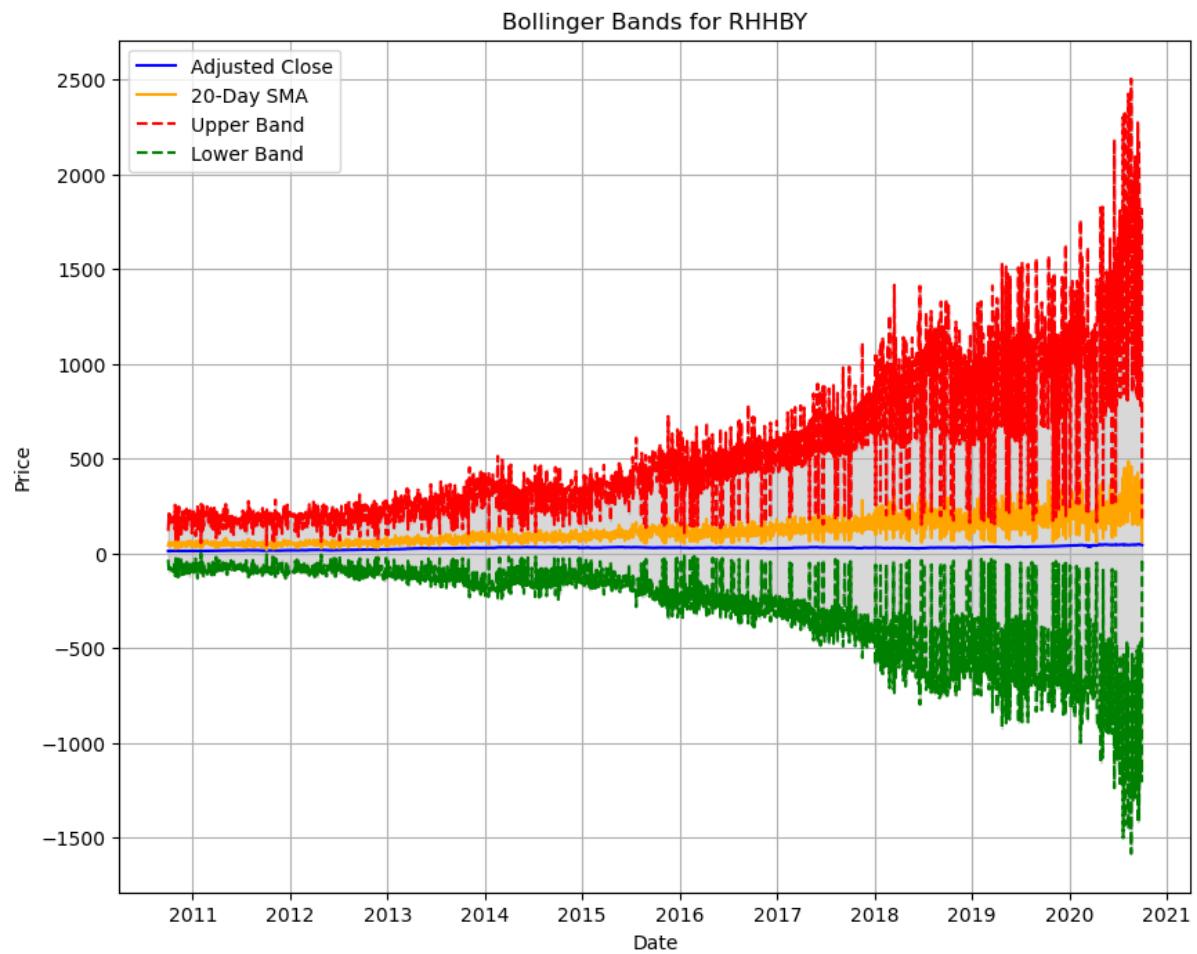


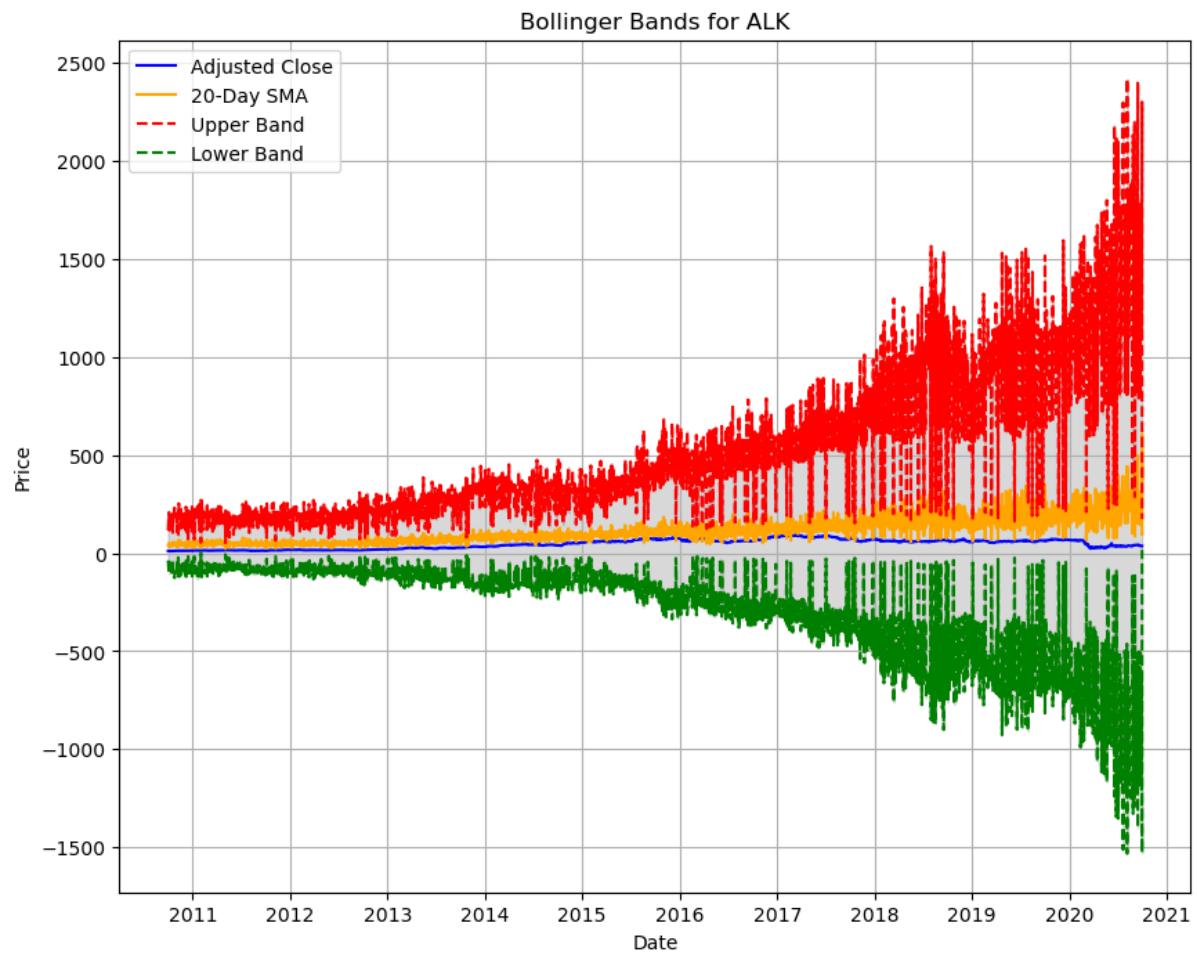


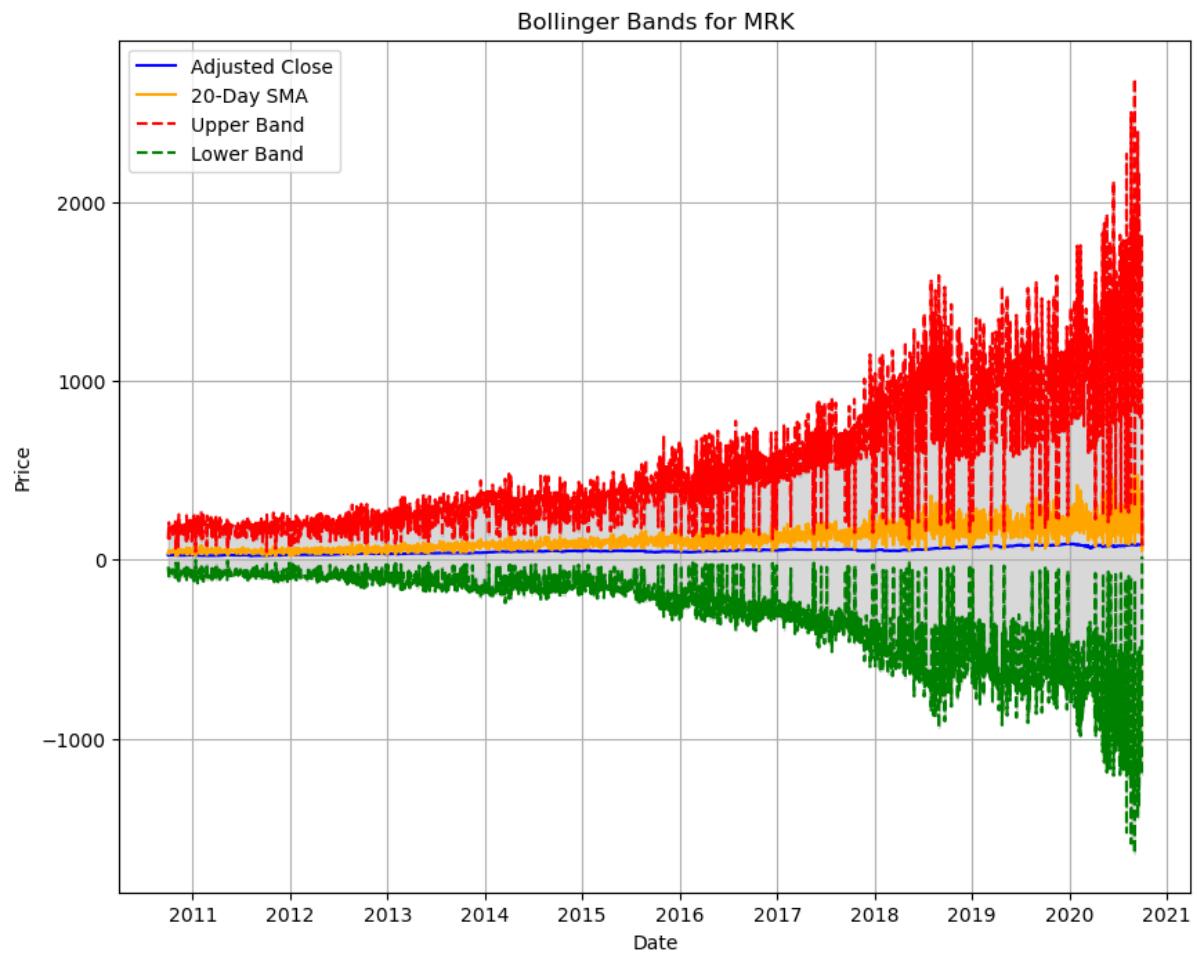


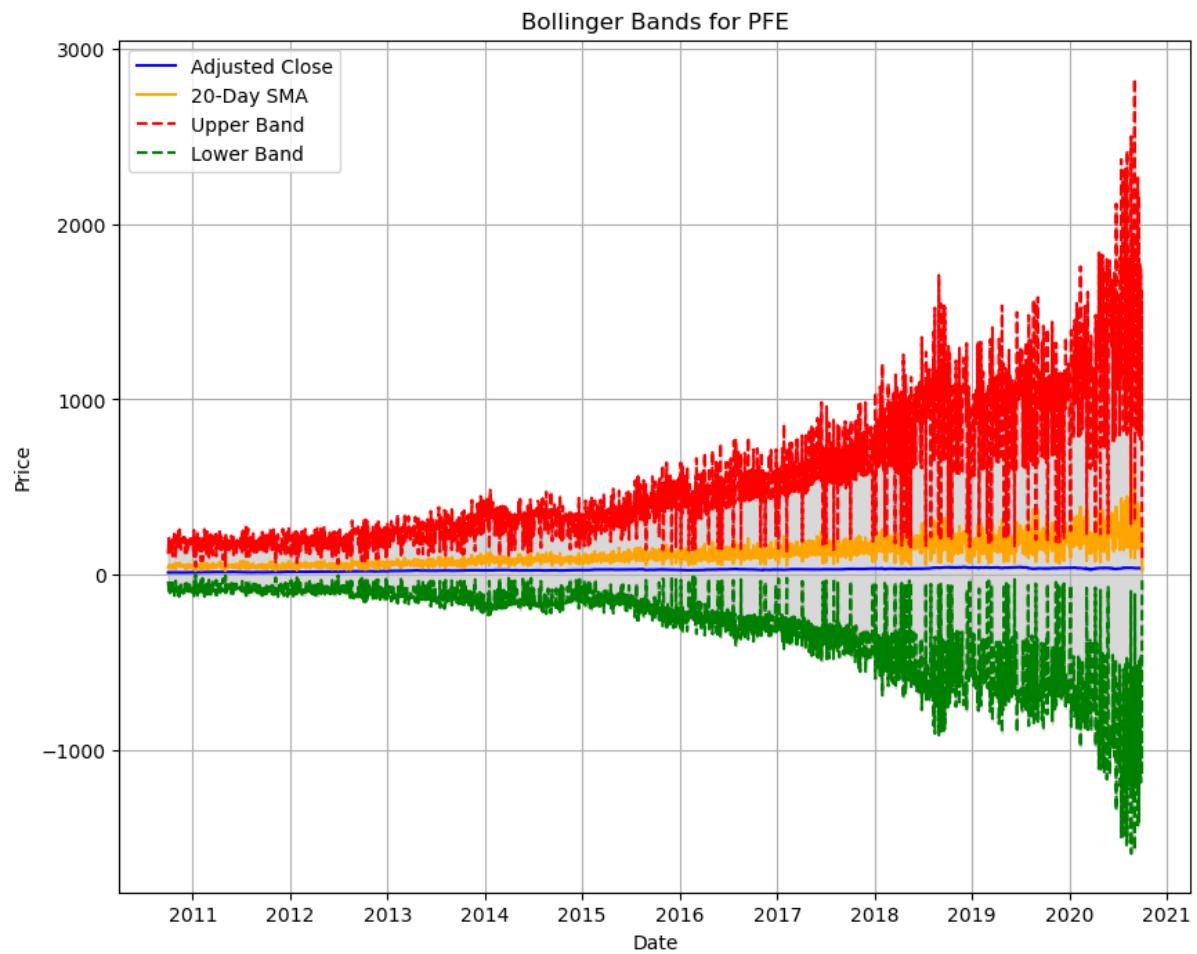


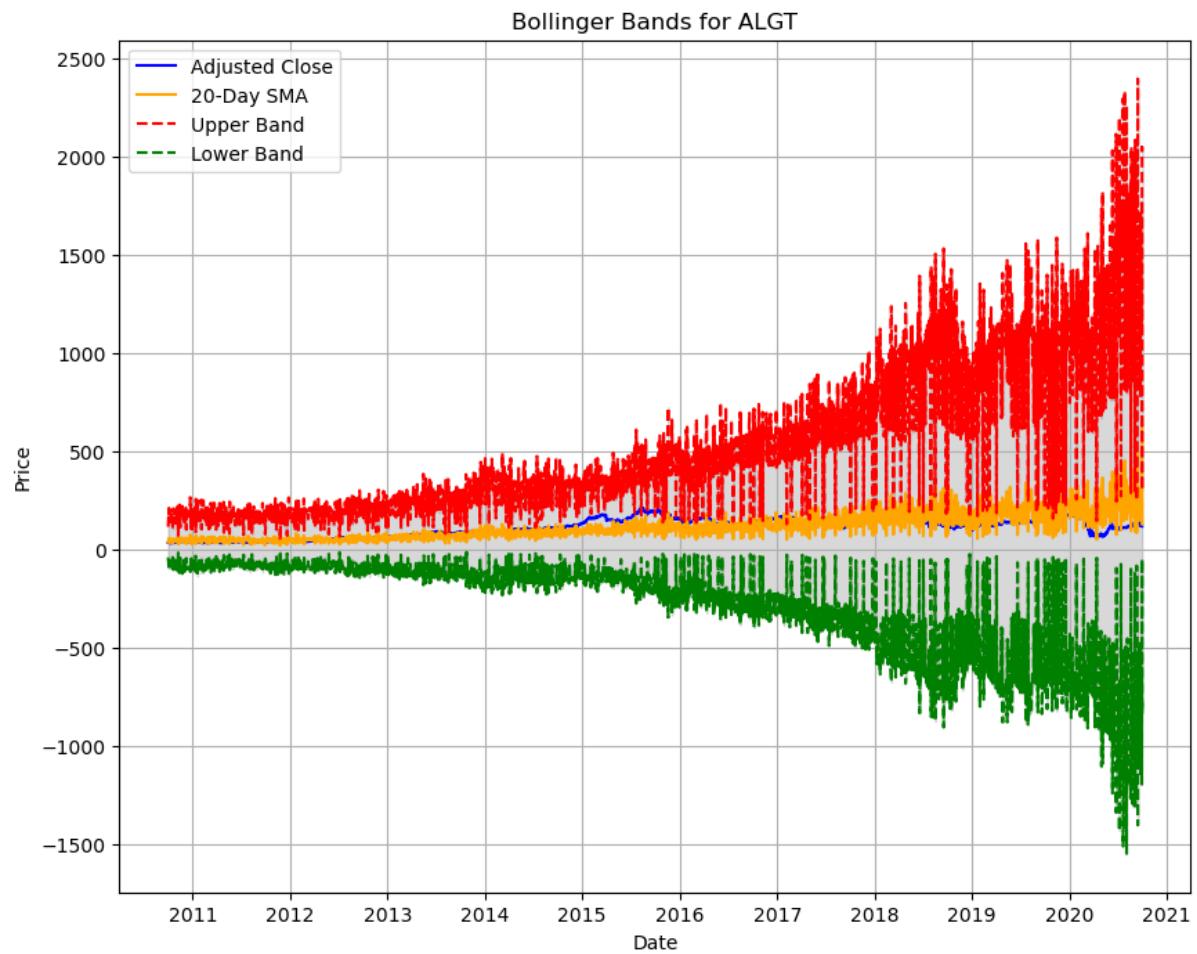


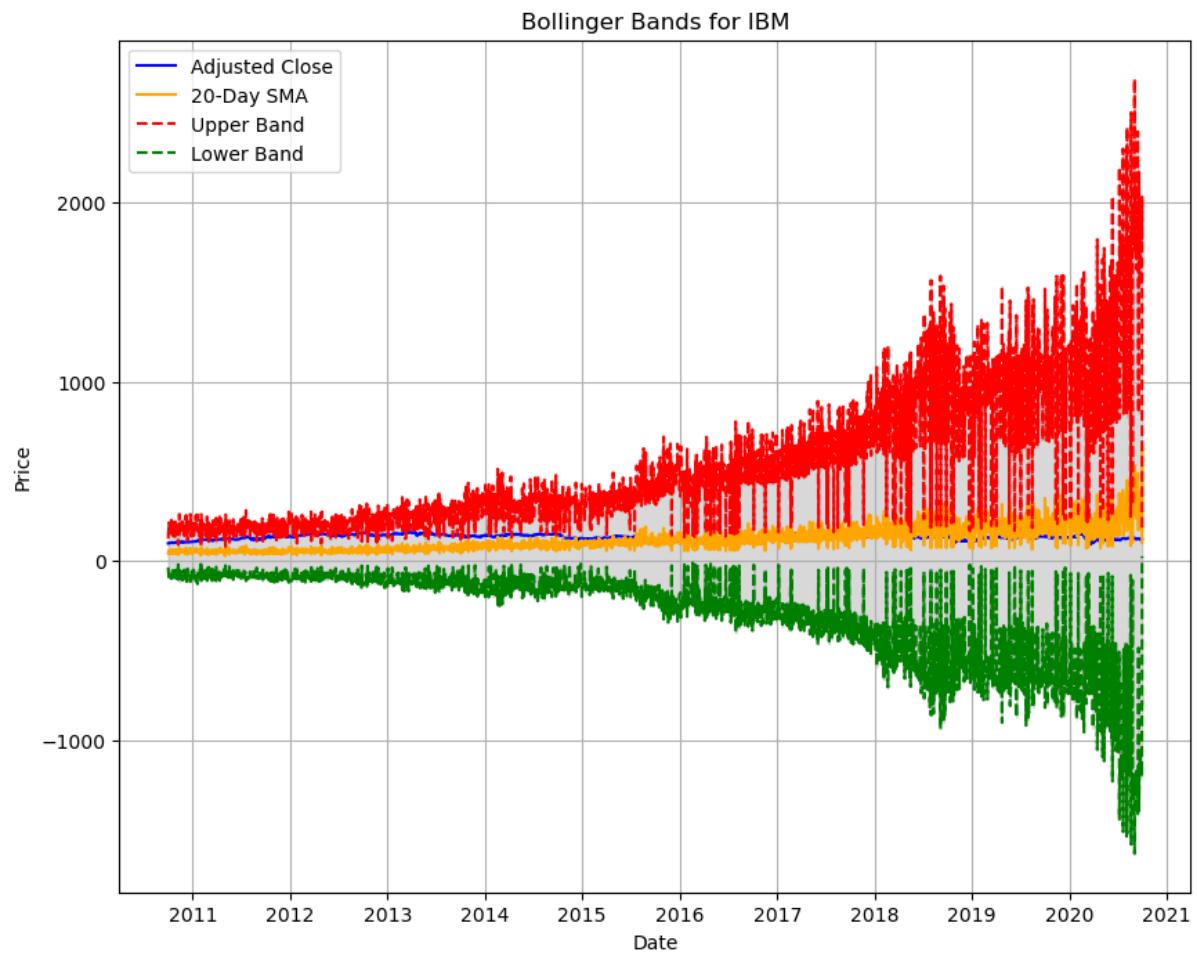


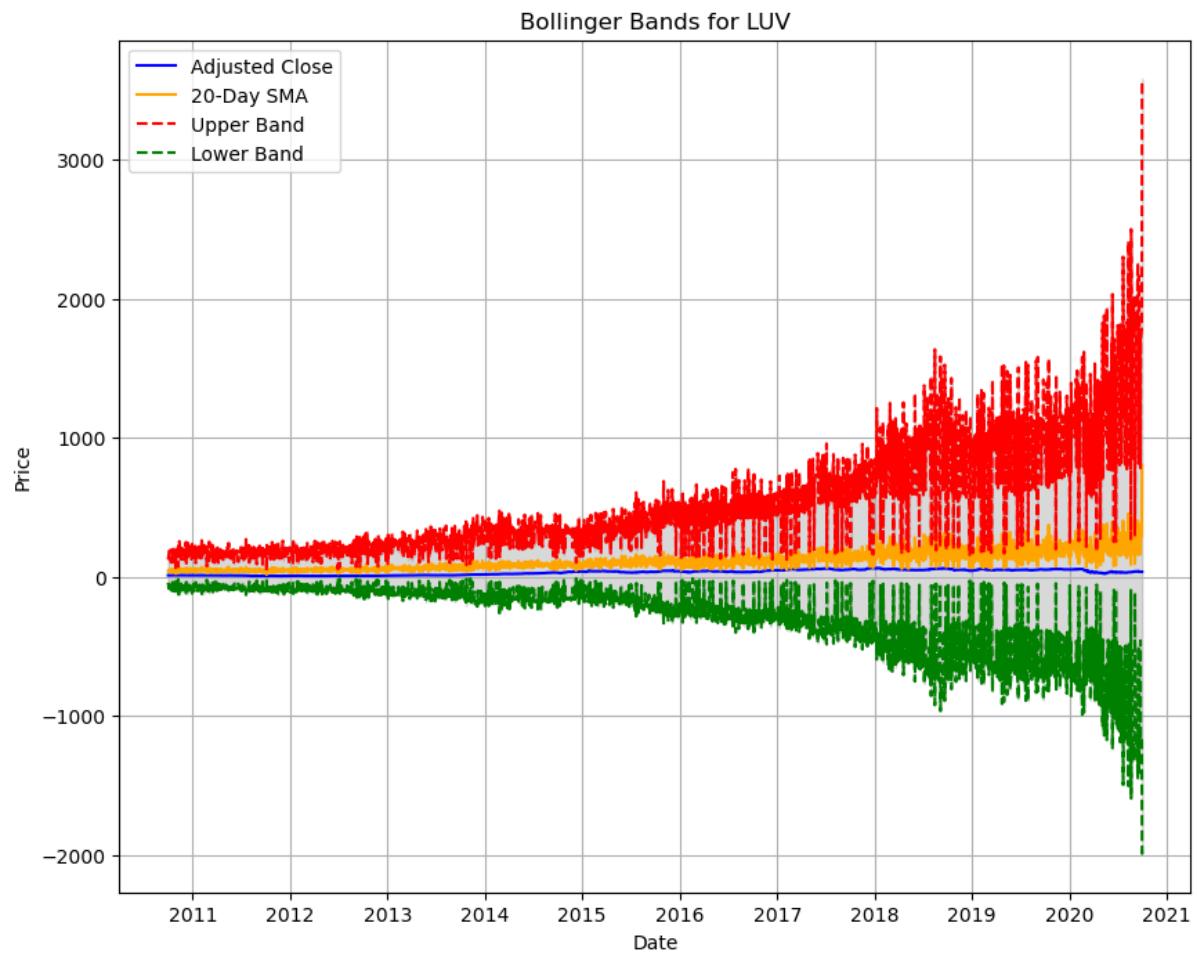


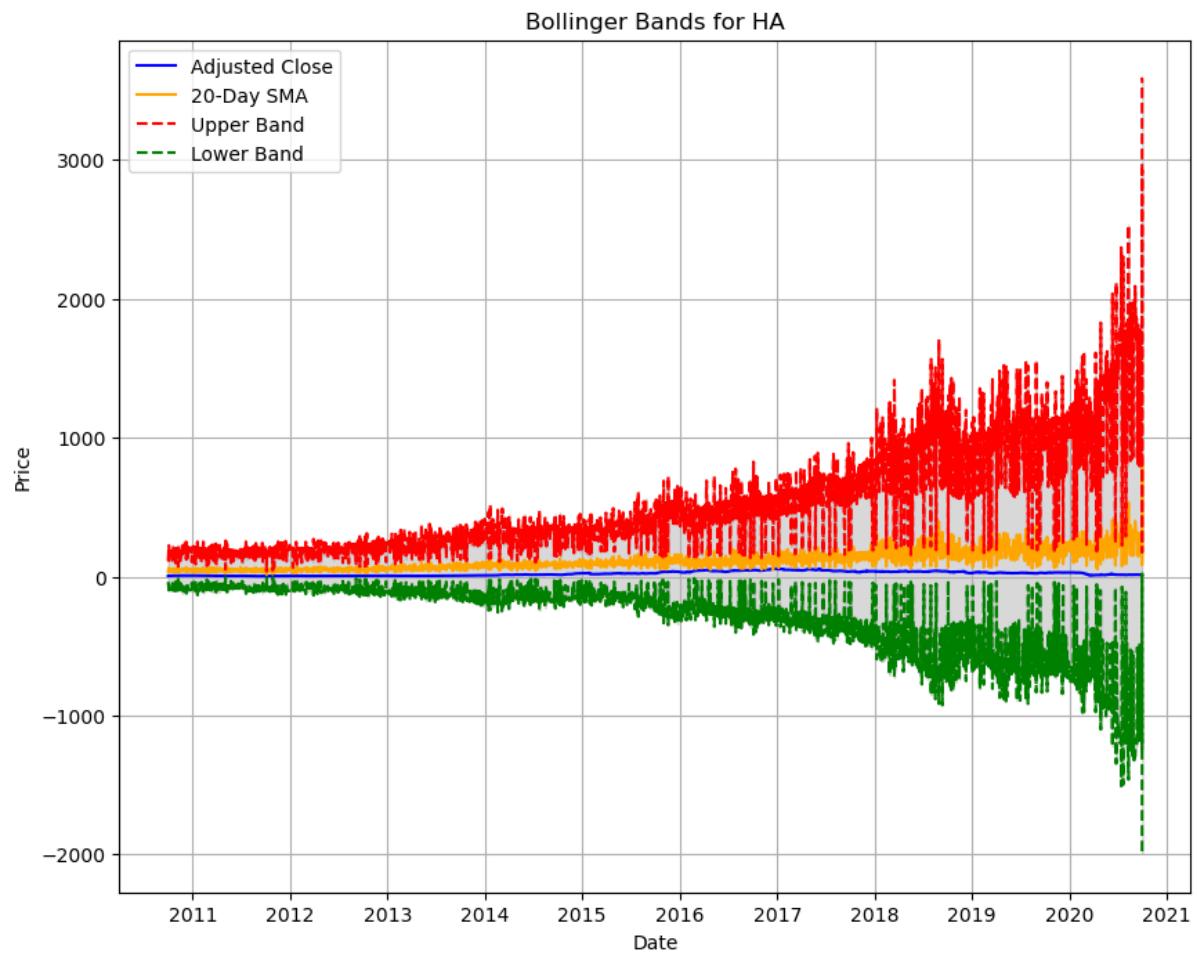


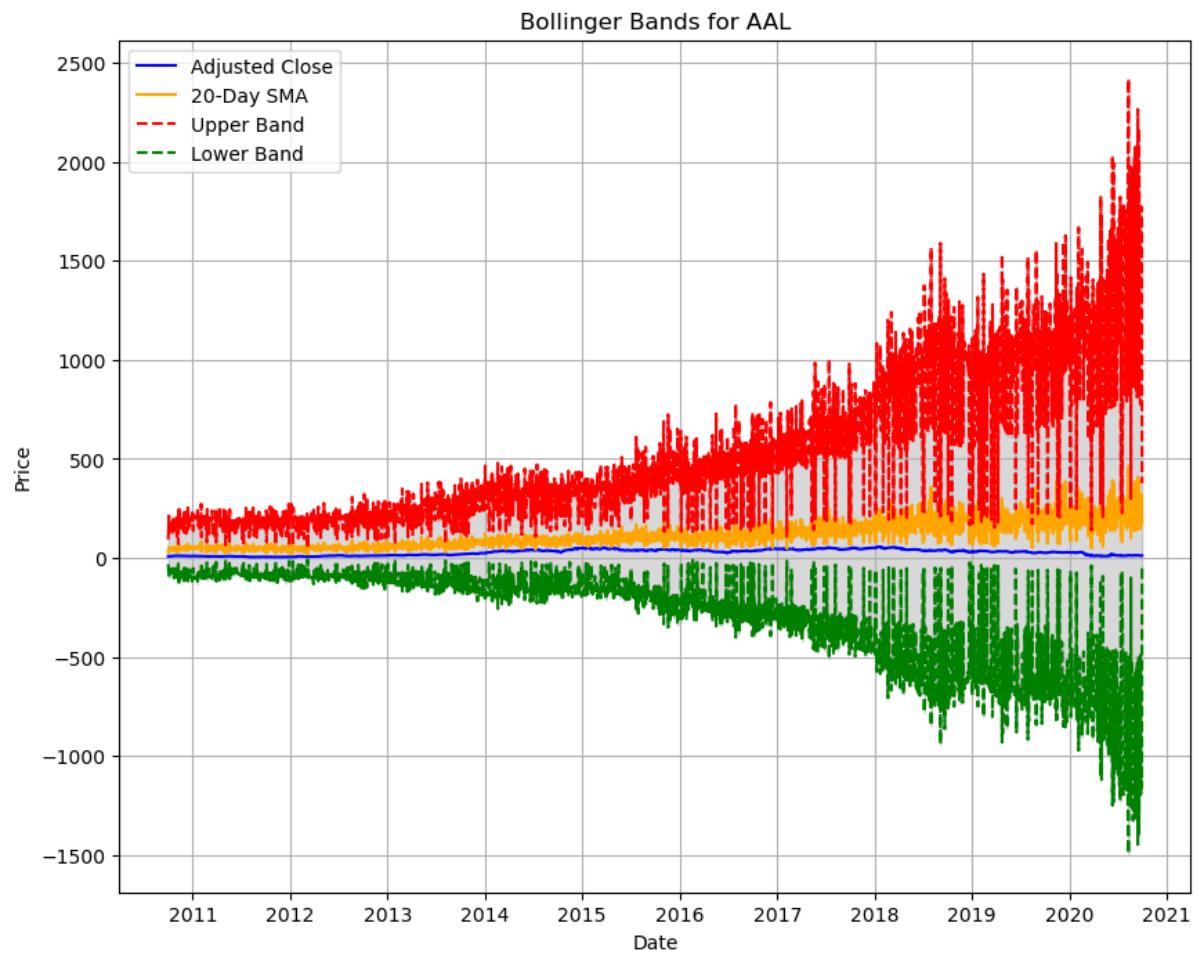


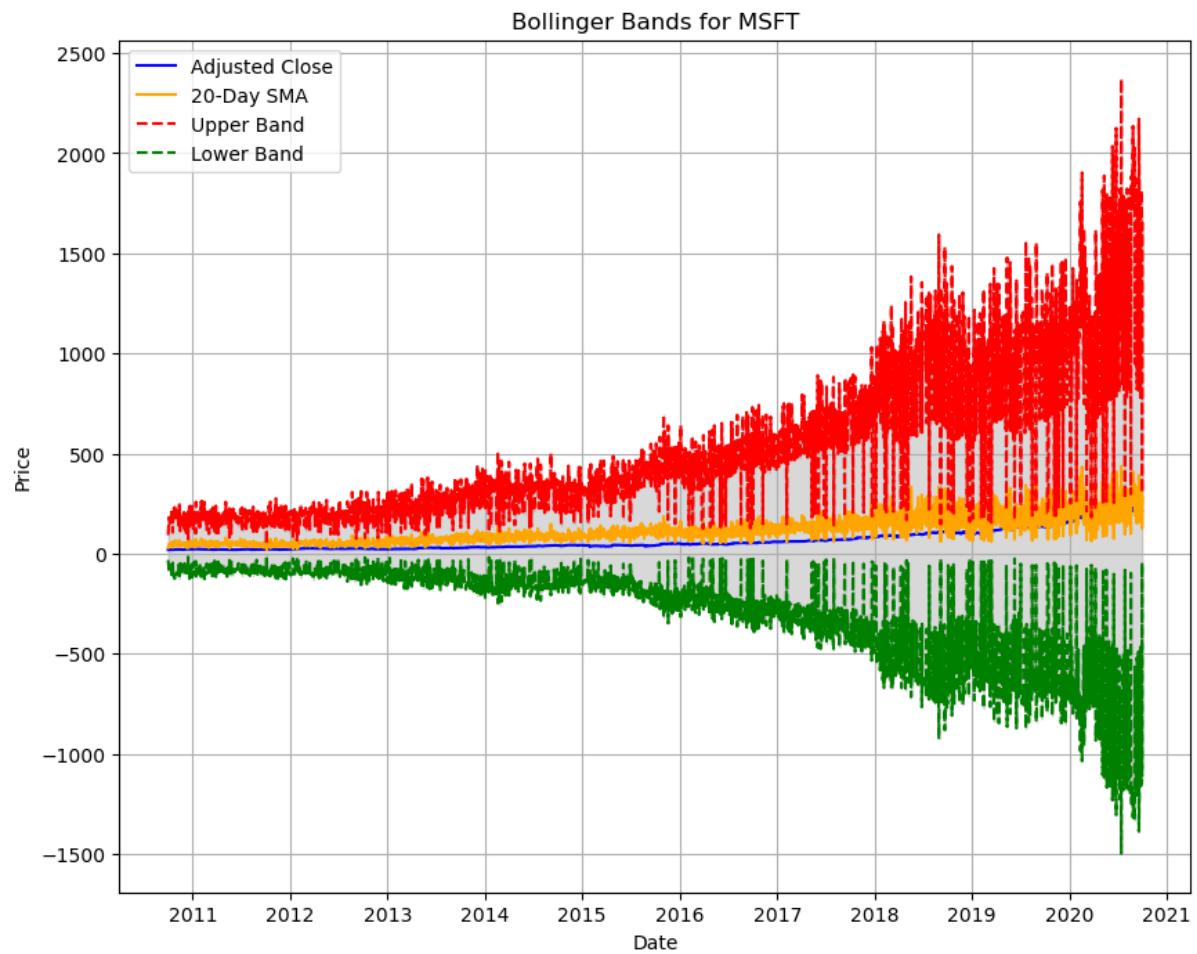




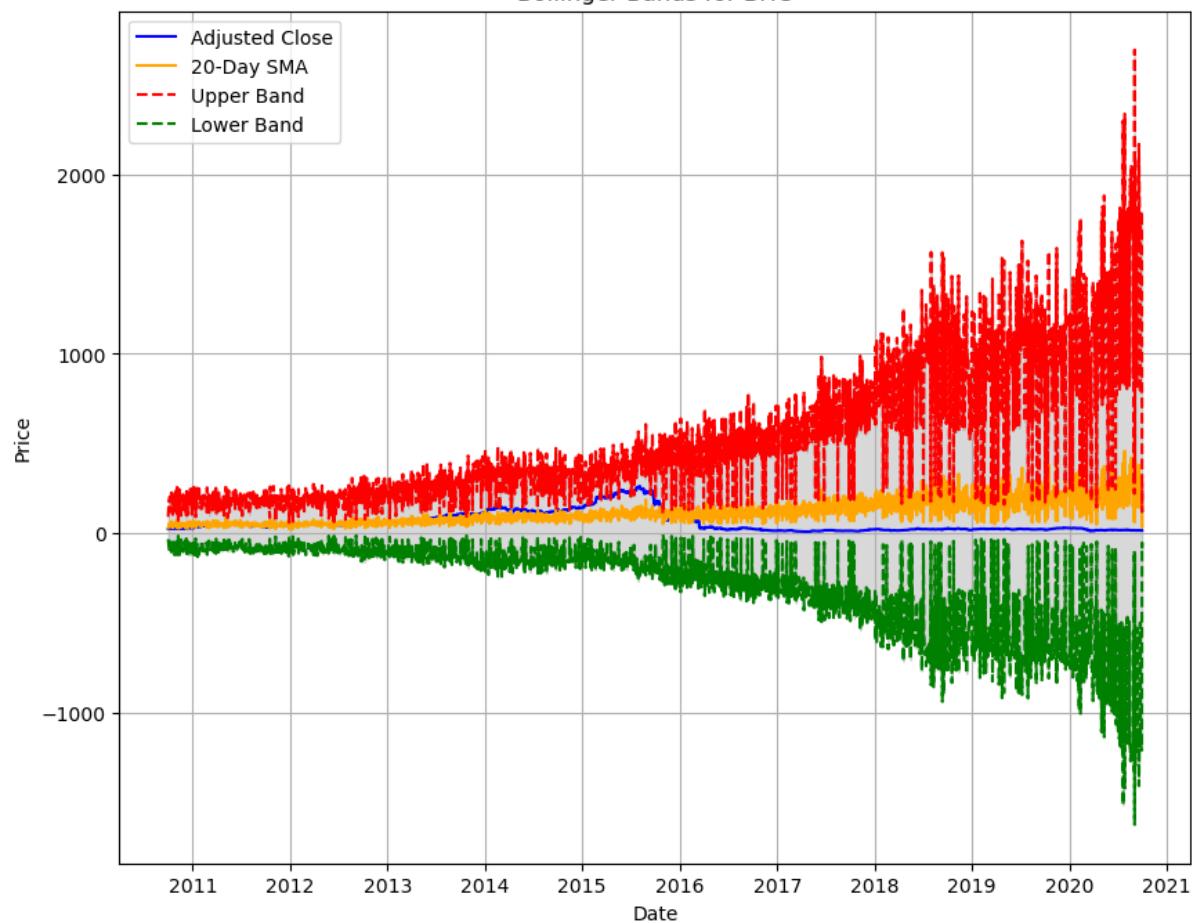




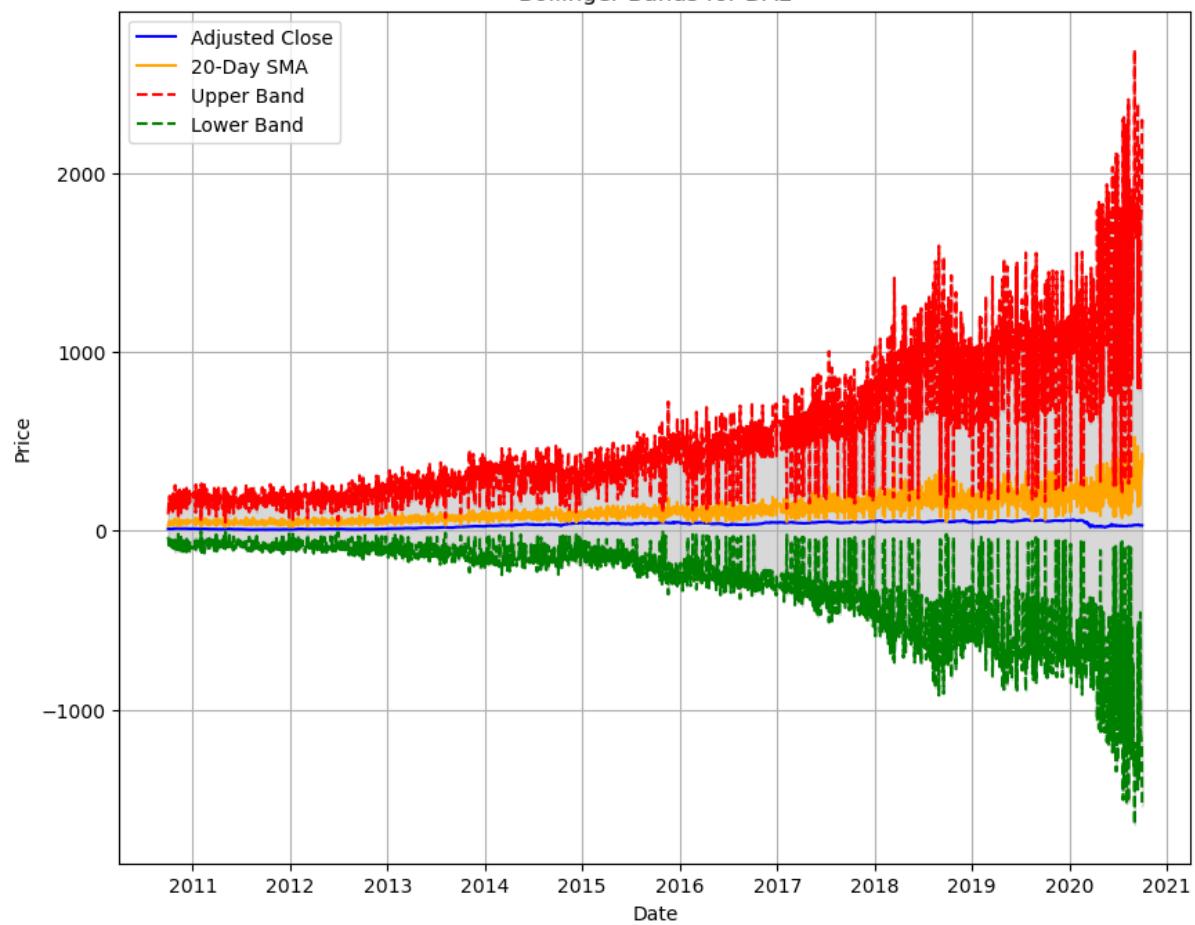


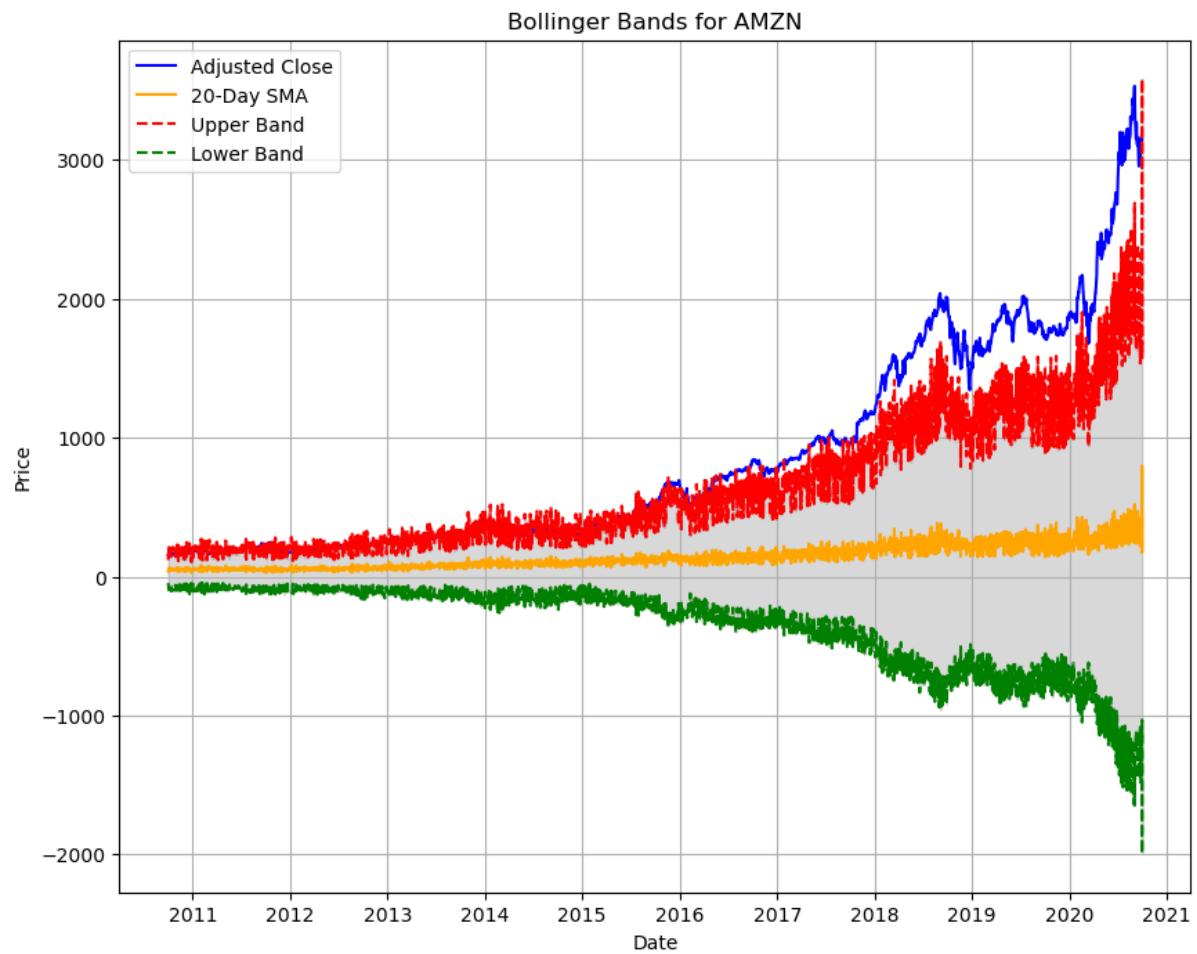


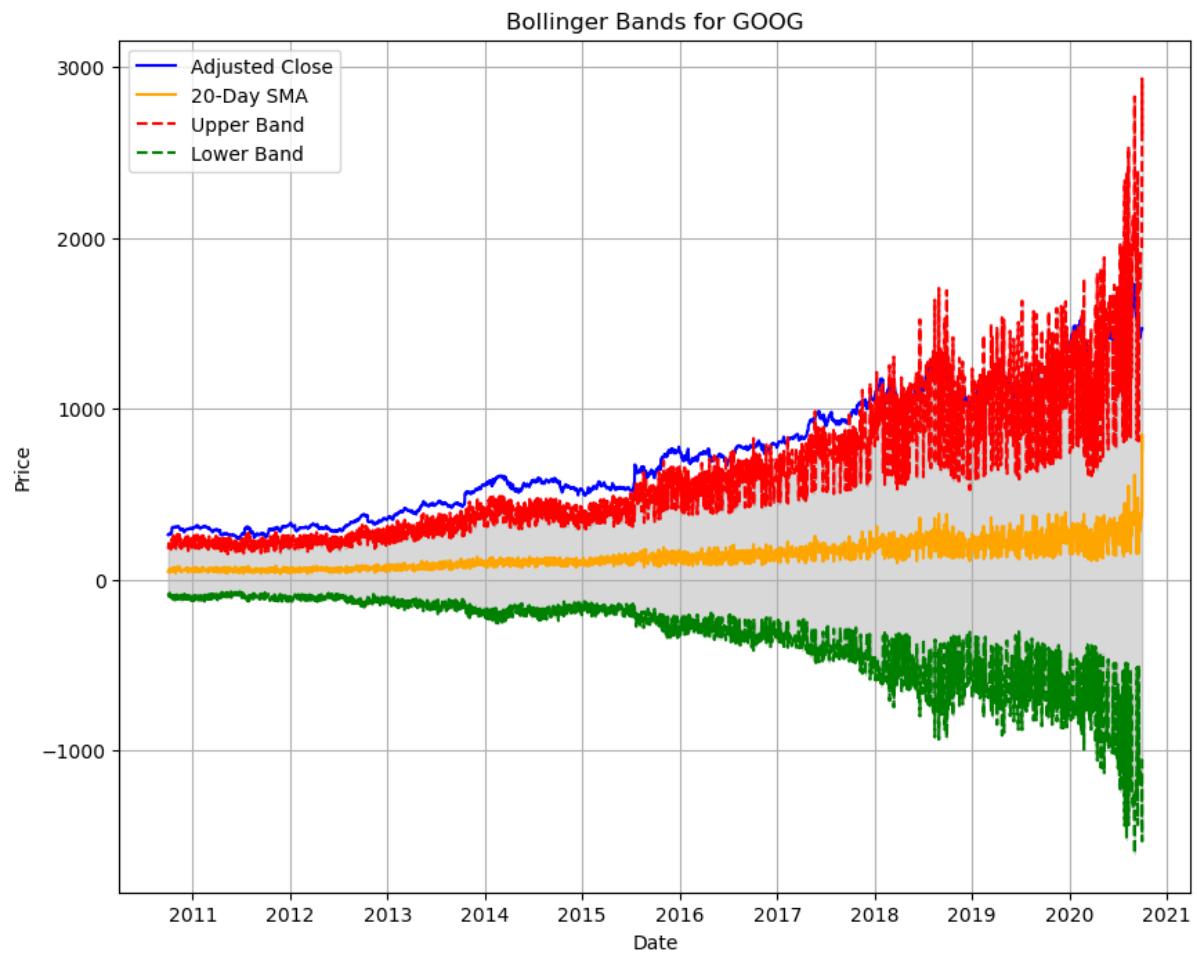
Bollinger Bands for BHC



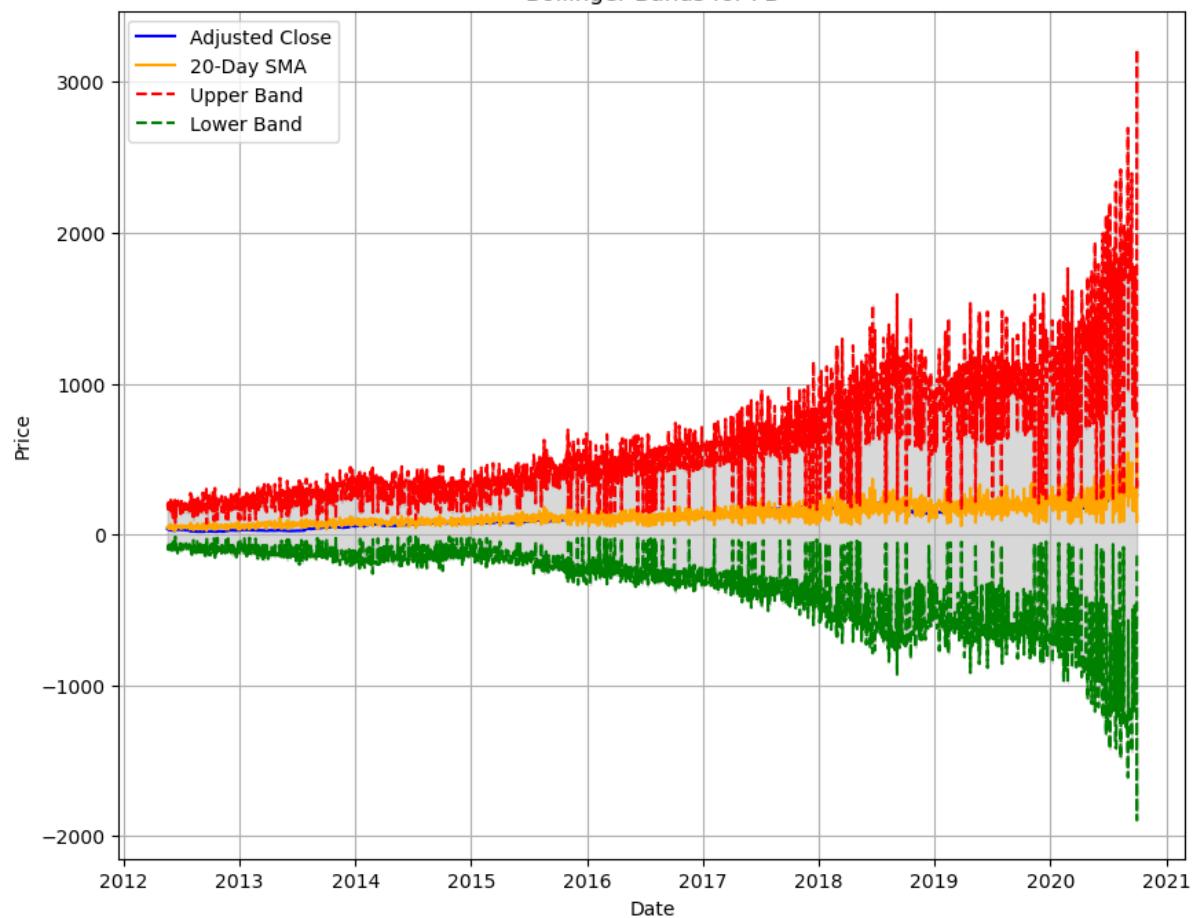
Bollinger Bands for DAL







Bollinger Bands for FB



Sharpe Ratio:

The Sharpe Ratio measures risk-adjusted returns and helps you understand whether a stock's returns are due to smart investment decisions or excess risk.

- Higher Sharpe Ratio: Indicates better risk-adjusted returns (higher returns relative to the risk taken).
- Lower Sharpe Ratio: Indicates poor risk-adjusted returns (either low returns or high risk).

	Company	Sharpe_Ratio
21	AMZN	0.066144
6	AAPL	0.062438
18	MSFT	0.061998
7	UNH	0.059736
23	FB	0.046969
22	GOOG	0.045206
9	RHHBY	0.041839
8	JNJ	0.041140
11	MRK	0.035658
12	PFE	0.035473
10	ALK	0.028794
15	LUV	0.028408
13	ALGT	0.028222
20	DAL	0.026088
16	HA	0.023178
5	MS	0.018011
17	AAL	0.017731
19	BHC	0.011176
3	GS	0.011058
1	WFC	0.007735
14	IBM	0.007732
0	BCS	-0.003107
4	CS	-0.013091
2	DB	-0.016978

Beta Calculation:

Calculation of the beta of each stock is done to measure its volatility relative to the S&P 500 (market).

- Beta > 1: The stock is more volatile than the S&P 500. If the market moves by 1%, the stock is expected to move by more than 1%.
- Beta < 1: The stock is less volatile than the market. If the market moves by 1%, the stock is expected to move by less than 1%.
- Beta = 1: The stock's volatility matches the market's volatility.

	Company	Beta
21	AMZN	1.968361
5	MS	1.671491
2	DB	1.605454
0	BCS	1.560065
17	AAL	1.542318
19	BHC	1.537834
4	CS	1.471626
1	WFC	1.221941
20	DAL	1.221452
10	ALK	1.210574
23	FB	1.194338
15	LUV	1.180306
3	GS	1.166508
13	ALGT	1.090906
7	UNH	1.064216
6	AAPL	1.050996
18	MSFT	1.049372
16	HA	0.949300
22	GOOG	0.930590
14	IBM	0.875719
8	JNJ	0.734503
12	PFE	0.715005
9	RHHBY	0.628903
11	MRK	0.542881

Portfolio Backtesting

To use historical data to back-test the portfolio strategy. We would compare the historical performance of both aggressive and conservative portfolios against the S&P 500 index to validate its potential.

