

# PORTFOLIO ANALYSIS REPORT

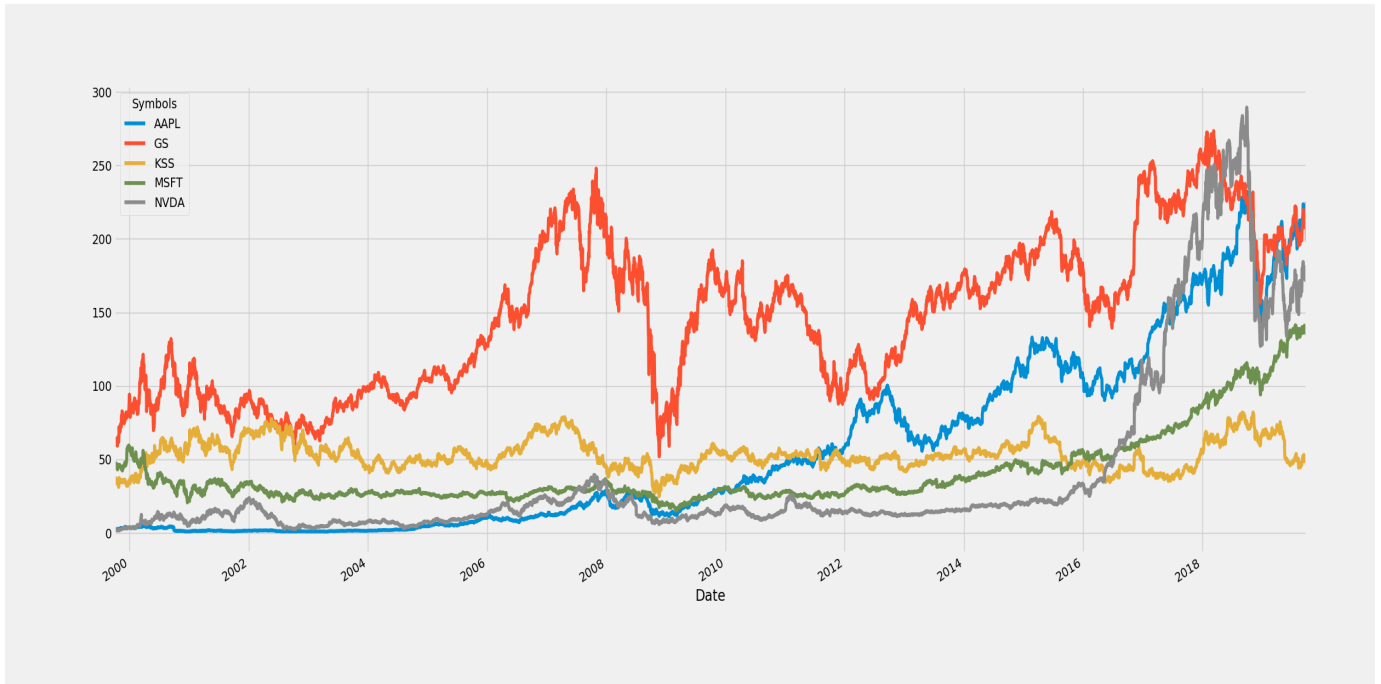
## Introduction

The portfolio optimizer accepted your inputs and analyzed historical data for the past 20 years. Audience for this report are financial analyst and investors. Based on our analysis below is your report around portfolio overview and portfolio optimizations.

## Portfolio Overview

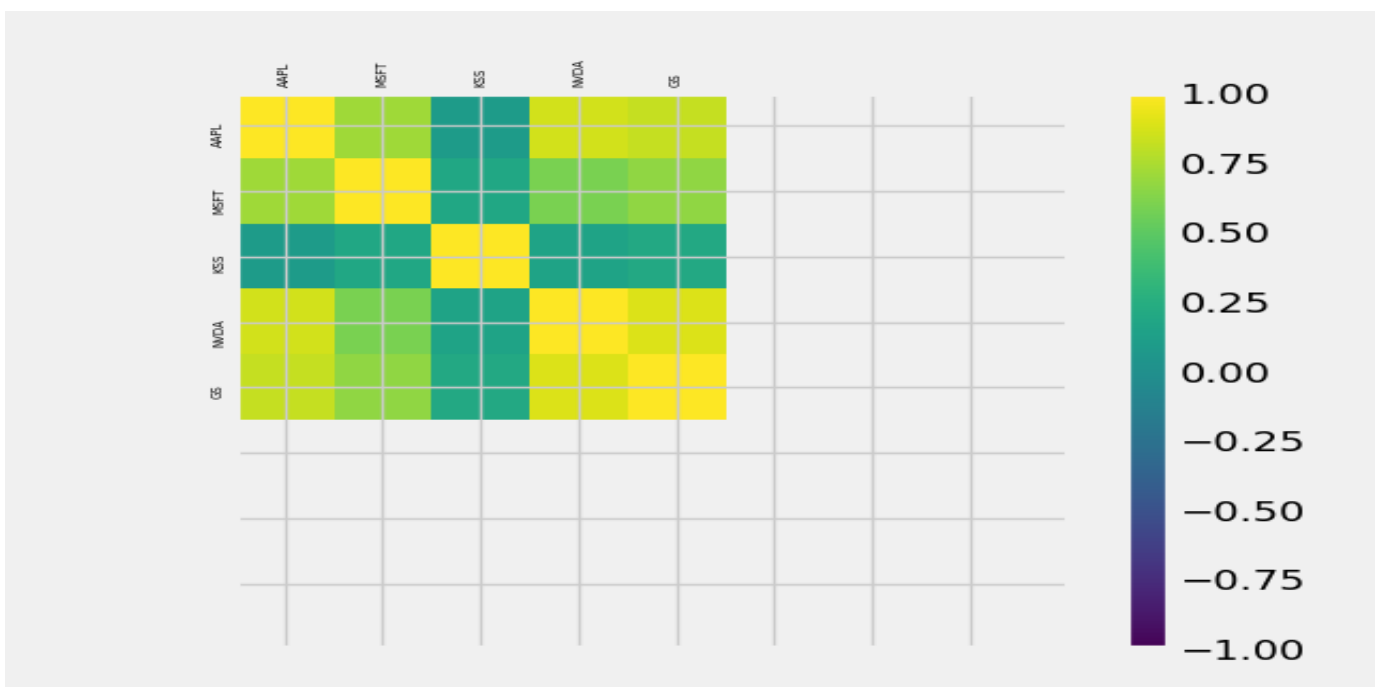
### Individual Stock Trends

Fig 1.1 shows the individual selected stock trends for the past 20 years



### Correlation Matrix

Fig 1.2 shows the correlation of all stocks within the selected portfolio

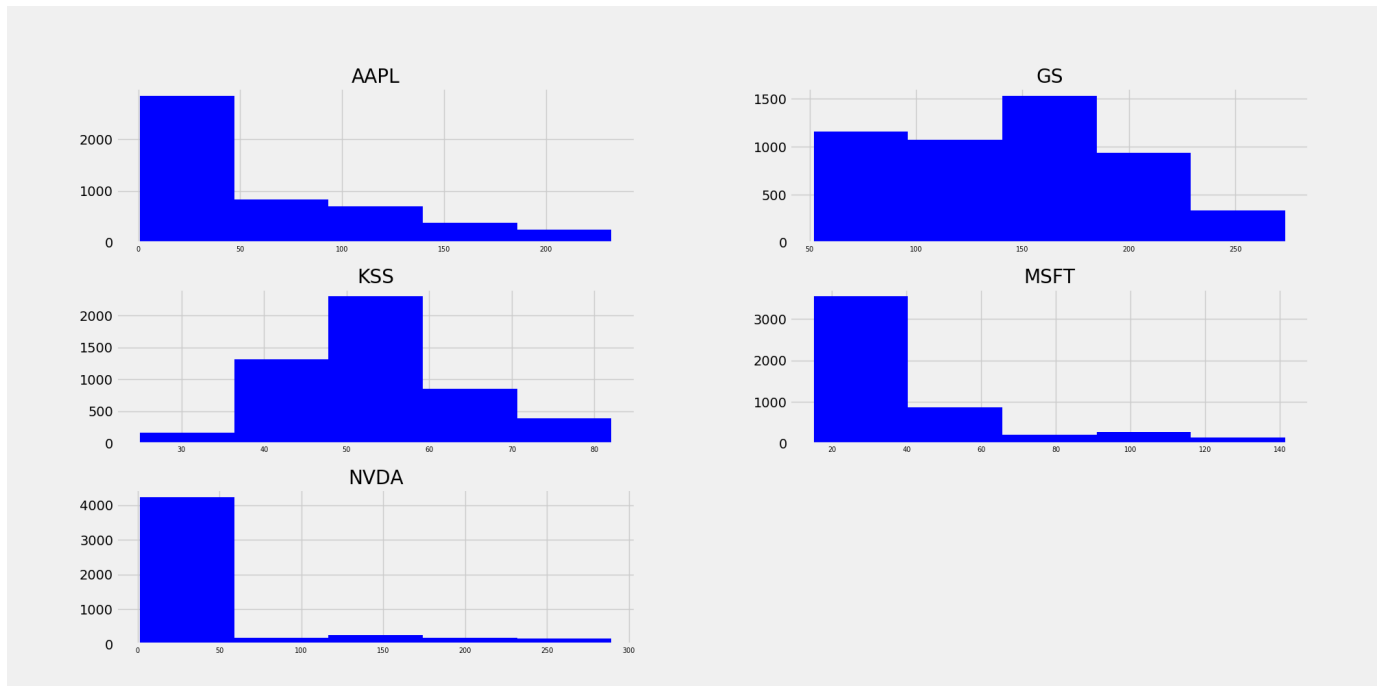


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## Histogram Matrix

Fig 1.3 shows the distribution of all stocks within the selcted portfolio

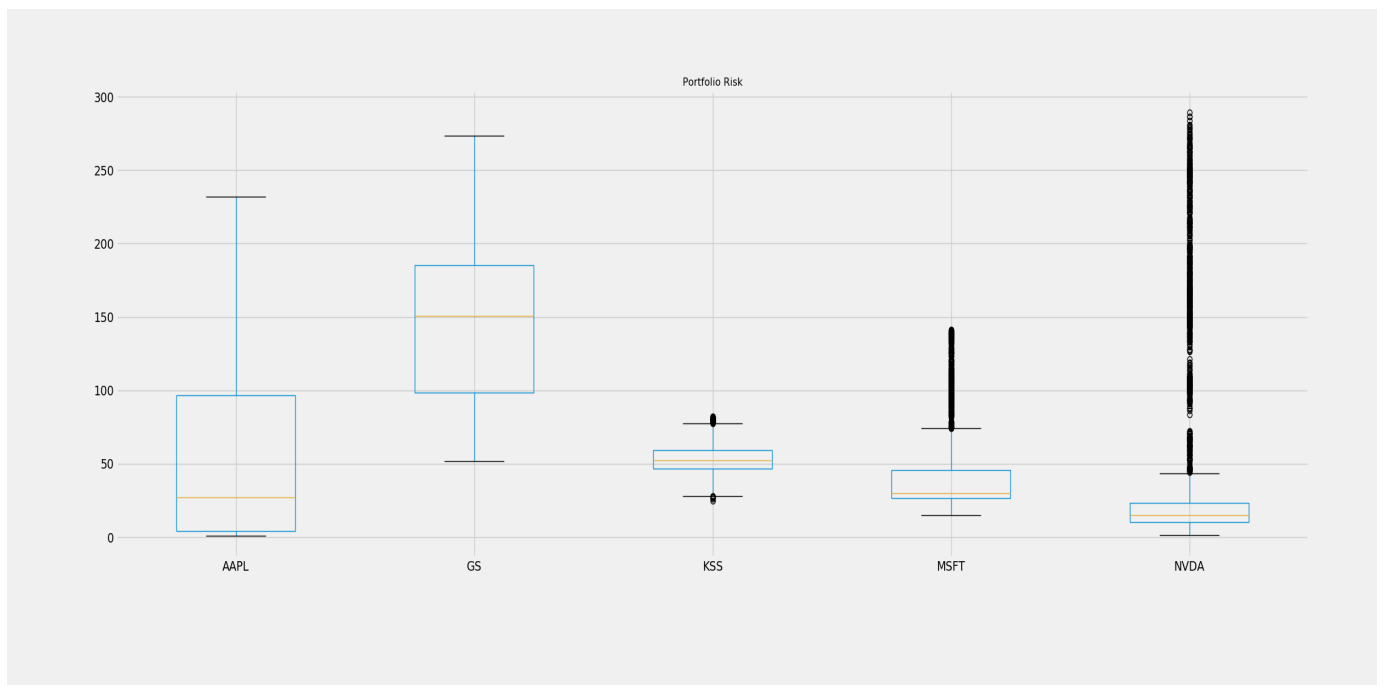


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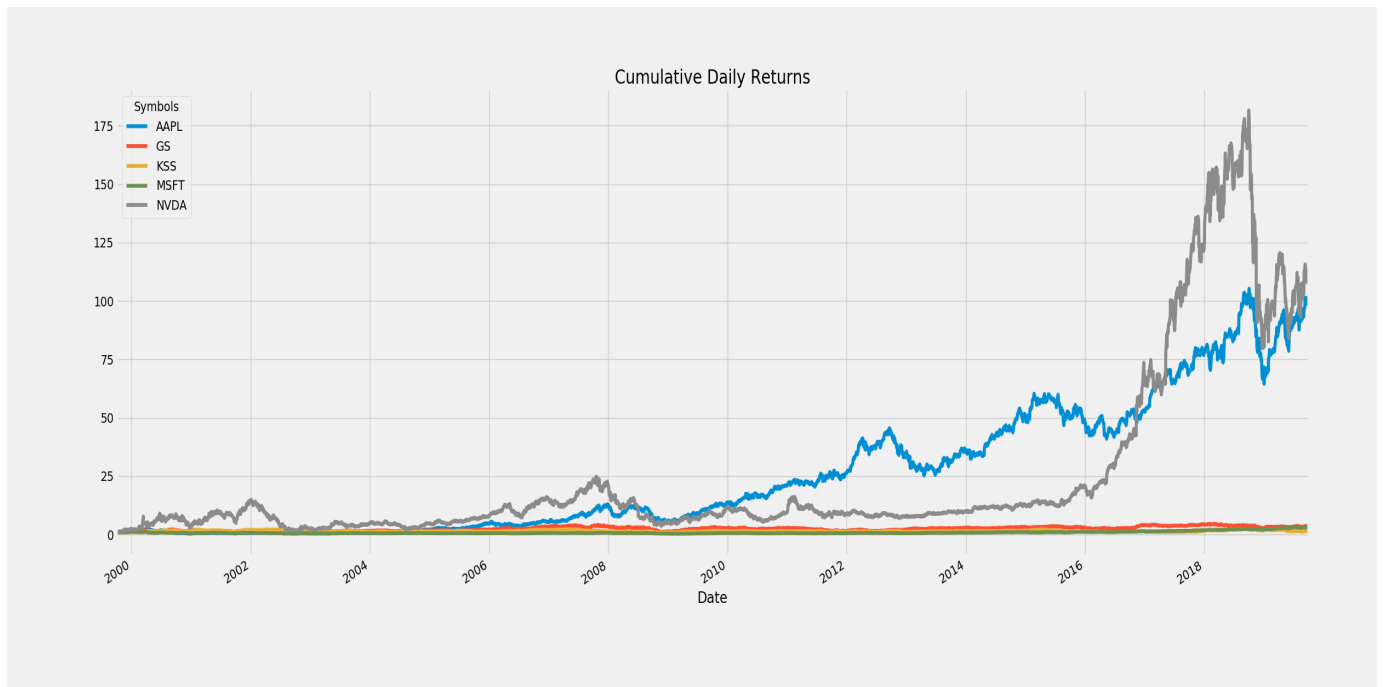
## Box Plot to evaluate Risk

Fig 1.4 shows box plots across stocks to help understand risk



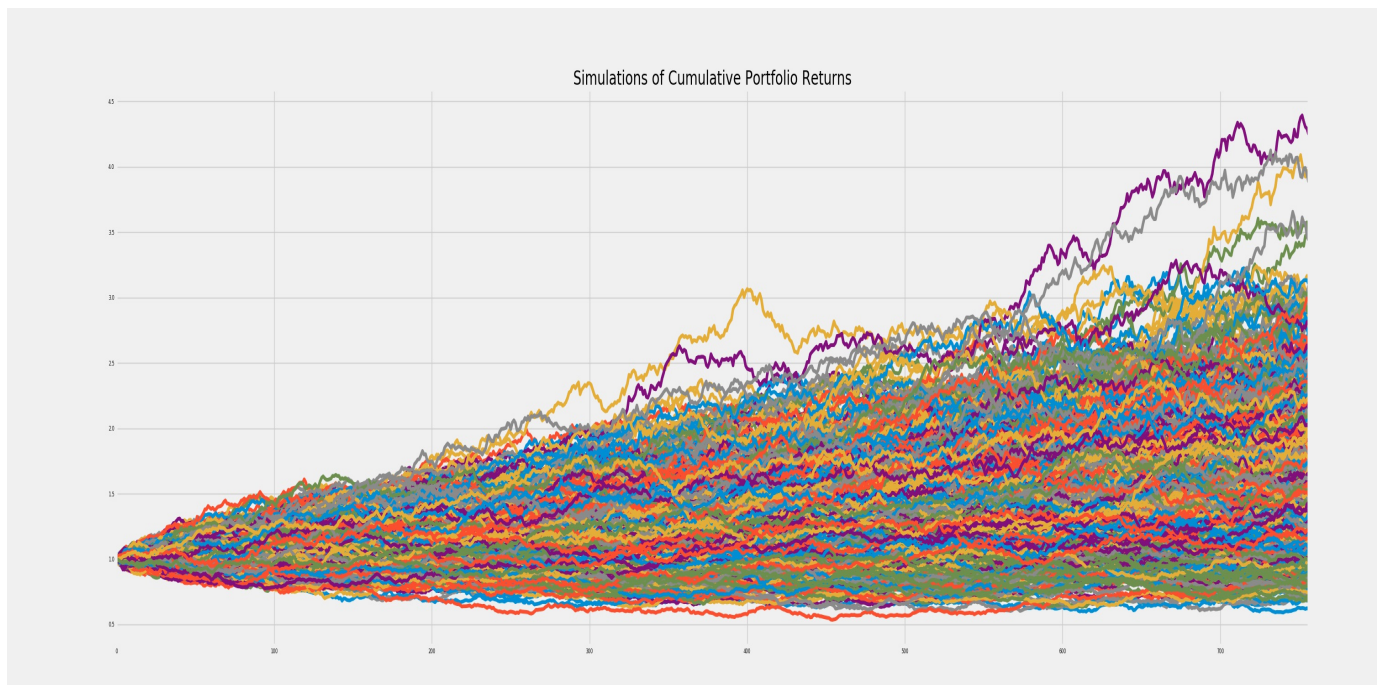
## Cumulative Daily Returns

Fig 1.5 shows the Cumulative daily returns of stocks within the selected portfolio



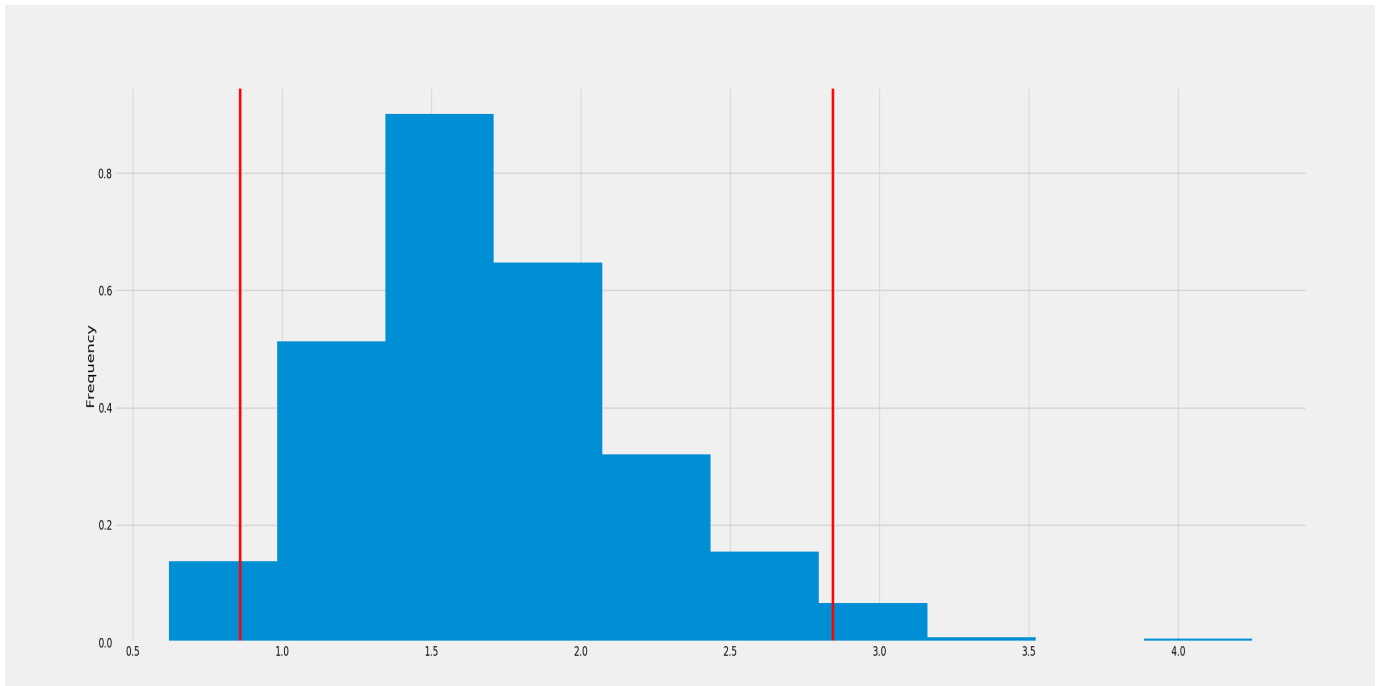
## Montecarlo Simulation

Fig 1.6 shows the simulation of Cumulative Portfolio Returns



### Confidence Interval

Fig 1.7 shows the probability distribution and 95% confidence interval of simulated ending cumulative portfolio returns



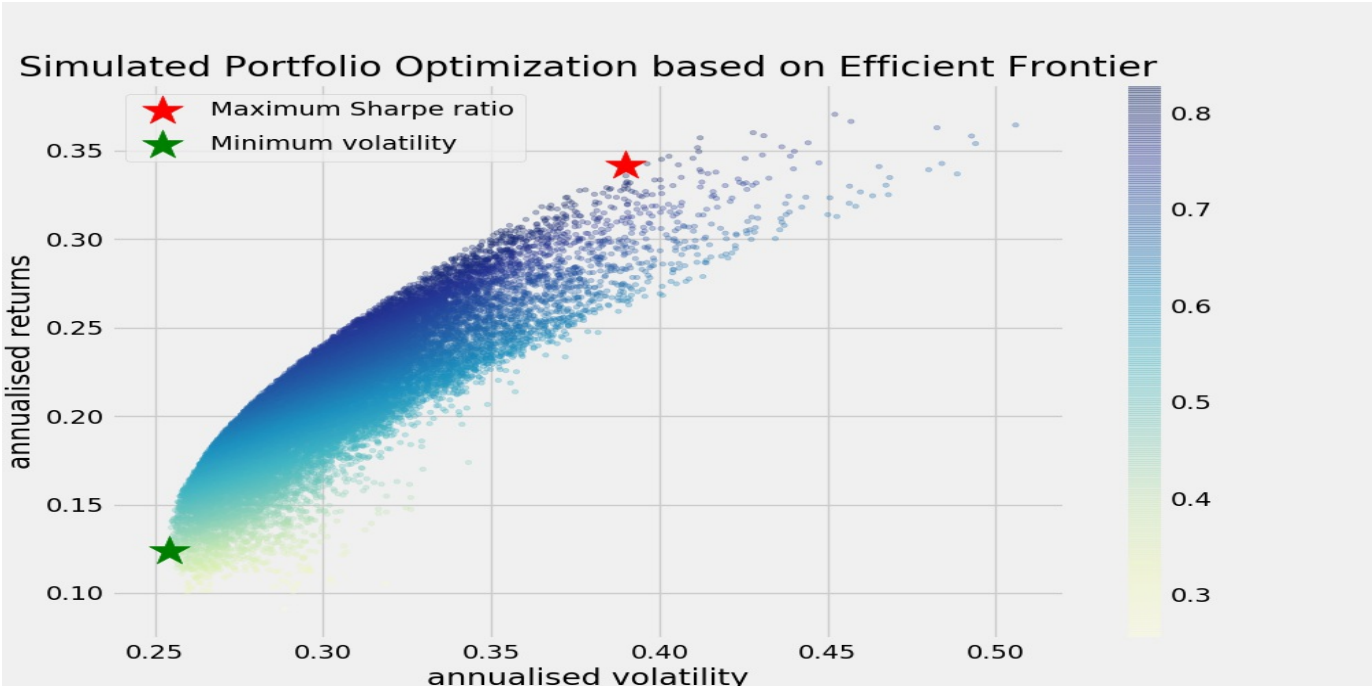
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Based on the simulation, above charts, investment amount of 117647 and for an investment horizon of 10 the expected range of projected cumulative returns for the portfolio is between 101010.85629494999 and 334534.50771843066

Portfolio Optimization

Efficient Frontier

Fig 3.1 shows the portfolios with a Max Sharpe Ratio and Minimum Volatility as compared to all the other simulated portfolios



Maximum Sharpe Ratio Portfolio Allocation

Annualized Return: 0.3535473537022457  
Annalized Volatility: 0.4000208180488566

Symbols	AAPL	GS	KSS	MSFT	NVDA
allocation	65.68	0.0	0.0	0.0	34.32

Minimum Volatility Portfolio Allocation

Annualized Return: 0.12943111303413  
Annalized Volatility: 0.25400085450000387

Symbols	AAPL	GS	KSS	MSFT	NVDA
allocation	14.02	14.1	28.55	43.33	0.0

Individual Stock Returns and Volatility

	Annualised Return	Annualised Volatility
Symbols		
AAPL	0.32	0.41
GS	0.13	0.37
KSS	0.08	0.36
MSFT	0.10	0.30
NVDA	0.42	0.61

Based on your risk profile we suggest the Portfolio with the Maximum Sharpe Ratio for you which is again listed below:

**Maximum Sharpe Ratio Portfolio Allocation**

Annualized Return: 0.3535473537022457  
Annalized Volatility: 0.4000208180488566

Symbols	AAPL	GS	KSS	MSFT	NVDA
allocation	65.68	0.0	0.0	0.0	34.32

Thanks for using our portfolio optimizer and have a great day!

**Disclaimer:**

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