

CAPSTONE PROJECT

ANALYZE FINANCIAL DATA WITH PYTHON

2024

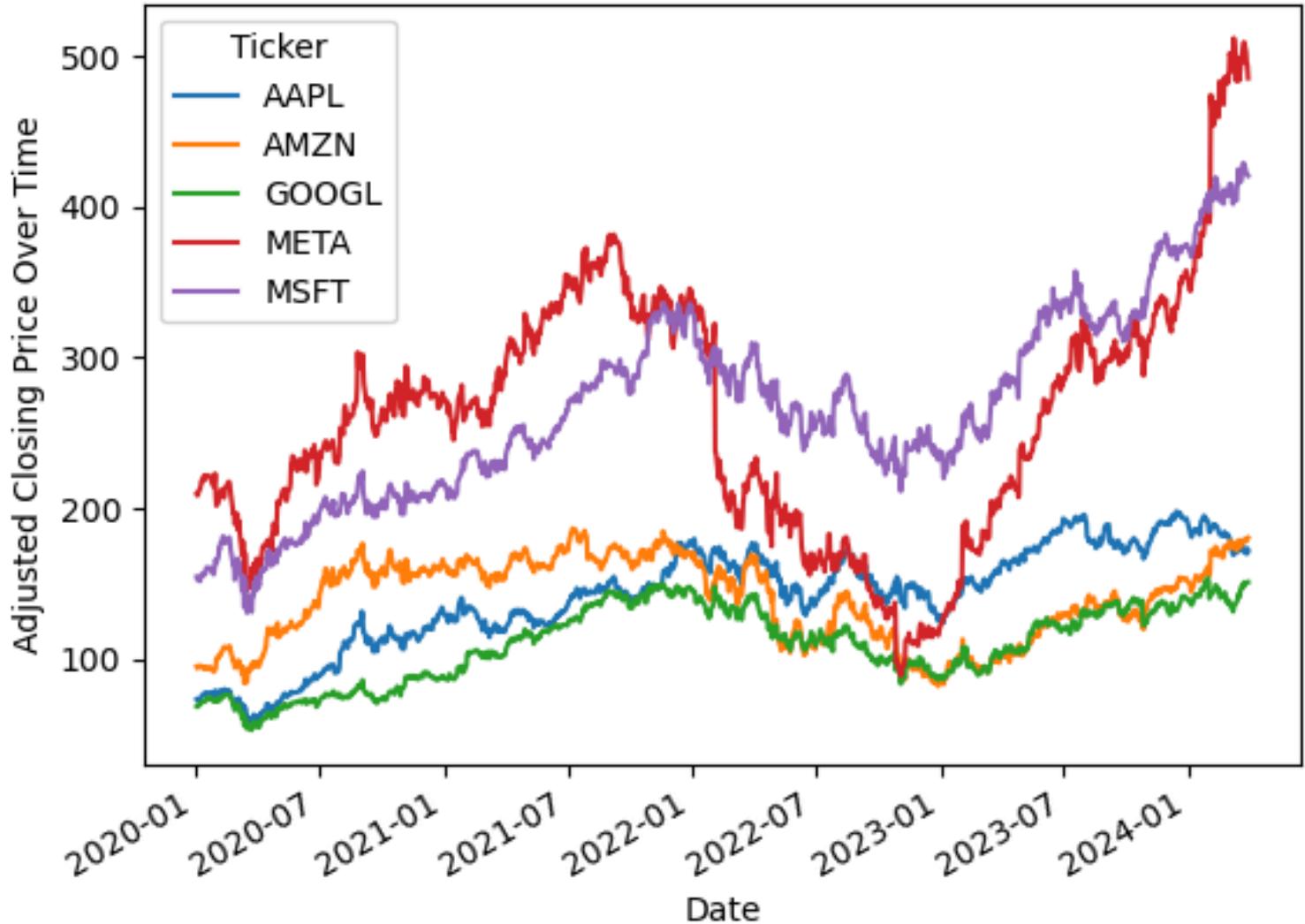


Prepared By
Dilyara
Zhusupova

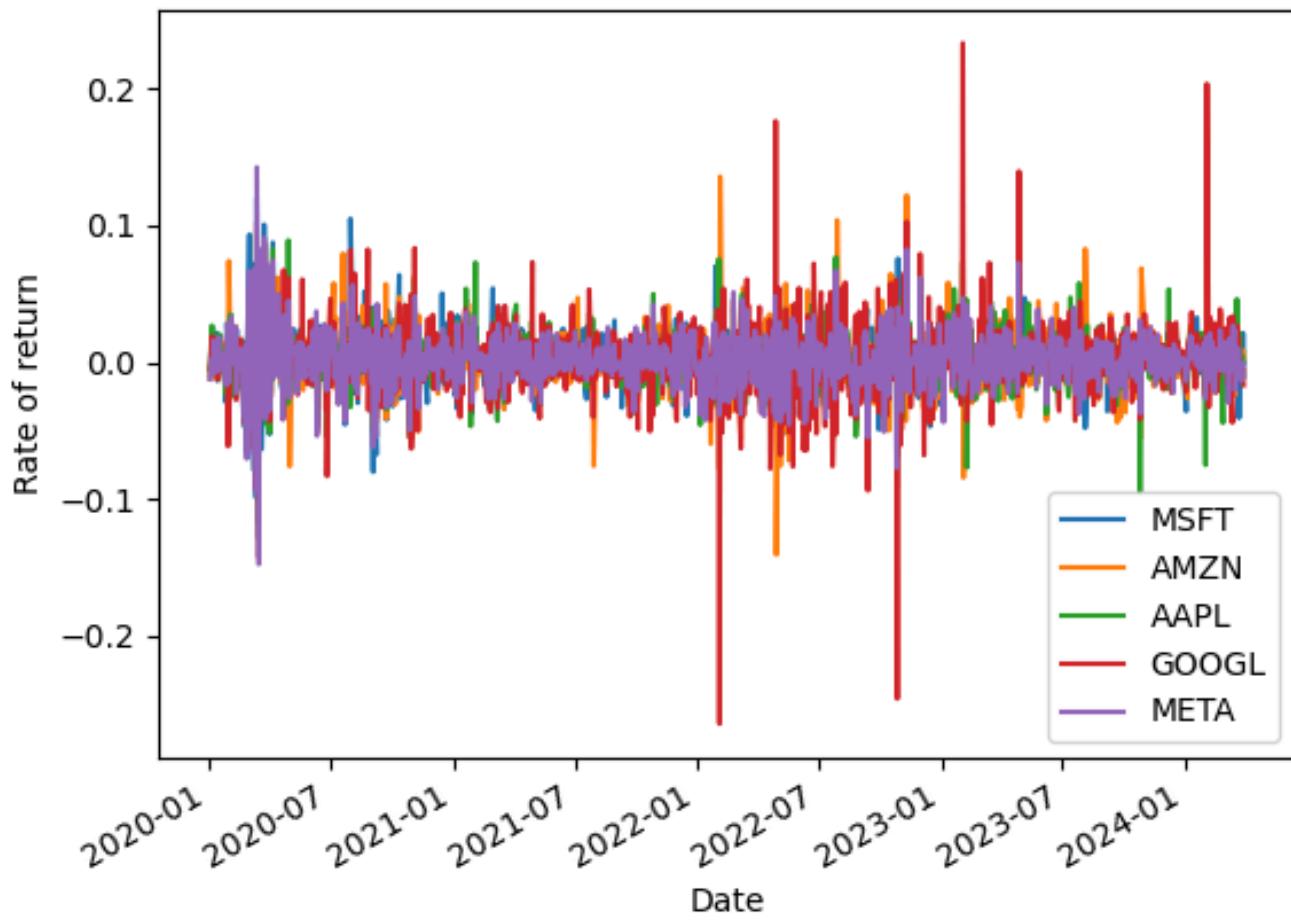
In this project I analyzed and visualized the top 5 highest valued technology stocks, as from the 2020 year to first quarter of 2024:

Microsoft (MSFT)
Amazon (AMZN)
Apple (AAPL)
Alphabet (GOOGL)
Meta (META)

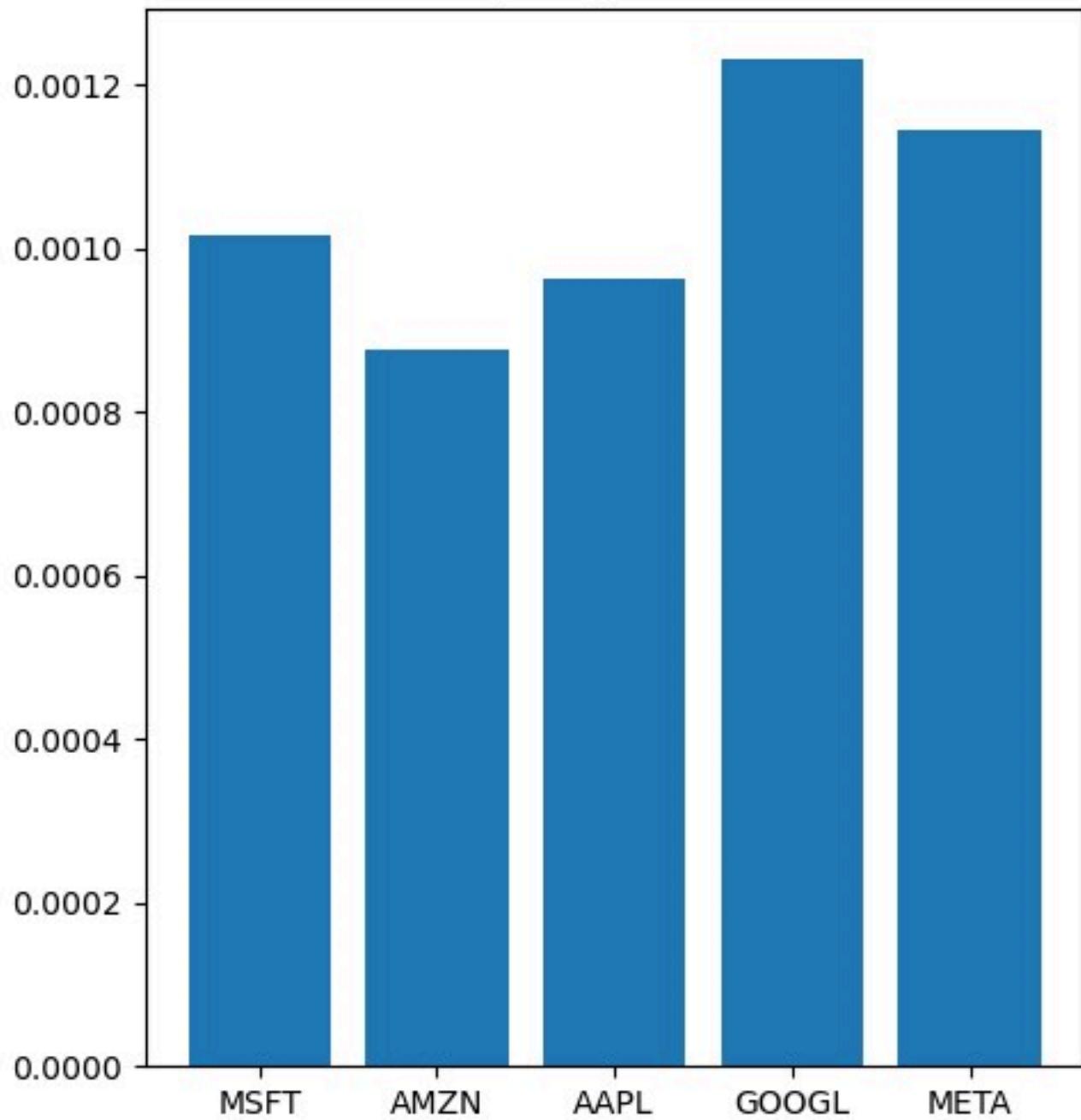
Tech Stocks Adjusted Price



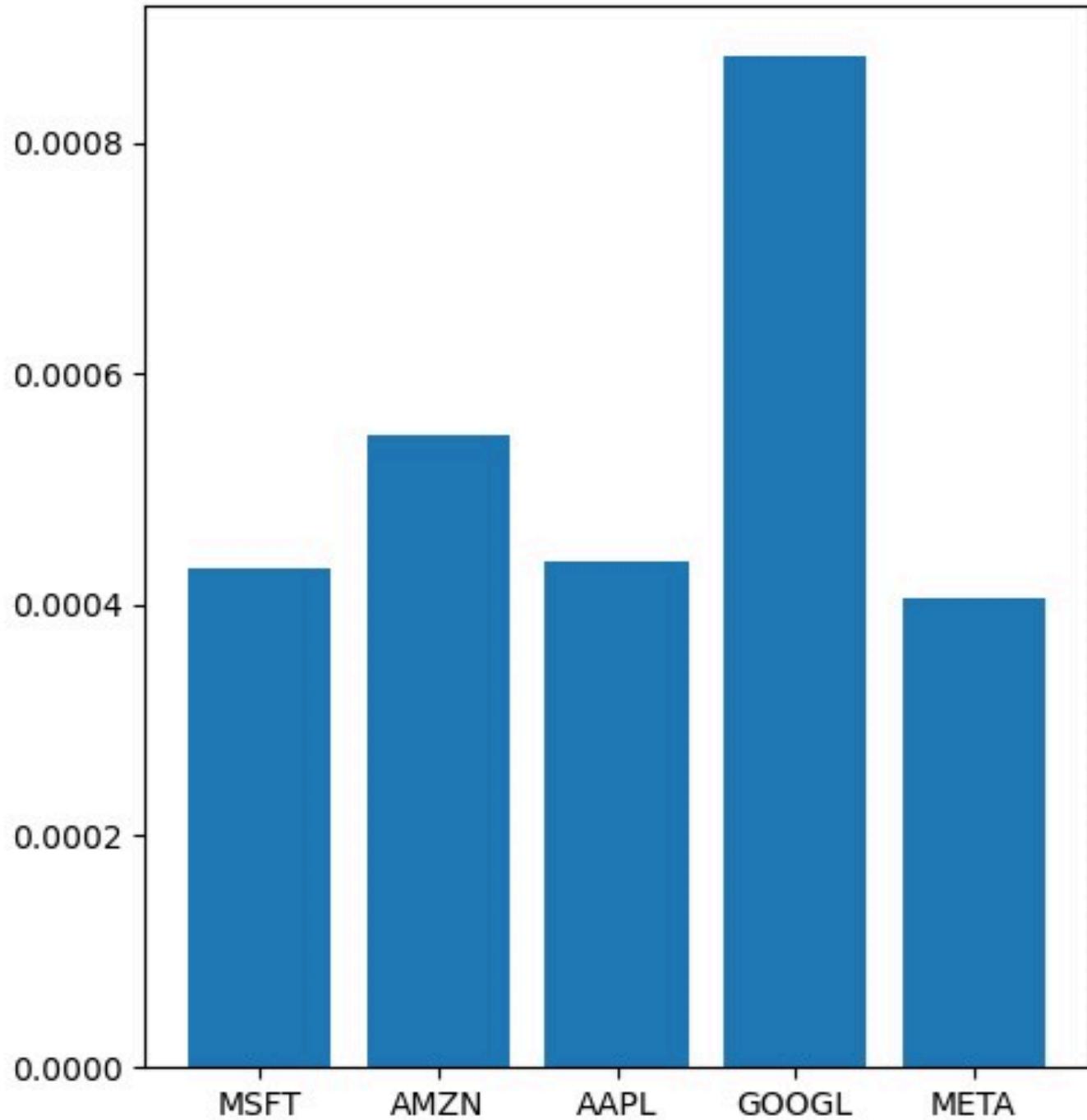
Daily Simple rate of return Over time



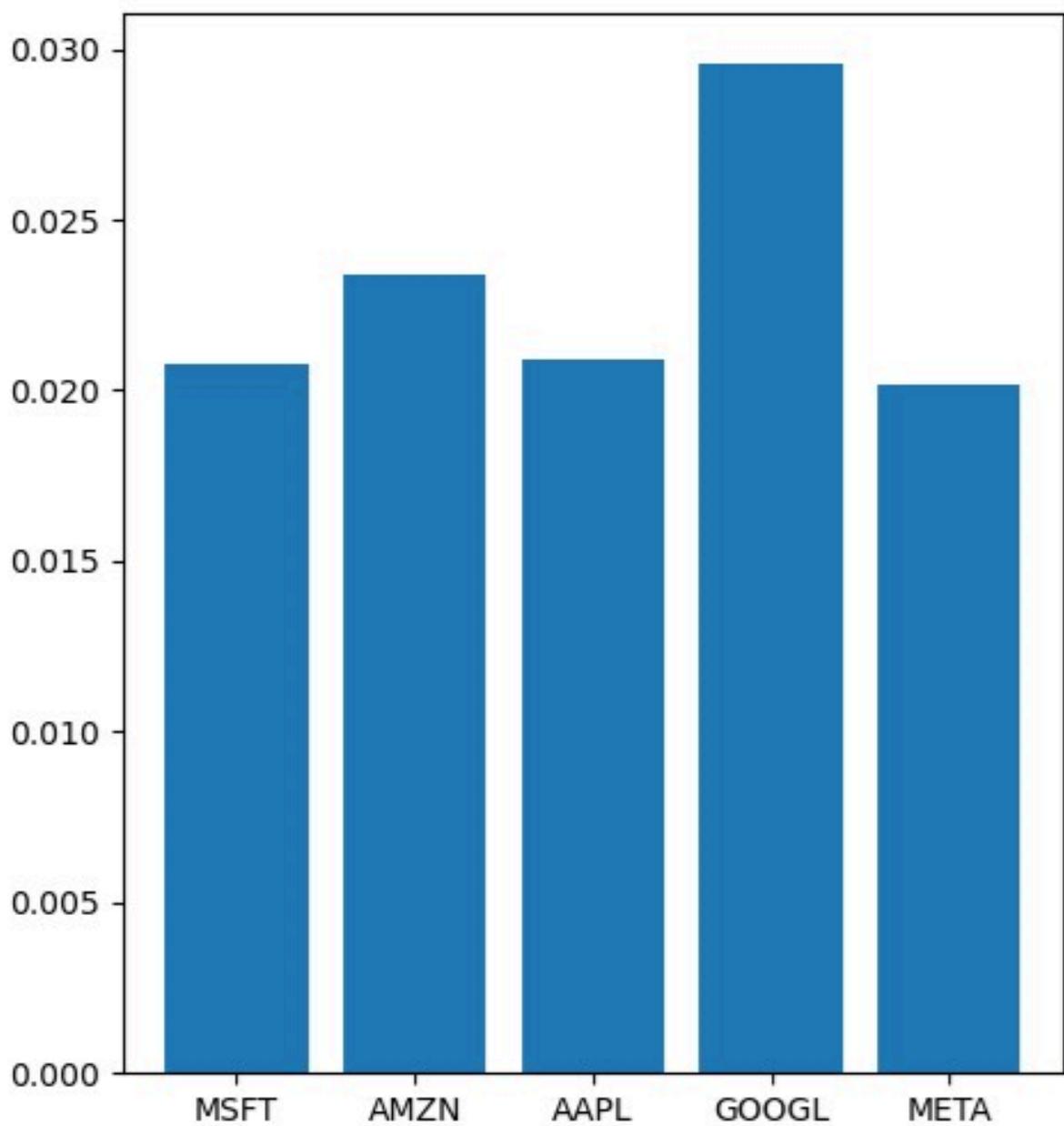
Mean daily simple rate of return



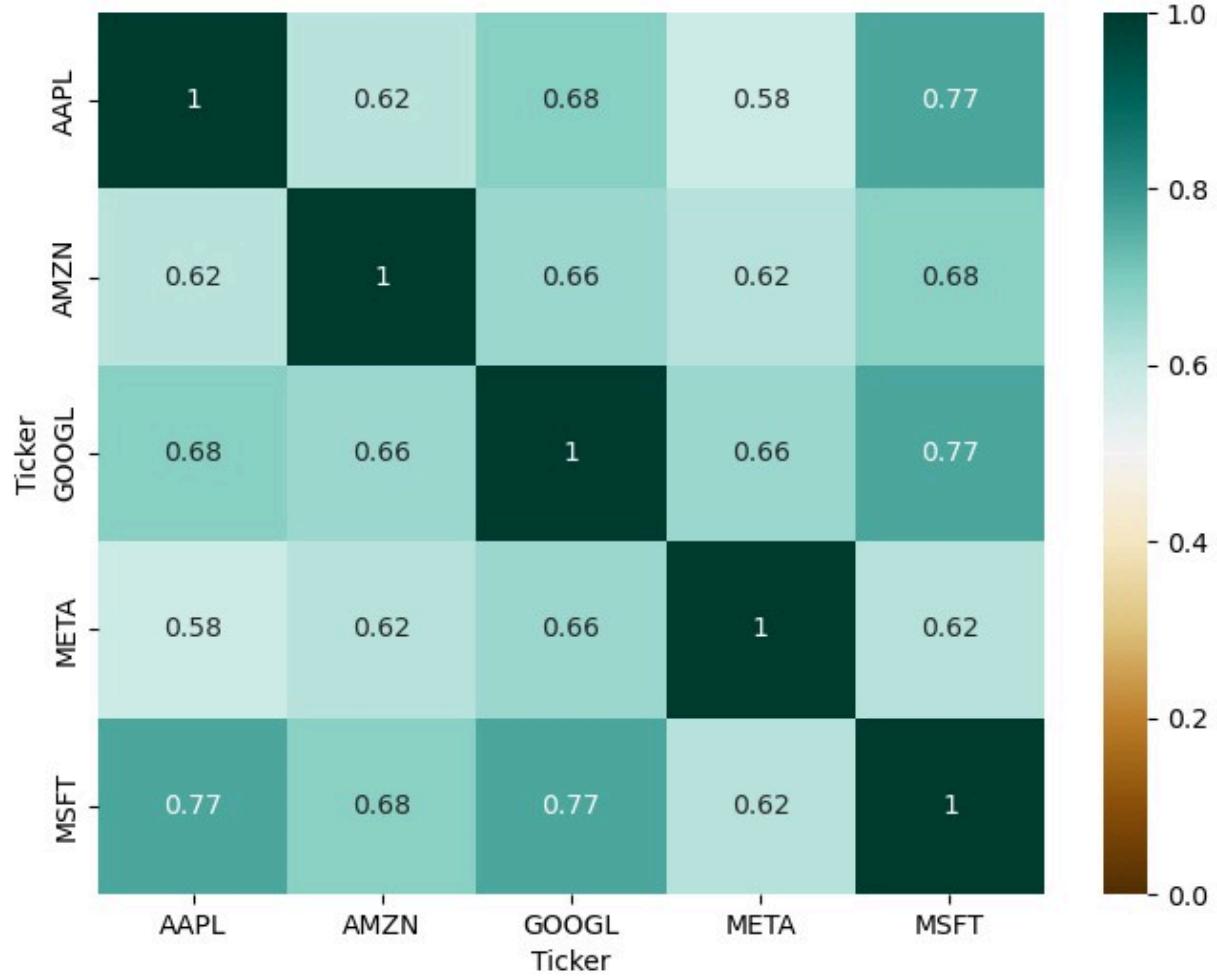
Variance of stocks



Standard deviation of stocks



Correlation between stocks

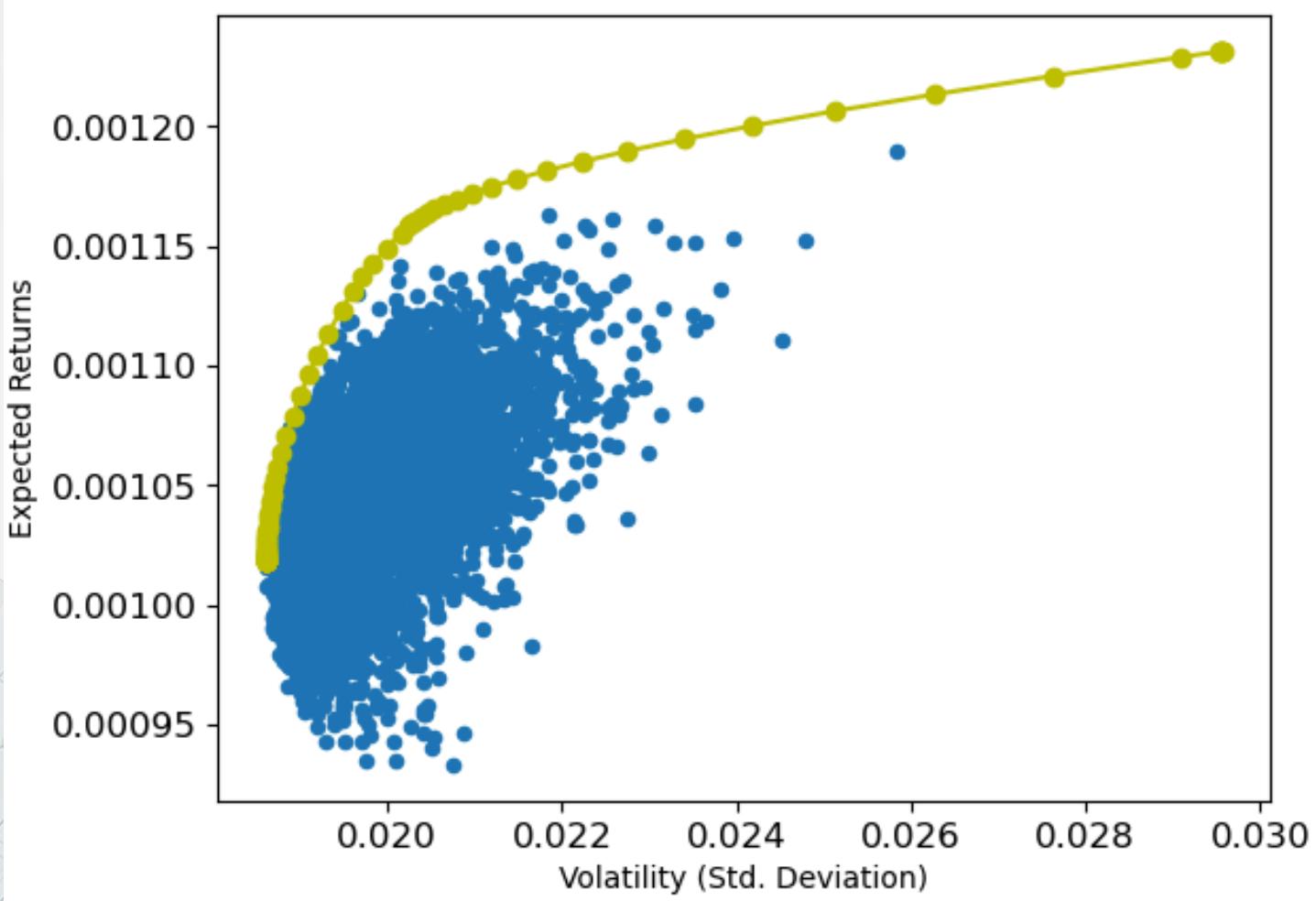


Ticker	AAPL	AMZN	GOOGL	META	MSFT
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AAPL	1.000000	0.615874	0.684848	0.584581	0.768772
AMZN	0.615874	1.000000	0.657025	0.617751	0.680717
GOOGL	0.684848	0.657025	1.000000	0.658678	0.765780
META	0.584581	0.617751	0.658678	1.000000	0.620318
MSFT	0.768772	0.680717	0.765780	0.620318	1.000000

Efficient Frontier



Recommendation

Throughout the period, mean simple rate of return were highest for Google, slightly lower for Meta and lowest for Amazon. Google also showed the highest variance, which indicates that the shares of this company are the most volatile. They are suitable for high-risk investors. META showed the lowest variance, suggesting that the stock's returns are more predictable.

However, the final choice is up to the investor!