

Stock Analysis and Portfolio Management

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INTRODUCTION

- **Objective:** This presentation aims to develop a tailored investment portfolio for Ms. Alexandra Kolishnyick, focusing on stability, capital preservation, and long-term growth to fund her future NGO.
- **Approach:** We will use data analysis, technical analysis, and financial modeling to create a conservative investment strategy aligned with the client's goals.

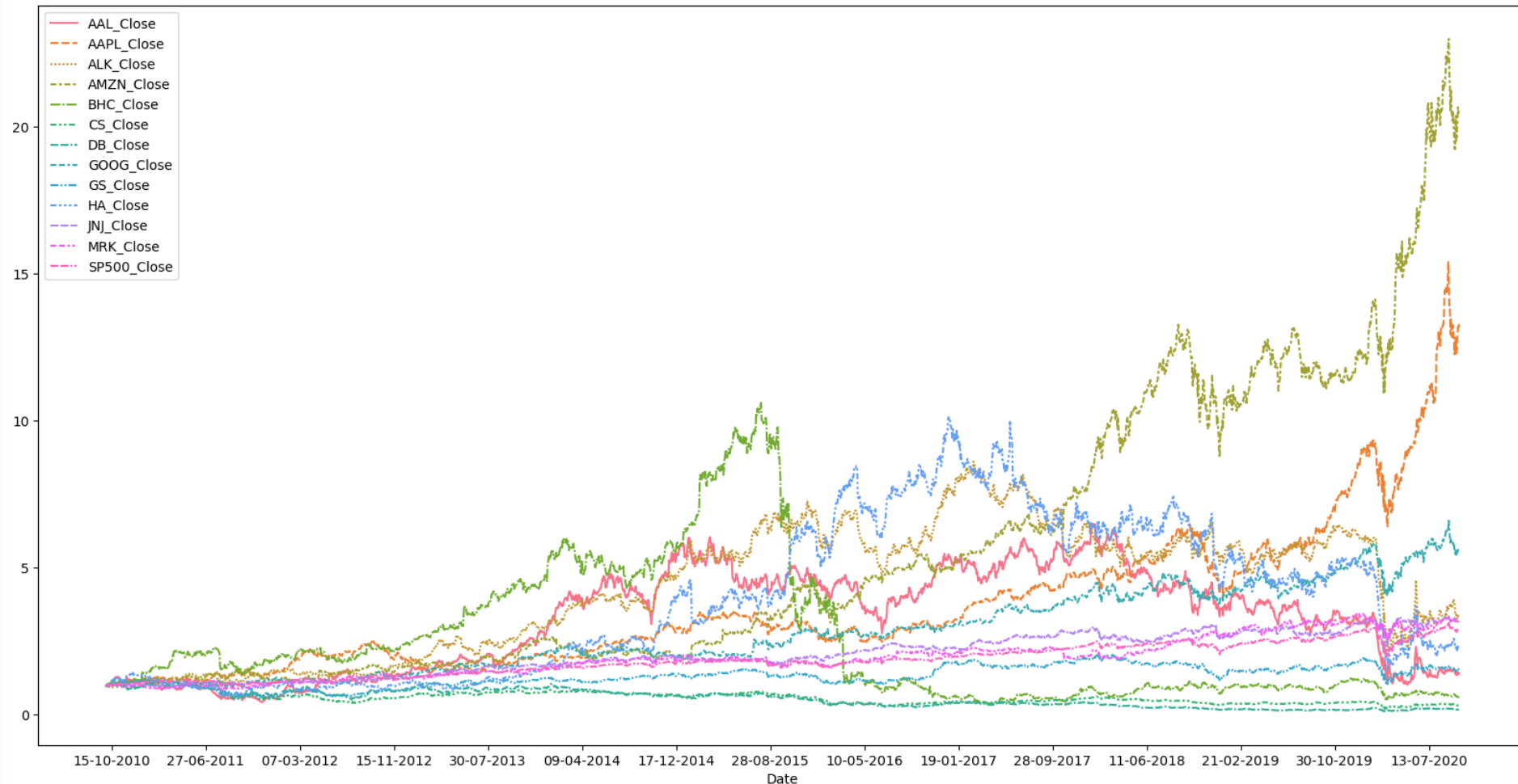
INVESTOR PROFILE

- **Conservative Nature:** Ms. Kolishnyick is a risk-averse investor, prioritizing low-risk investments that ensure the preservation of capital.
- **Financial Goals:** Her primary goal is to accumulate enough funds to establish an NGO in sub-Saharan Africa after completing her education.
- **Investment Horizon:** The investment strategy is based on a 3-5 year horizon, aligning with her timeline for establishing the NGO.
- **Capital Source:** She relies on her savings, which require careful management to meet her future financial objectives without additional support.

METHODOLOGY

- Business Case – Structured Problem Solving
- Preliminary Steps - Data loading
- Data Exploration
- Stock Analysis and Portfolio Management – CAPM
- Stock Price Prediction – Validation
- Reporting

Overall Comparison Between S&P500 and Stocks

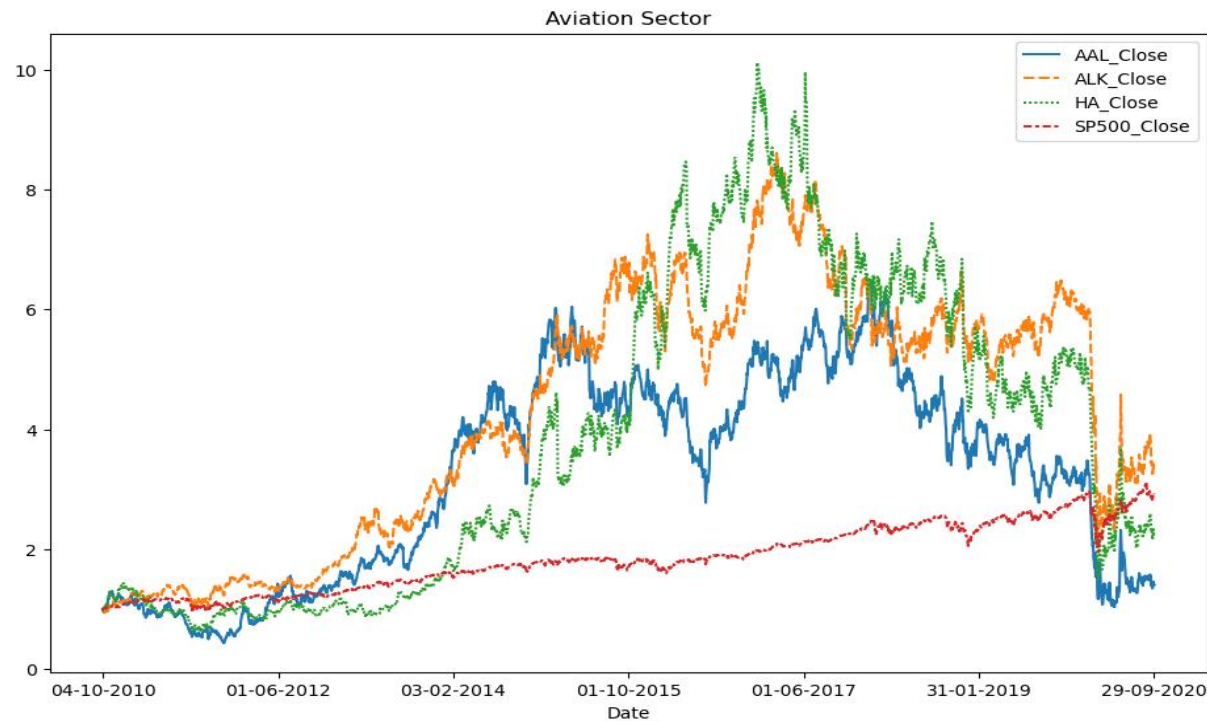


"Over the past 10 years, some stocks have outperformed the S&P 500 index, while others have lagged behind its performance."

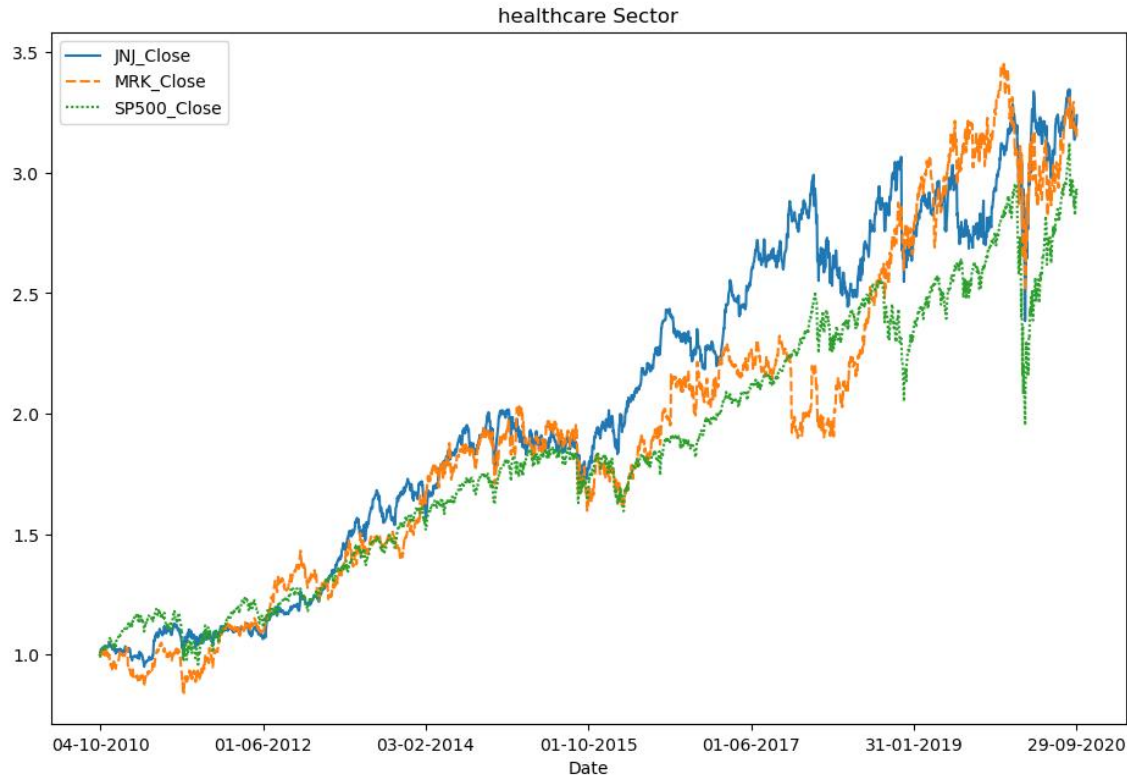
Sector-wise Analysis of Stocks with S&P500

Aviation Sector

1. The aviation sector has historically delivered strong returns.
2. However, it has experienced a notable decline in recent years.
3. Due to the downward trend, we will exclude stocks from this sector in our selection.
4. Prioritizing sectors with more stable or positive growth trajectories is a strategic focus.



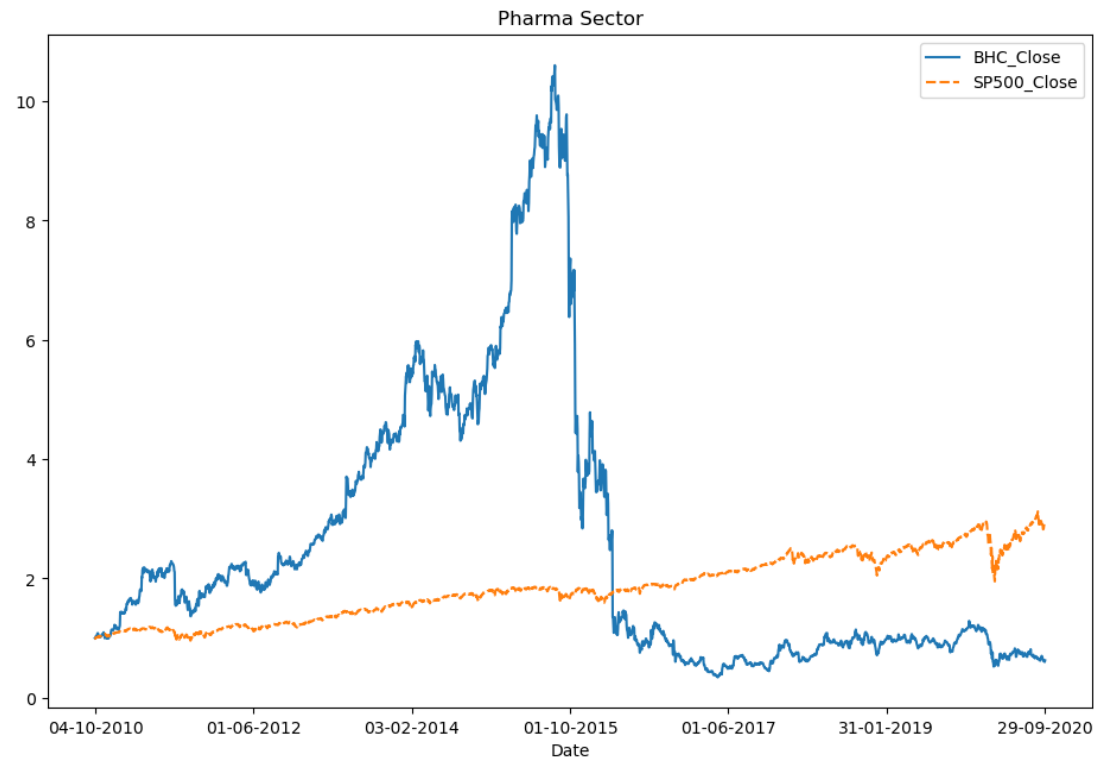
Healthcare Sector



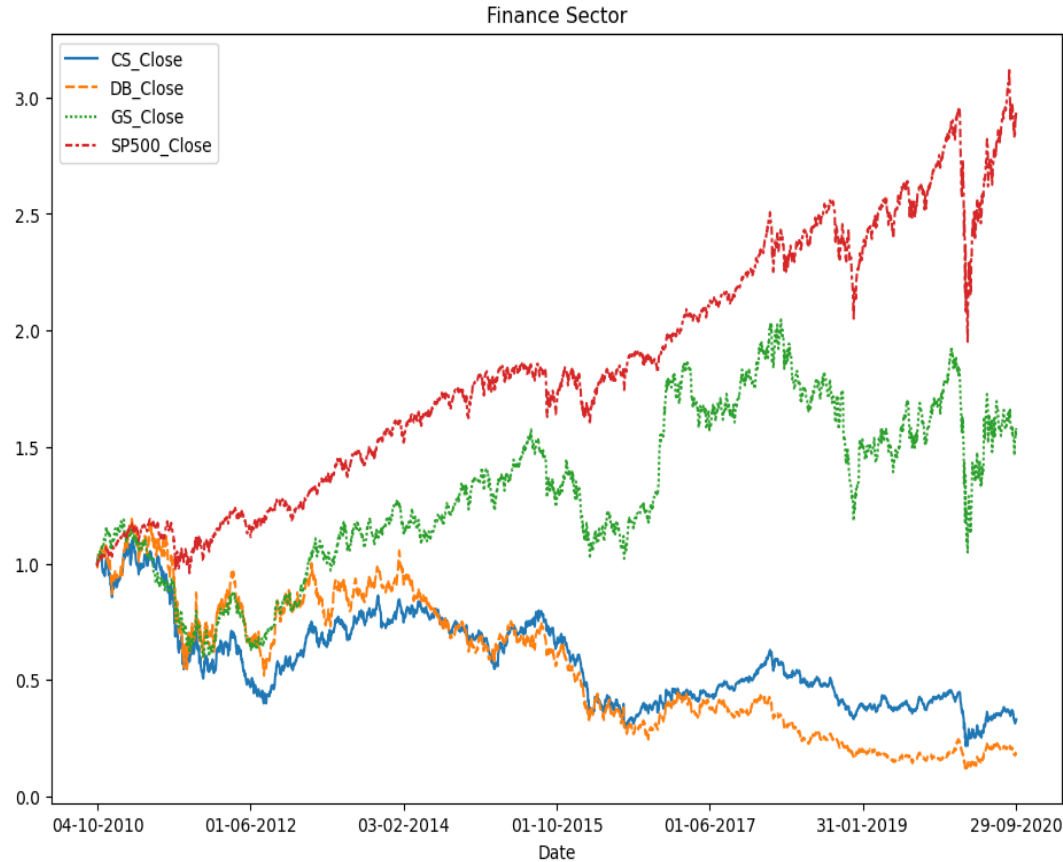
1. In healthcare sector, MRK and JNJ, has shown strong performance.
2. Both MRK and JNJ have delivered returns comparable to or exceeding the S&P 500.
3. These stocks offer solid returns, aligning closely with the S&P 500 index.
4. Investing in this sector could provide stability and competitive returns.

Pharma Sector

1. In pharma sector, BHC has seen a significant decline in performance.
2. BHC delivered multibagger returns until 2015, showing strong growth.
3. However, the stock has faced challenges, resulting in a sharp drop and negative returns by 2020.
4. Currently BHC is trading at an all-time low, we will choose to ignore this stock in our selection.



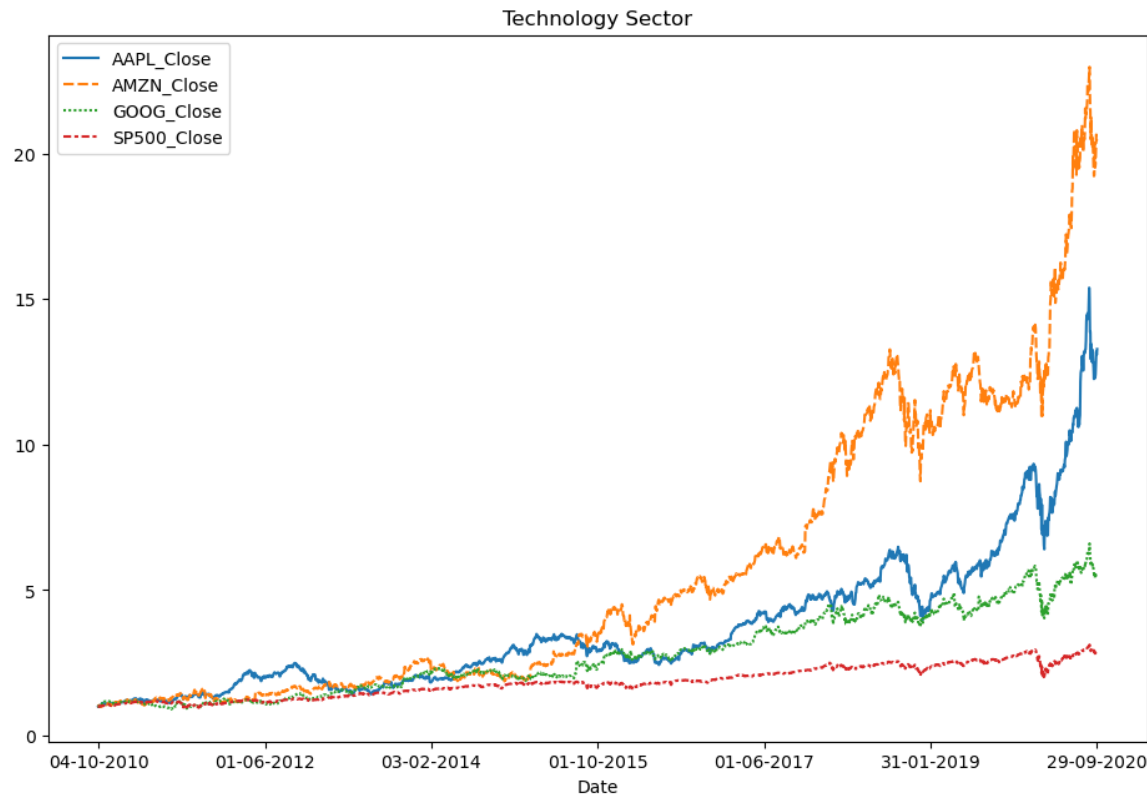
Finance Sector



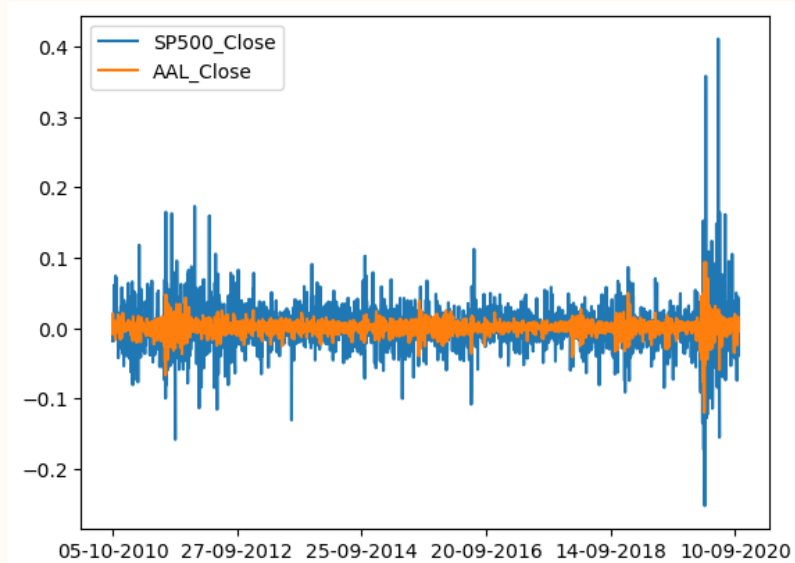
1. In the finance sector, only GS has delivered returns comparable to the market.
2. Other finance stocks have experienced a decline over time.
3. GS stands out for its resilience and market-aligned performance.
4. Given the overall sector decline, we will focus on GS while being cautious with other finance stocks.

Technology Sector

1. The technology sector has seen outstanding performance, with AAPL, AMZN, and GOOG leading the way.
2. All three stocks have significantly outperformed market returns by a substantial margin.
3. These tech giants have demonstrated strong growth and exceptional market performance.
4. Investing in AAPL, AMZN, and GOOG offers potential for high returns, well above the market average.

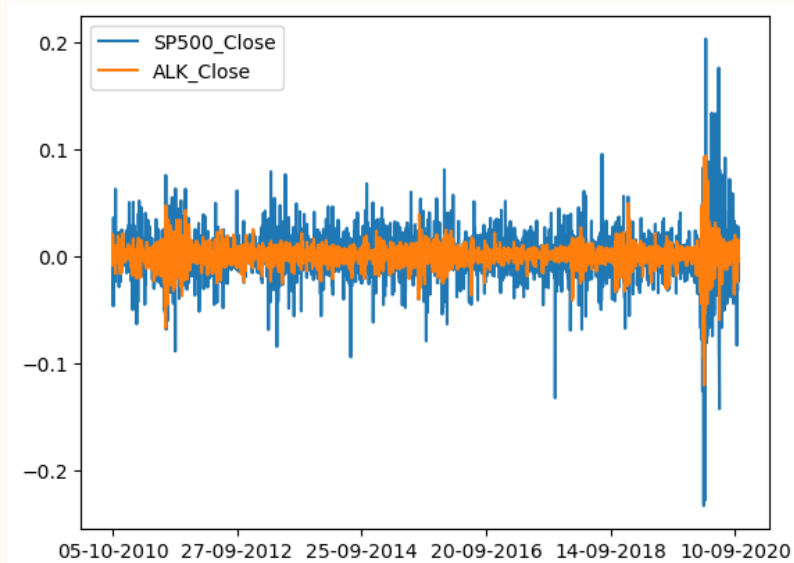


Fundamentals of Stocks (Aviation)



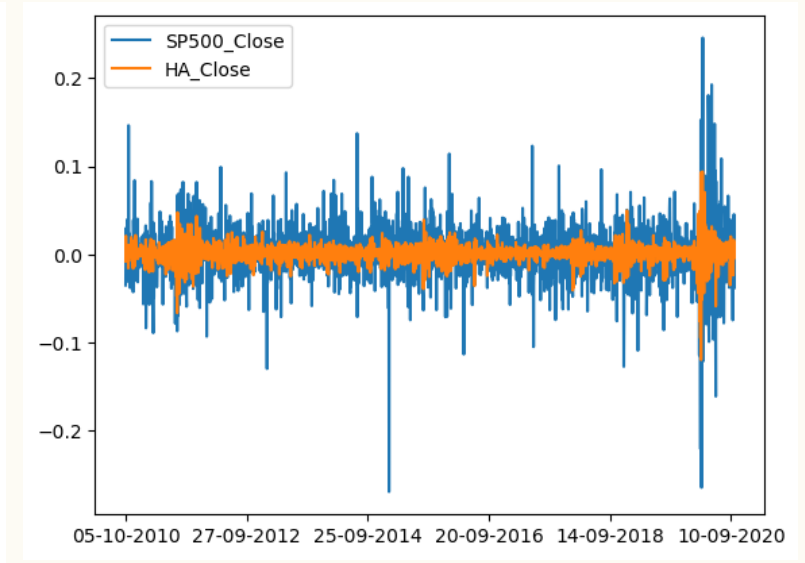
American Airlines (AAL)

| | |
|------------------|------------|
| Alpha | -0.00002 % |
| Beta | 1.35331 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 16.37 % |



Alaska (ALK)

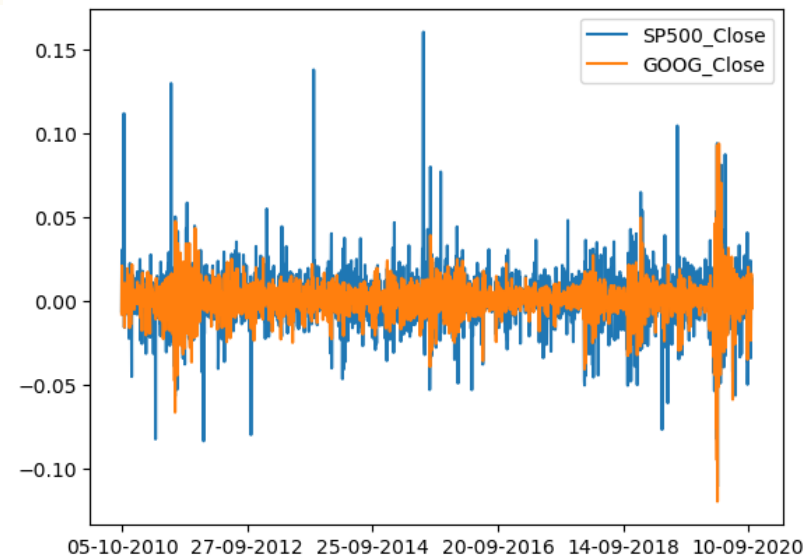
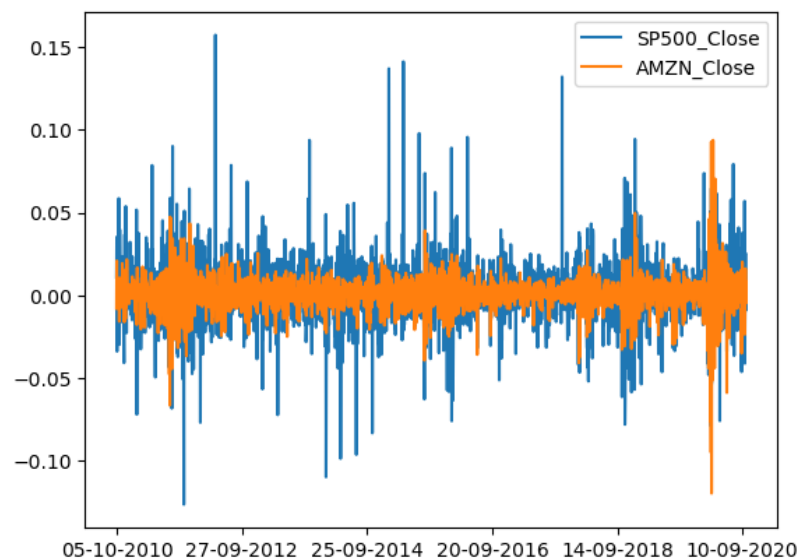
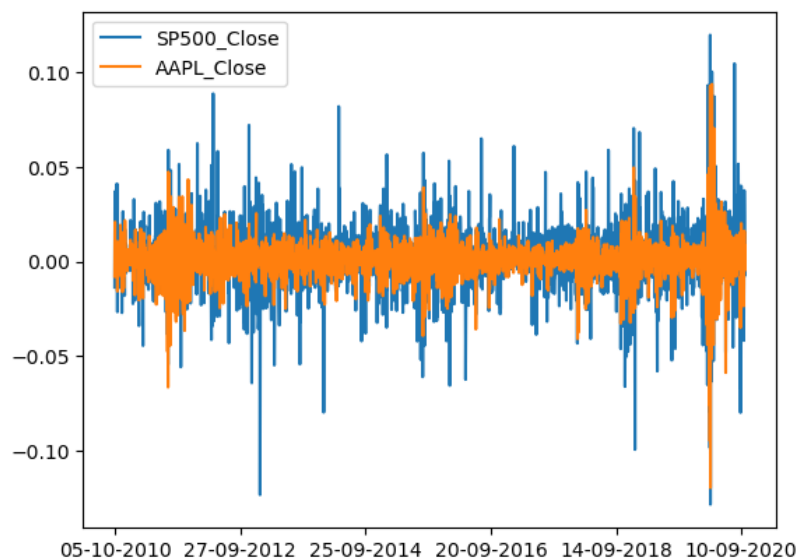
| | |
|------------------|-----------|
| Alpha | 0.01586 % |
| Beta | 1.23197 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 14.97 % |



Hawaiian Airlines (HA)

| | |
|------------------|-----------|
| Alpha | 0.01778 % |
| Beta | 1.23392 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 14.99 % |

Fundamentals of Stocks (Technology)



Apple (AAPL)

| | |
|------------------|-----------|
| Alpha | 0.06667 % |
| Beta | 1.06311 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 13.00 % |

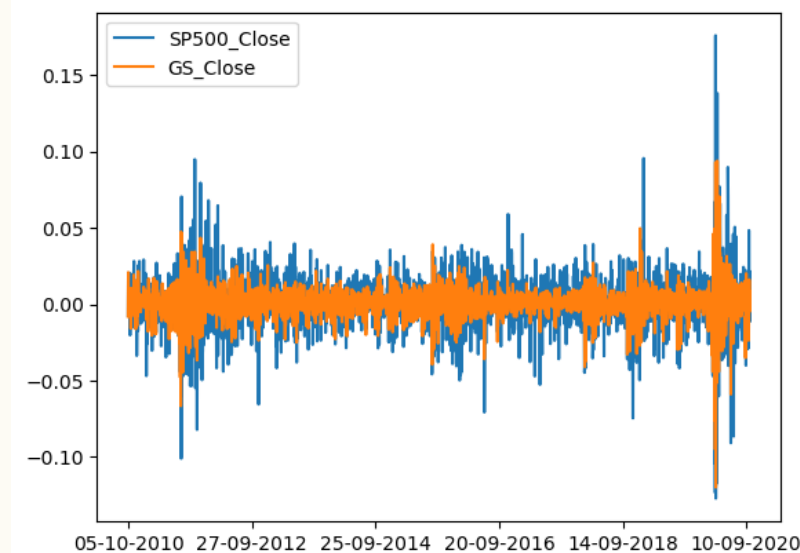
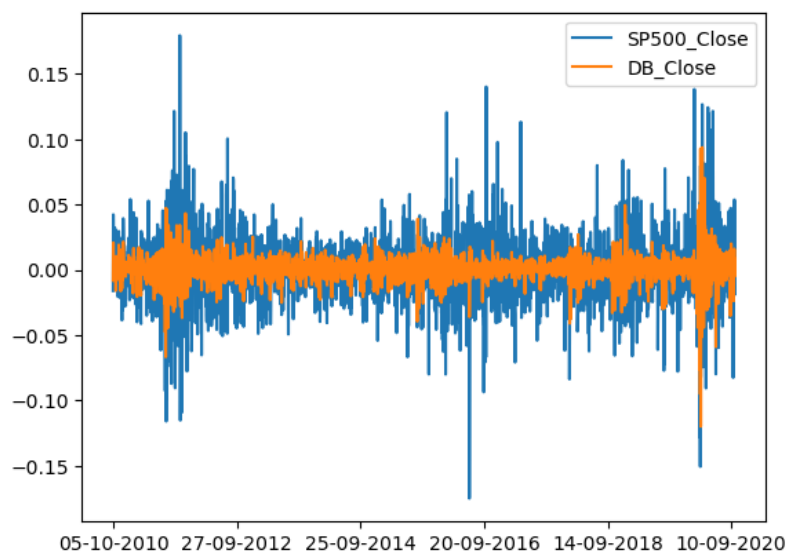
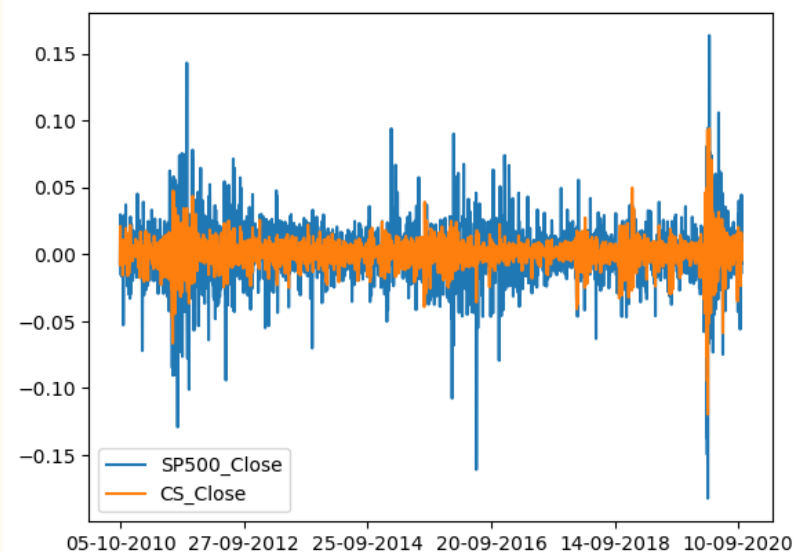
Amazon (AMZN)

| | |
|------------------|-----------|
| Alpha | 0.09102 % |
| Beta | 0.99880 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 12.20 % |

Google (GOOG)

| | |
|------------------|----------|
| Alpha | 0.03231% |
| Beta | 1.01334 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 12.45 % |

Fundamentals of Stocks (Finance)



Credit Suisse (CS)

| | |
|------------------|-----------|
| Alpha | 0.08628 % |
| Beta | 1.37271 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 16.60 % |

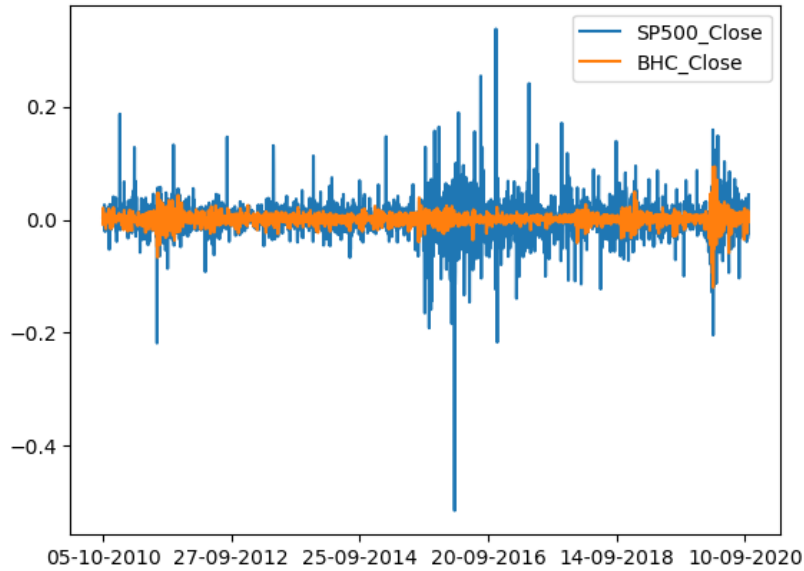
Deutsche Bank (DB)

| | |
|------------------|------------|
| Alpha | -0.10696 % |
| Beta | 1.53583 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 18.48 % |

Goldman Sachs (GS)

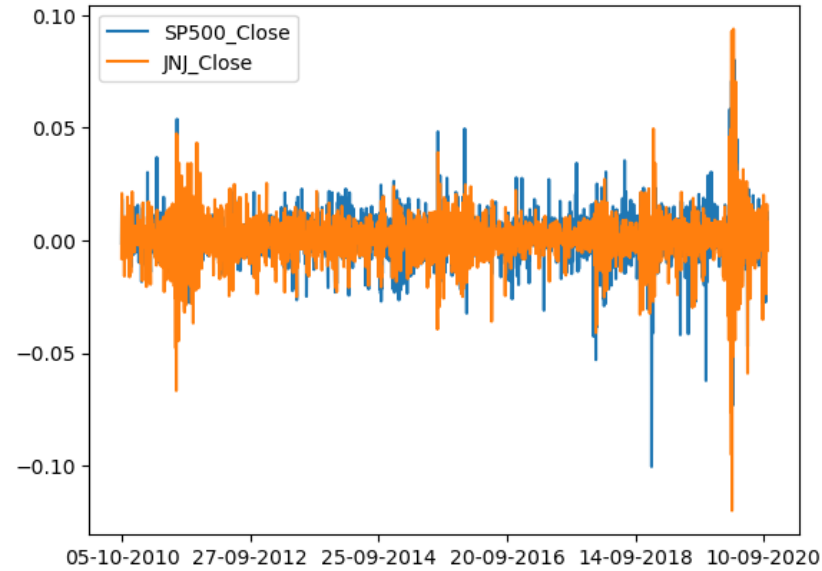
| | |
|------------------|------------|
| Alpha | -0.02851 % |
| Beta | 1.30148 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 15.77 % |

Fundamentals of Stocks (Healthcare)



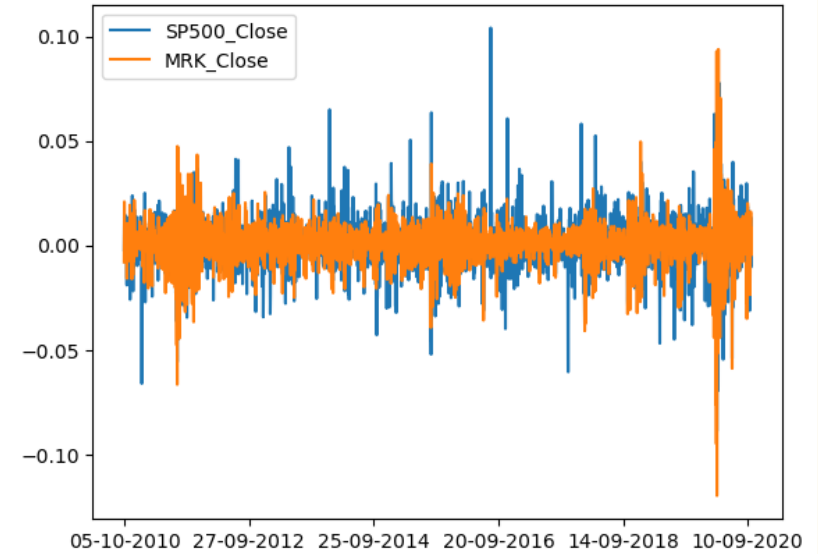
Bausch Health Companies (BHC)

| | |
|------------------|------------|
| Alpha | -0.01625 % |
| Beta | 1.31648 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 15.95 % |



Johnson and Johnson (JNJ)

| | |
|------------------|-----------|
| Alpha | 0.02017 % |
| Beta | 0.66396 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 8.41 % |



Merck & Co. (MRK)

| | |
|------------------|-----------|
| Alpha | 0.01855 % |
| Beta | 0.73664 |
| Risk free return | 0.75 % |
| Market return | 12.29 % |
| Expected return | 9.25 % |

Conclusion

- **Tech Sector:** We have selected Apple (AAPL) and Amazon (AMZN) as strong representatives with consistent performance.
- **Google (GOOG):** A leading tech company known for its innovation and dominant position in digital advertising.
- **Healthcare Sector:** Johnson & Johnson (JNJ) is chosen for its stable growth and diversified healthcare portfolio.
- **Merck & Co. (MRK):** A pharmaceutical giant with a strong pipeline, making it a solid healthcare pick.
- **Diversification:** To minimize sector concentration, we are adding stocks from Finance, Technology and Healthcare sectors.

Conclusion

- **Finance Sector:** Goldman Sachs (GS) has been selected due to its superior returns of 15.7%, outperforming the market's average of 12%.
- **GS Performance:** A well-established financial institution, GS has consistently delivered strong results and resilience in volatile markets.
- **Aviation Sector:** Alaska Air Group (ALK) is our choice due to its balanced risk profile and strong industry performance.
- **Beta Analysis:** ALK's Beta of 1.2 indicates a moderate correlation with the market, balancing risk and return.
- **ALK vs. S&P 500:** Historically, ALK has outperformed the S&P 500, showcasing its robust growth potential.

Conclusion

- **Sector Variety:** The selected stocks span across Tech, Healthcare, Finance, and Aviation, ensuring a well-rounded portfolio.
- **Growth Potential:** Each stock has been chosen for its strong track record and future growth prospects.
- **Risk Management:** The portfolio is designed to balance high-growth opportunities with stable, lower-risk investments.
- **Long-term Focus:** These stocks are positioned for sustainable growth, making them suitable for long-term investment.
- **GS Stability:** Goldman Sachs adds a layer of financial stability with its consistent market-beating returns.
- **Tech Dominance:** AAPL, AMZN, and GOOG are leaders in technology, driving innovation and market trends.

Conclusion

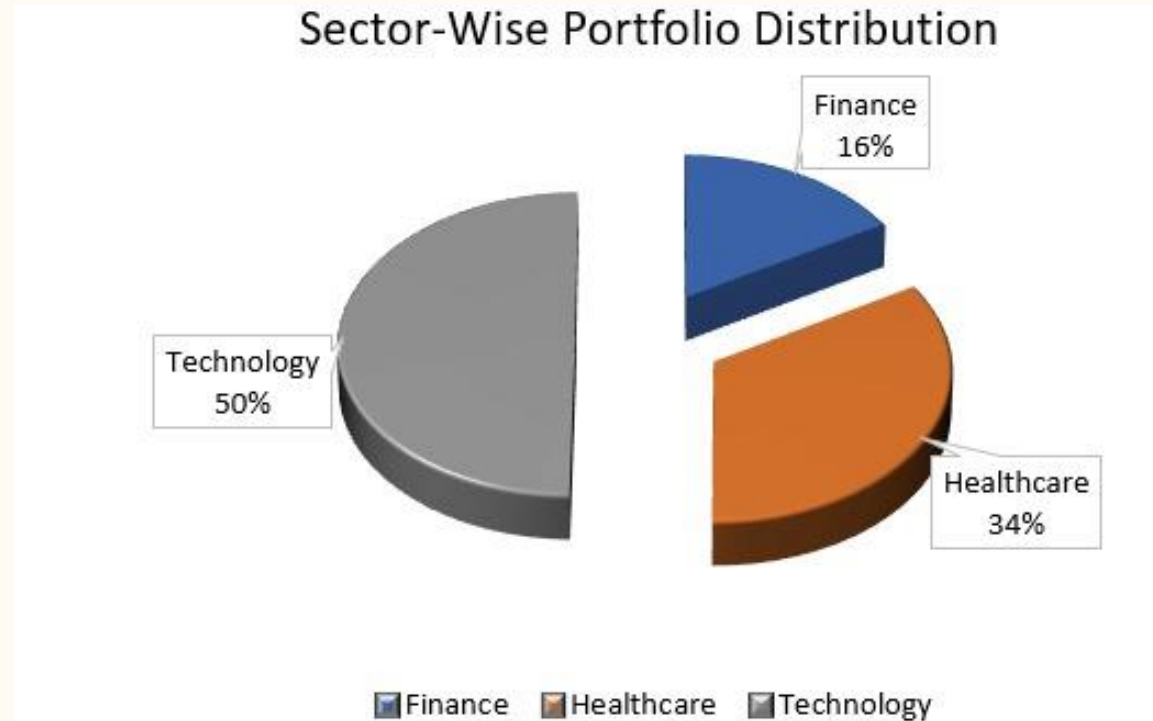
- **Healthcare Resilience:** JNJ and MRK offer steady returns, backed by their leadership in the healthcare sector.
- **Aviation Upside:** ALK provides exposure to the aviation industry, which is poised for recovery and growth.
- **Market Outperformance:** The chosen stocks have a history of outperforming their respective sectors and benchmarks.
- **Client-Centric Strategy:** This diversified stock selection is tailored to maximize returns while managing risk effectively.

Final Portfolio

| Sr. No. | Stocks | Company | Sector | Beta Value | Sharpe Ratio | Market Returns | Daily Returns | Expected Returns |
|---------|--------|-------------------|------------|------------|--------------|----------------|---------------|------------------|
| 1 | GS | Goldman Sachs | Finance | 1.3 | 0.3 | 12.29 % | 0.000350 | 15.77 % |
| 2 | JNJ | Johnson & Johnson | Healthcare | 0.66 | 0.77 | 12.29 % | 0.000526 | 8.41 % |
| 3 | MRK | Merck and Co. | Healthcare | 0.73 | 0.66 | 12.29 % | 0.000545 | 9.25 % |
| 4 | AAPL | Apple | Technology | 1.06 | 1.06 | 12.29 % | 0.001185 | 13.02 % |
| 5 | AMZN | Amazon | Technology | 0.99 | 1.12 | 12.29 % | 0.001398 | 12.28 % |
| 6 | GOOG | Google | Technology | 1.01 | 0.8 | 12.29 % | 0.000818 | 12.45 % |

1. Portfolio Annualized Return: 12.29 %
2. Expected Portfolio Annualized Return: 11.81 %

Sector-wise Portfolio Distribution



THANK YOU!