

S&P 500 Stock Selection



Data Storage In SQL Database
Data Analysis Using Python

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Project Objective

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- The goal of this project is to find **five stocks** from the S&P 500 index that can be held over a **3-year period** in an **equal-weighted portfolio** that can **outperform the index on an absolute and risk-adjusted basis.**

Approach

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- Data downloaded from Yahoo Finance and stored in a SQL database.
- Create two hypothetical portfolios - one to select **top five stocks** with **highest Sharpe ratio**, the other on **highest mean daily returns**.
- **Compare portfolios to S&P 500 index**, and select final five stocks to hold based on **best performing selection criteria**.

Analysis

Hypothetical Portfolios

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- Time period used for calculations – **January 1, 2018 to January 1, 2023**

Sharpe Portfolio:

LYV	0.384289
LVS	0.258301
CDW	0.248122
STE	0.180690
ZBRA	0.177726

Mean Portfolio:

LVS	0.003787
LYV	0.003055
CDW	0.002836
AMD	0.002386
NVDA	0.002344

- Five stocks chosen based on **highest Sharpe ratios.**
- Five stocks chosen based on **highest mean daily returns.**

Portfolios vs. Index

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- Time period for data used to compare performance of portfolios and index - **January 1, 2020 to January 1, 2023.**

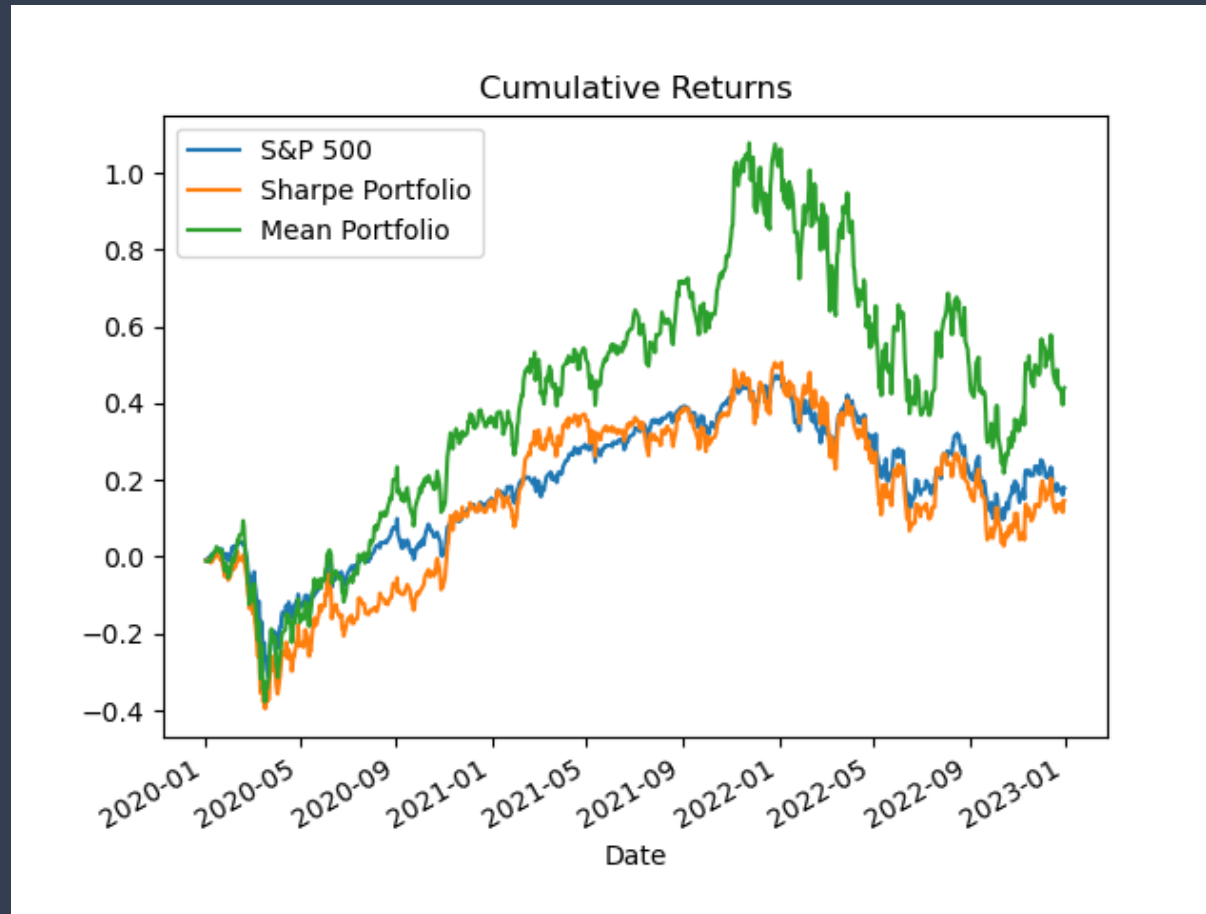
	S&P 500	Sharpe Portfolio	Mean Portfolio
Mean Daily Return	0.000347	0.000413	0.000800
Standard Deviation	0.016041	0.021509	0.025117
Sharpe Ratio	0.021625	0.019184	0.031870
Cumulative Return	0.181540	0.145785	0.440068

- **Mean Portfolio** outperformed the S&P 500 Index and Sharpe Portfolio. Therefore, criteria to use for final five stocks selection will be criteria for **Mean Portfolio**.

Comparing Cumulative Returns

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Time period – January 1, 2020 to January 1, 2023



Final Results



- Final five stocks chosen for portfolio based on **highest mean daily return**.
- Time period used for calculation - **August 10, 2018 to August 10, 2023**.

ON	0.002792
FICO	0.002240
CEG	0.002139
NVDA	0.002089
AMD	0.002036

Conclusion - final five stocks to hold in portfolio **now**:

- 1) **ON** – ON Semiconductor Corp
- 2) **FICO** – Fair Isaac Corp
- 3) **CEG** – Constellation Energy Corp
- 4) **NVDA** – NVIDIA Corp
- 5) **AMD** – Advanced Micro Devices, Inc.