Project2: Optimizing Portfolio

Yicun Deng
ydeng335@gatech.edu

***Abstract*—The MC1-P2 project optimizes a portfolio by finding the allocation of assets that maximizes the Sharpe ratio. It uses historical stock price data and the SciPy library for optimization. The code calculates portfolio statistics and offers an option to generate a plot. The project meets technical requirements and provides a practical approach to portfolio optimization.**

1 INTRODUCTION

For this project, I wrote software in an ML4T environment. The code implements a portfolio optimization algorithm using the Sharpe ratio as the objective function. It fills missing values, calculates daily returns, performs optimization with constraints, and generates a plot of the portfolio value.

2 REPORT AND ANALYSIS

2.1 Sample portfolio versus. SPY chart

Conclusion: the code works as expected as it finds optimized portfolio of designated stocks over designated time that outperforms SPY.

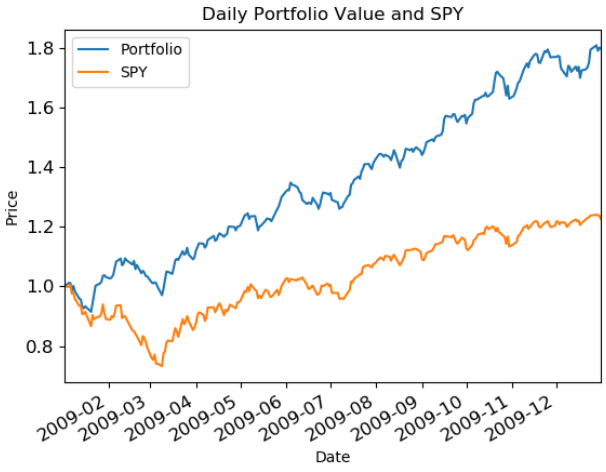

Figure 1. Sample portfolio value versus. SPY (normalized)