Sortino Ratio Analysis Report

rion5

2024-09-21

## Loading required package: xts

## Loading required package: zoo

##   
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':  
##   
## as.Date, as.Date.numeric

##   
## Attaching package: 'PerformanceAnalytics'

## The following object is masked from 'package:graphics':  
##   
## legend

## Data Range 데이터 범위

* **Start Date:** 2024-08-30
* **End Date:** 2024-09-19

## Data Summary

Here is a summary of the stock data used:

stock\_df <- stock\_100\_1000()  
print(head(stock\_df))

## symbol count min\_adjusted avg\_adjusted max\_adjusted min\_volume max\_volume  
## 1 NVDA 15 102.82 112.96 119.36 231925900 477155100  
## 2 TSLA 15 206.28 223.18 243.92 54323000 119355000  
## 3 AAPL 15 216.32 222.48 229.79 36615400 67180000  
## 4 AMZN 15 171.39 180.70 189.87 26065500 43429400  
## 5 AMD 15 134.35 145.83 156.74 25023000 50935400  
## 6 QQQ 13 448.69 466.46 483.36 22585600 57843000

## Sortino Ratio Results

The results of the Sortino Ratio analysis, sorted by the ratio:

# 데이터 전처리  
#processed\_data <- preprocess\_data(raw\_data)  
symbol\_vector <- as.character(stock\_df$symbol)  
rawdata\_df <- preprocess\_data(symbol\_vector, rangeDate$start\_date, rangeDate$end\_date)  
  
# 분석 실행  
#results <- analyze\_data(processed\_data)  
sortino\_df <- calc\_sortinos(symbol\_vector, rawdata\_df)  
  
results <- merge(stock\_df, sortino\_df, by = "symbol", all.x = TRUE)  
# Sortino Ratio 값이 큰 순으로 정렬  
results <- results[order(-results$sortino\_ratio), ]  
print(head(results))

## symbol count min\_adjusted avg\_adjusted max\_adjusted min\_volume max\_volume  
## 8 META 15 500.27 521.30 559.10 8317400 15622600  
## 9 MSFT 15 401.70 419.68 438.69 13834700 24308300  
## 11 QQQ 13 448.69 466.46 483.36 22585600 57843000  
## 12 TSLA 15 206.28 223.18 243.92 54323000 119355000  
## 3 AMZN 15 171.39 180.70 189.87 26065500 43429400  
## 2 AMD 15 134.35 145.83 156.74 25023000 50935400  
## sortino\_ratio  
## 8 0.5405175  
## 9 0.5354048  
## 11 0.4884552  
## 12 0.4454793  
## 3 0.4138611  
## 2 0.1930990

## Visualization

We can include a chart to visualize the Sortino Ratio:

library(ggplot2)  
ggplot(results, aes(x = reorder(symbol, -sortino\_ratio), y = sortino\_ratio)) +  
 geom\_col(fill = "steelblue") +  
 coord\_flip() +  
 labs(title = "Sortino Ratio by Stock Symbol", x = "Stock Symbol", y = "Sortino Ratio") +  
 theme\_minimal()

