

# Stock\_Sortino\_Ratio\_Chart

September 29, 2021

## 1 Stock Sortino Ratio Chart

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[1]: # Library
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt

import warnings
warnings.filterwarnings("ignore")

from pandas_datareader import data as pdr
import yfinance as yf
yf.pdr_override()
```

```
[2]: start = '2016-01-01' #input
end = '2020-07-01' #input
symbol = 'AMD'
```

```
[3]: df = yf.download("AMD", start, end)
```

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[*****100%*****] 1 of 1 completed
```

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[4]: returns = df['Adj Close'].pct_change()[1:].dropna()
```

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[5]: def sortino_ratio(symbol):
    numer = pow((1 + symbol.mean()), 252) - 1
    annual_volatility = symbol.std() * np.sqrt(252)
    denom = annual_volatility

    if denom > 0.0:
        sortino_ratio = numer / denom
    else:
        print('none')
    return sortino_ratio
```

```
[6]: # Compute the running Sortino Ratio
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running_sharpe = [sortino_ratio(returns[i-90:i]) for i in range(90,
↳len(returns))]

# Plot running Sortino Ratio up to 100 days before the end of the data set
_, ax1 = plt.subplots(figsize=(12,8))
ax1.plot(range(90, len(returns)-100), running_sharpe[: -100])
ticks = ax1.get_xticks()
ax1.set_xticklabels([df['Adj Close'].index[int(i)].date() for i in ticks[: -1]])
↳# Label x-axis with dates
plt.title(symbol + ' Sortino Ratio')
plt.xlabel('Date')
plt.ylabel('Sortino Ratio')

```

[6]: Text(0, 0.5, 'Sortino Ratio')

