

Stock_Sharpe_Ratio_Chart

September 29, 2021

1 Stock Sharpe 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)

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

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

[5]: # risk free
rf = yf.download('BIL', start=start, end=end)['Adj Close'].pct_change()[1:]

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

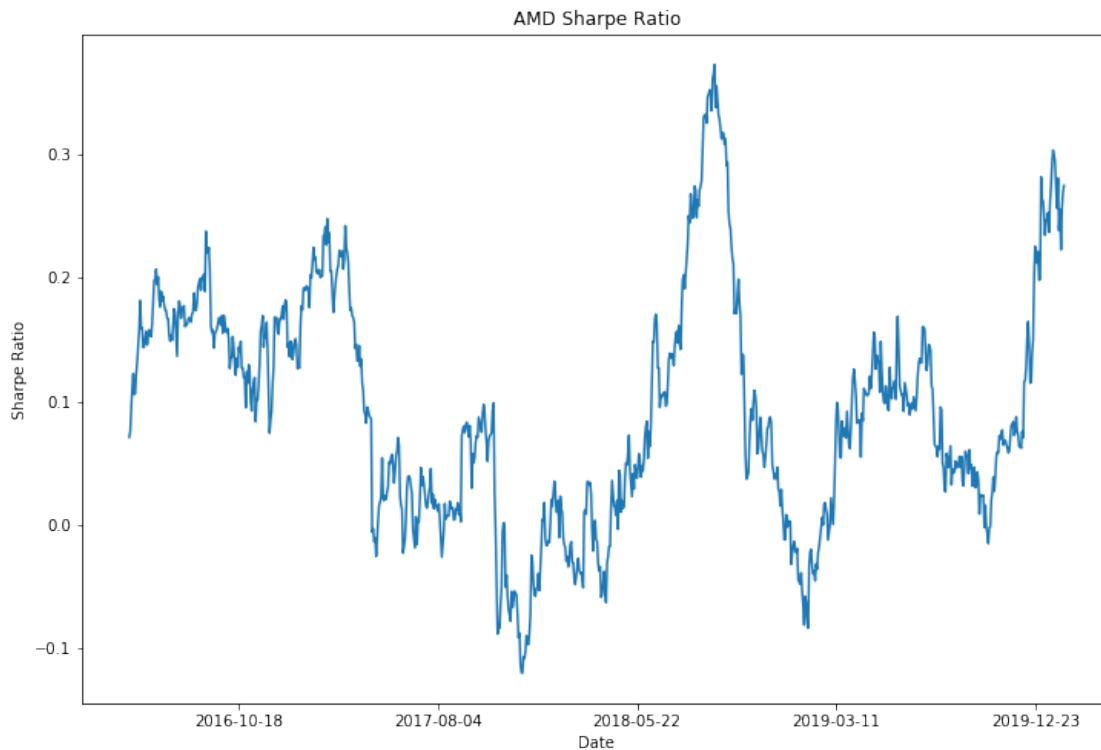
[6]: def sharpe_ratio(symbol, rf):
    return np.mean(symbol - rf)/np.std(symbol - rf)

[7]: # Compute the running Sharpe ratio
running_sharpe = [sharpe_ratio(returns[i-90:i], rf[i-90:i]) for i in range(90,
    len(returns))]

# Plot running Sharpe ratio up to 100 days before the end of the data set
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_, 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 + ' Sharpe Ratio')
plt.xlabel('Date')
plt.ylabel('Sharpe Ratio')
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[7]: Text(0, 0.5, 'Sharpe Ratio')



[8]: sharpe_ratio(returns, rf)

[8]: 0.08163170367099662