

# Stock\_Active\_Risk\_Chart

September 29, 2021

## 1 Stock Active Risk 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 = '2019-01-01' #input
end = '2020-07-01' #input
symbol1 = '^GSPC' #input
symbol2 = 'AMD' #input

[3]: market = yf.download(symbol1, start=start, end=end)['Adj Close']
stocks = yf.download(symbol2, start=start, end=end)['Adj Close']

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

[4]: market_returns = market.pct_change().dropna()
stocks_returns = stocks.pct_change().dropna()

[5]: def active_risk(stock_returns, market_returns):
    N = 14
    ar = np.sqrt((sum((stock_returns - market_returns)**2)/(N-1)))
    return ar

[6]: # Compute the running Active Risk
running = [active_risk(stocks_returns[i-90:i], market_returns[i-90:i]) for i in
↳ range(90, len(stocks_returns))]
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