

Portfolio Selection & Monitoring



A scraping project.

Scraping yahoo finance. Evaluating and monitoring stock portfolios.

Portfolio Selection & Monitoring

Objective

Create an easy tool for building and monitoring portfolios

Portfolio Selection & Monitoring

The variables

The 2 main variables that helps us evaluate a portfolio are:

- **Volatility**: common fluctuation of stock price (variance)
- **Return**: how much value the stock creates

...



Sharpe Ratio

Common Portfolio Selection Models

MIN

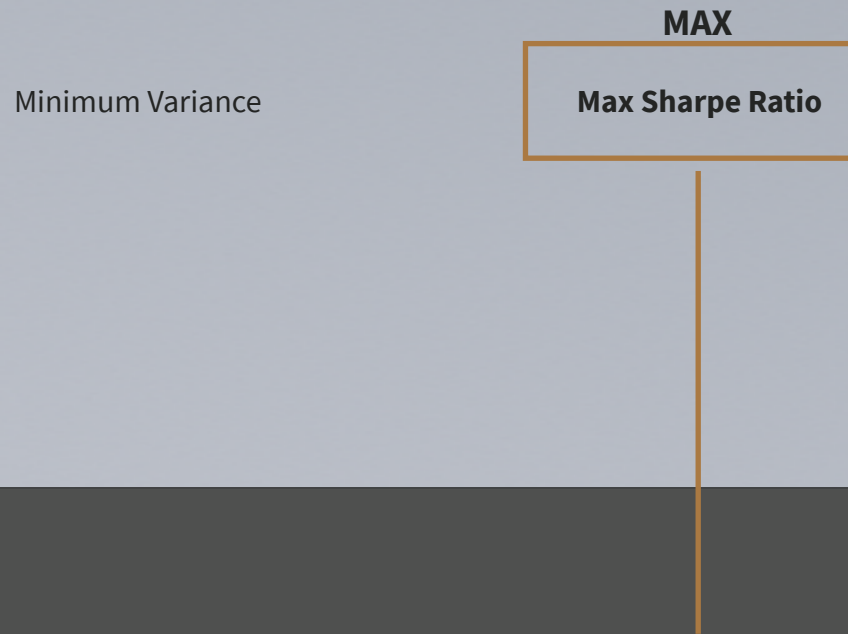
Minimum Variance

Max Sharpe Ratio

Minimum variance (volatility) is obtained by **diversifying the portfolio**. Some risky assets with high return can be selected, in some cases, if they are 'paired' with the right assets.

This portfolio results in the lowest risk possible for the expected rate of return

Common Portfolio Selection Models

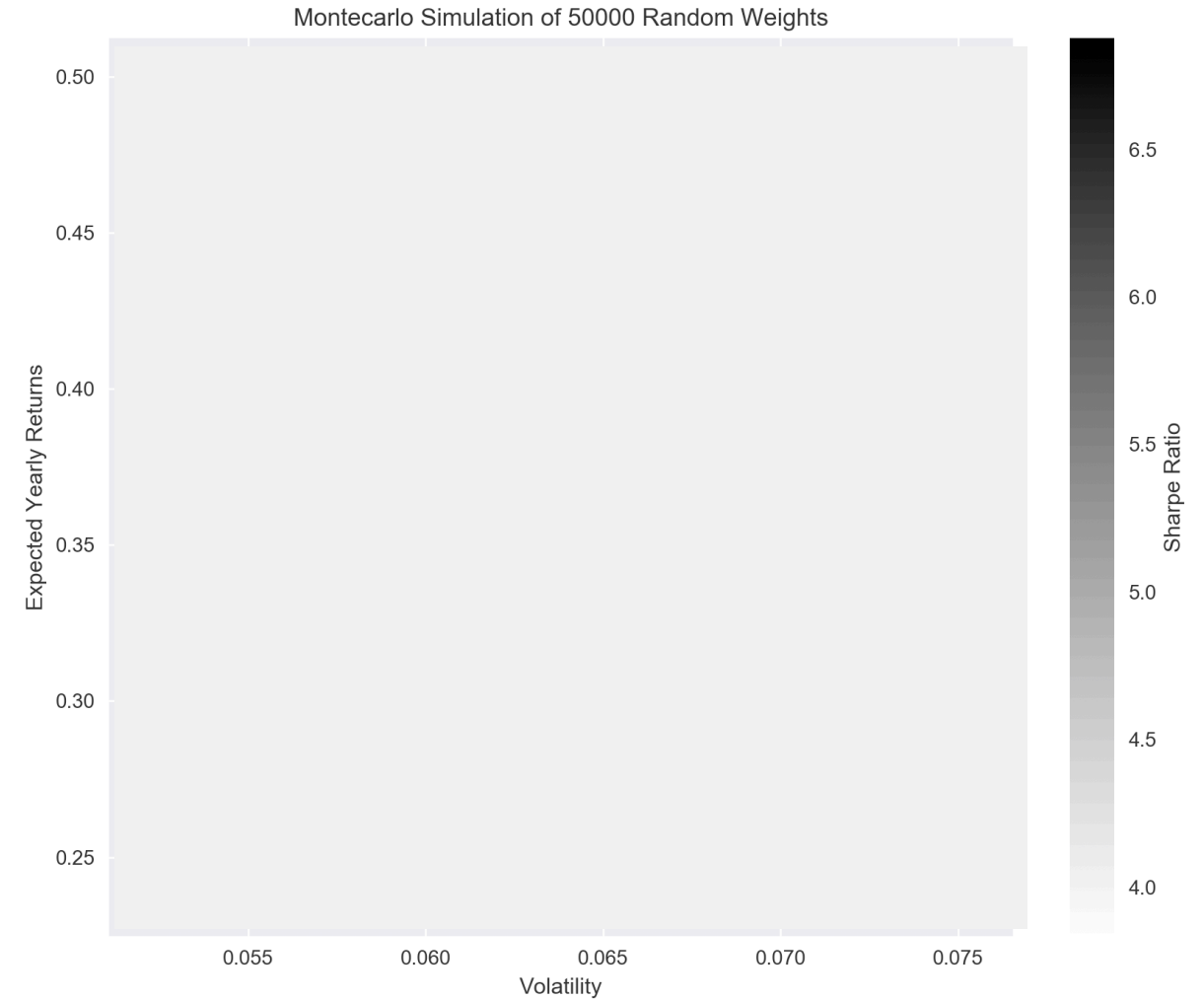


Sharpe Ratio normalizes the difference between past returns and risk free rate (ex. 10 year treasury bonds)

The max Sharpe Ratio **portfolio maximizes return vs risk.**

PORTFOLIO SELECTION

How a graph can help us?



Graphing the 2 variables

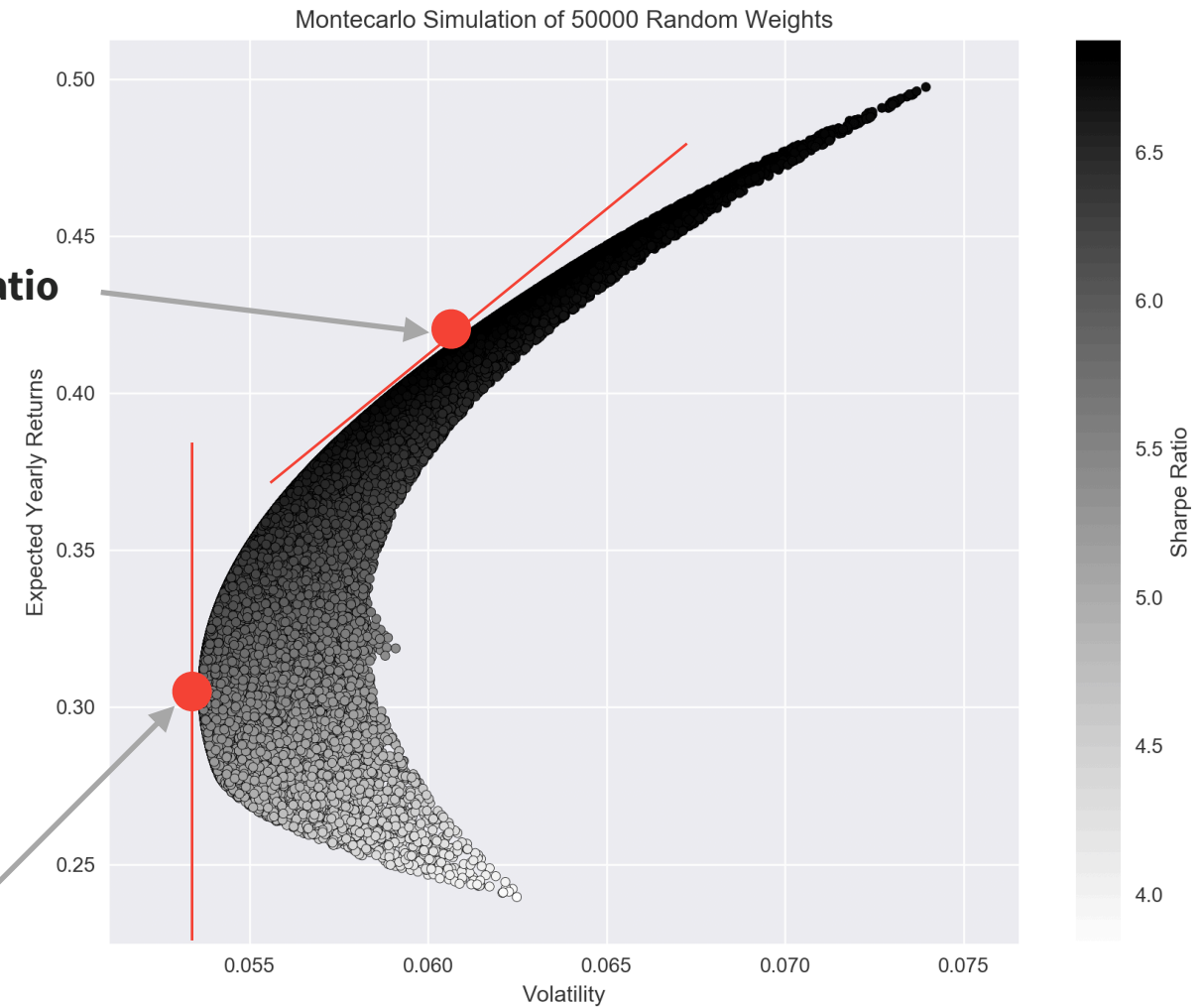
PORTFOLIO SELECTION

Which is the Best Portfolio?

AMZN, MSFT and AAPL from 2015-2019

Minimum Variance

Max Sharpe Ratio



The Returns / Volatility graph give all the insight.

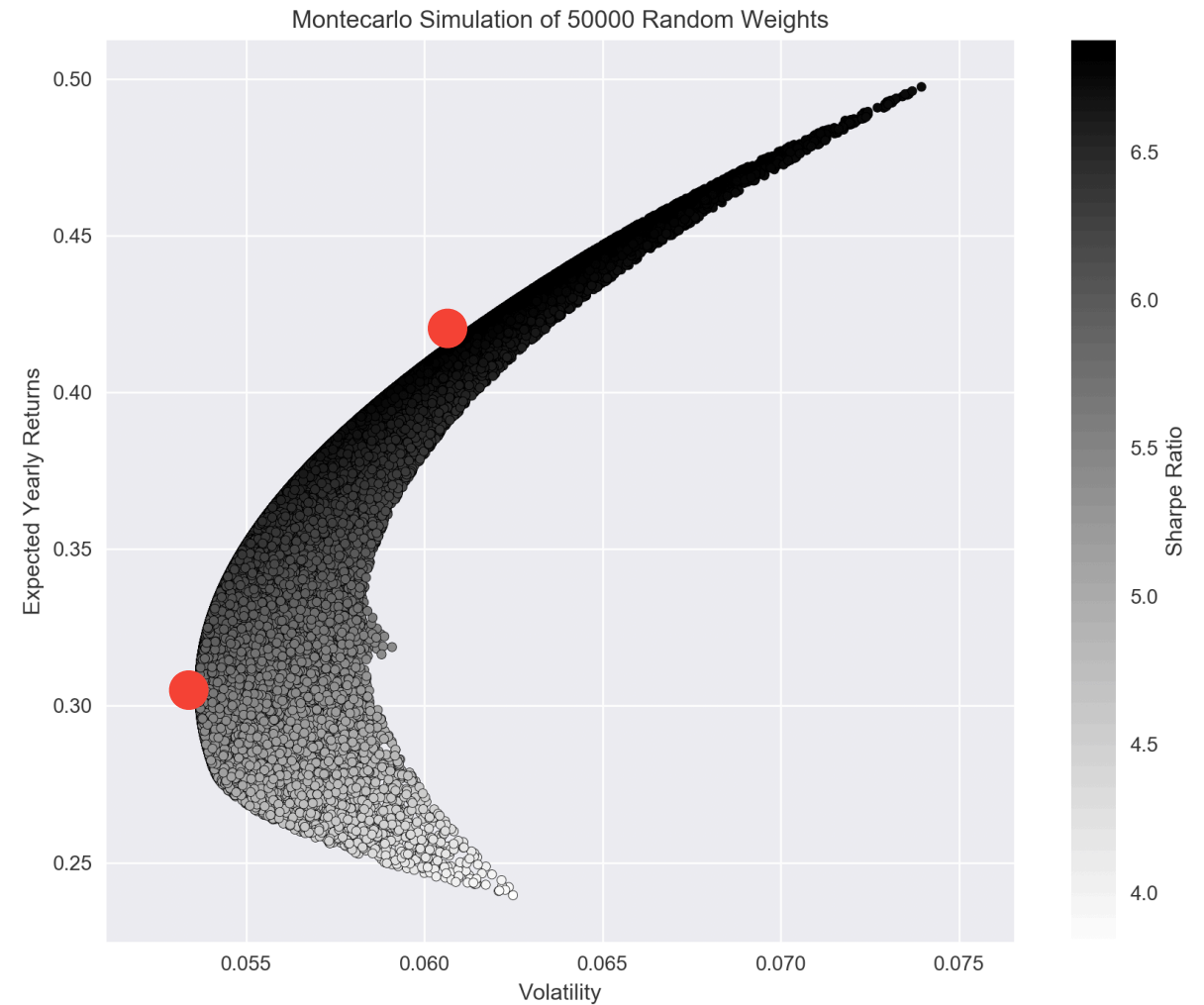
Minimum variance and Best Sharpe Ratio points can be identified through a Montecarlo simulation.

PORTFOLIO SELECTION

Which is the Best Portfolio?

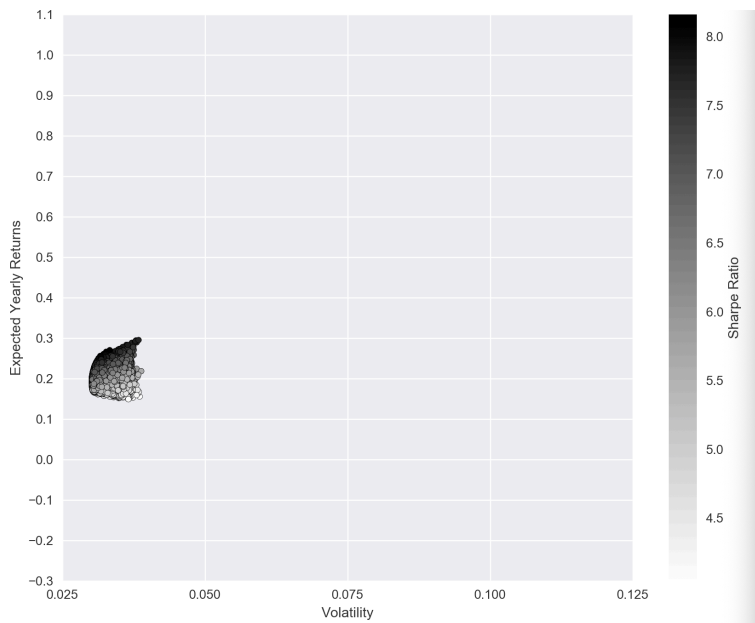
AMZN, MSFT and AAPL from 2015-2019

	Best Sharpe	Min Variance
Yearly Returns	44.5%	30.5%
Volatility	6.5%	5.4%
Sharpe Ratio	6.88	5.69
AMZN	70.2%	11.0%
MSFT	29.7%	49.0%
AAPL	0.1%	40.1%



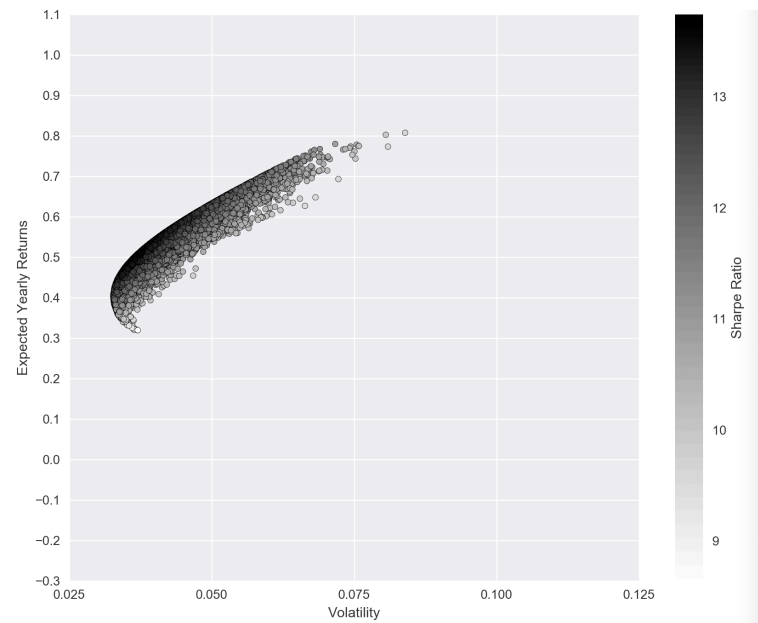
Which is the Best Portfolio?

Best Volatility



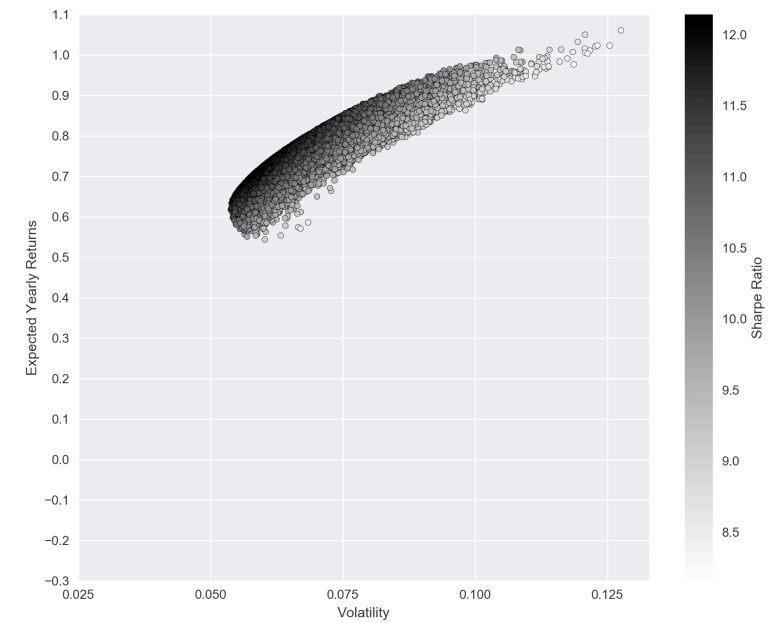
RSG, DUK, NEE, AEP, DTE

Best Sharpe



NEE, BLL, CMG, KEYS, ETR

Best Returns/Year



AMD, CMG, KEYS, EW, TDG

THE BEST **PORTFOLIO DEPENDS
ON YOUR SPECIFIC NEEDS AND
RISK AVERSION.**