Optimum Portfolio Allocation using Python

IE Capital

How would you construct a portfolio of assets to maximize expected return based on a given level of market risk?

Problem Statement

Computing optimized asset weights and allocation for a portfolio using Modern Portfolio Theory in Python.

The model aims to maximize return for a given amount of risk using Sharpe ratio.

Objectives

What are the core concepts/ideas we'll be learning over the course of the project?

- **Understanding statistical measures of risk- expectation, variance/std dev etc.**
- **Understanding correlations between different assets and how they affect risk.**
- **Understanding the Sharpe ratio and other measures of risk adjusted performances.**
- **Understanding Modern Portfolio Theory and the mathematical models used.**

Timeline

Background

Familiarise ourselves with the theory behind the models

Python

Coding our strategy in Python using appropriate libraries

Theory

Implementation

Retrieving Data

Finding resources to retrieve the required financial data

Project Report

A summary of the entire project along with our Python code

Thank You

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