Robust and Stochastic portfolio optimization Proposal

November 2021

1 Topic : Find The Best Portfolio Under The Requirement of Investor

2 Introduction :

It has been a long time since I attend the J.P. Morgan Asset Wealth Management Competition. At the Competition, We are required to find the best portfolio of the asset under some constrained set by the customer. However, we can only use the basic method in this competition due to the lack of knowledge of convex optimization. After that competition, I kept trying to use mathematical way to solve the problem. As a result, in this topic, I want to implement the function by the constrained feasible set.

3 Method :

- Using the Markowitz's mean-variance model and a wide range of its variation as the objective function.
- The asset of the portfolio must be constrained to a chosen lowerbound and upperbound. It shows that when the feasible set under the constraints, how it will perform to get the most ideal return under bearable risk. In addition, the asset is long only.
- The asset in my portfolio will be ten of U.S. stocks in technology.

4 Reference :

https://papers.ssrn.com/sol3/papers.cfm?abstract$_id = 2805368$
https://arxiv.org/pdf/2103.05455.pdf