Georgia Institute of Technology

Computational Investing, Part I

112: Portfolio Optimization and the Efficient Frontier

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Find out how modern electronic markets work, why stock prices change in the ways they do, and how computation can help our understanding of them. Learn to build algorithms and visualizations to inform investing practice.

School of Interactive Computing

What is portfolio optimization?

Given:

- A set of equities, and
- Target return

Find:

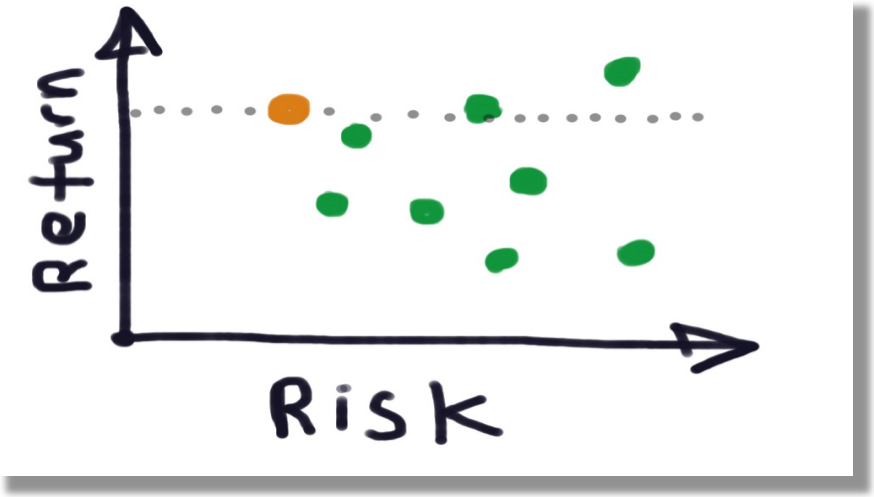
- Allocation to each equity that minimizes risk

Inputs:

- Expected return for each Equity
- Volatility (risk) for each equity
- Target return
- Covariance matrix

Output

- Portfolio weights that minimize risk for target return



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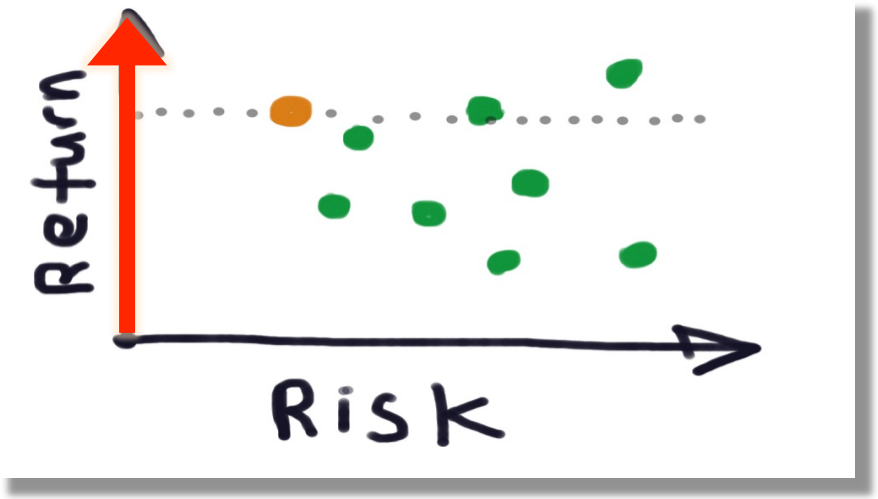

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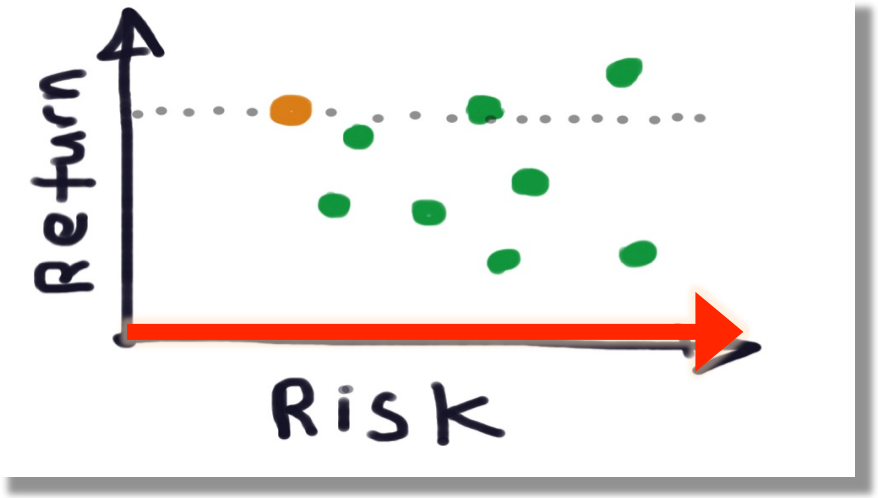

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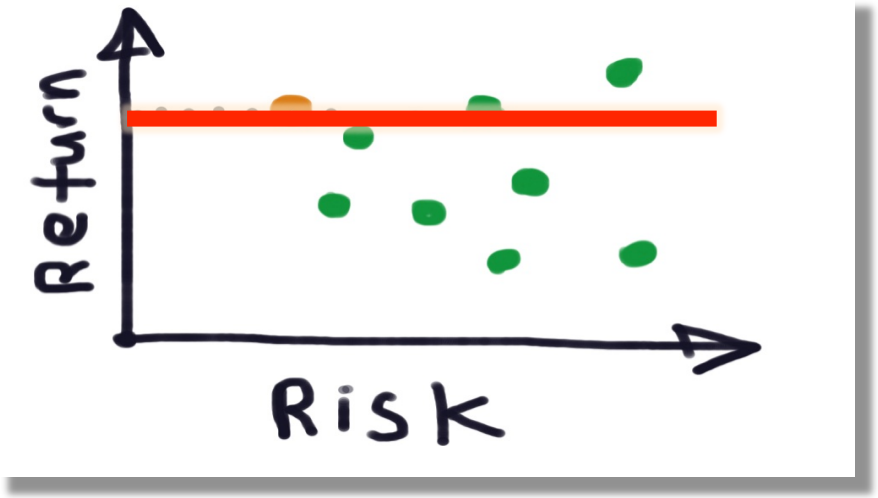

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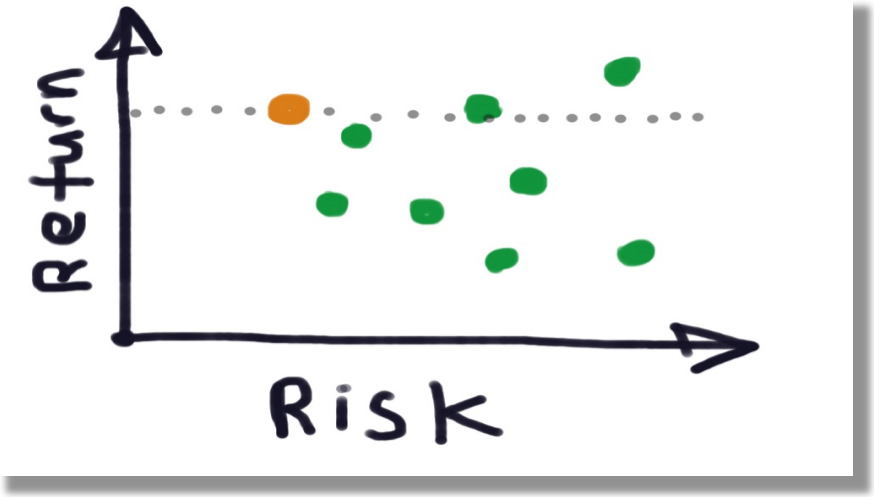

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