FE630 - Final Project

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Pledge: I pledge my honor that I have abided by the Stevens Honor System.

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1. Overview

1.1 Goal

The goal of this project to build and compare *two factor-based long short allocation models* with constraints on their *betas*. The first strategy considers a **target Beta** in the interval $[-0.5, 0.5]$, while the second has a target Beta in the interval $[-2, +2]$.

The first strategy operates similar to a **Value-at-Risk Utility** corresponding to **Robust Optimization**; the second strategy incorporates an **Information Ratio** term to limit the deviations from a benchmark, provided those deviations yield a 'high return.'

Once the optimization models are built, we want to *compare* the outcomes of the two models while simultaneously evaluating their sensitivity to the *length* of the estimators for the **covariance matrix** in tandem with the **expected returns** under various market regimes/scenarios.