Background

In 2018 we launched Alpha Streams, seeking to deliver licensable content to institutional subscribers. QuantConnect has always sought to set up a technology and brand which attracts professional-caliber quants capable of creating powerful strategies and delivering new sources of alpha.

Alpha Streams allows institutions to tap into that audience. Our ideal clients are institutions that are partial to fully quantitatively driven, managing assets over $200M AUM. They can be proprietary or traditional, but given how different the QuantConnect model is, their mandates must be open to sourcing strategies/signals/data/people from QuantConnect.

Single Alpha Analysis

Since the launch of Alpha Streams, we have seen growing enthusiasm from our quant community and now have a constant stream of new, licensable Alphas! We want to showcase the awesome strategies from our creative community and make the alpha analysis process smoother for licensing the Alphas, so we created a Single Alpha Analysis tool to conduct the analysis for the funds. The Single Alpha Analysis tool considers two approaches for capital deployment, depending on the leverage appetite of the funds.

1) Fractional Allocation
    a. This approach is suitable for hedge funds that mostly utilize cash trading. The fund's NAV, then, is treated as a linear combination of asset prices in the portfolio. Under this assumption, we can allocate a fraction of the fund's starting equity to the Alpha and update the fund's original NAV by computing a weighted sum of the equity curves according to the allocation weights.
2) Unlimited Buying Power
    a. This approach is suitable for hedge funds that utilize margin trading from the brokerages. The fund's NAV is marked-to-market every day based on the leverage profile of each strategy deployed, and this mark-to-market component introduces non-linearity to the fund's NAV, making the fractional allocation approach unrealistic. Therefore, we treat the Alpha as an additional strategy and modify the fund's original NAV by adding the daily market-to-market results of the Alpha strategy.

The features of the notebook include:

- Cumulative Return Factor Comparison
    - Graphical representation of the impact on the equity curve from deploying capital to the Alpha
- Performance Analysis
    - A summary table that compares the performance metrics - Sharpe Ratio, Sortino Ratio, CAGR, and Drawdown, for before and after deploying capital to Alpha
- Cost Analysis
    - A summary table that includes the monthly cost of licensing Alpha and the average monthly profit generated by deploying capital to the Alpha.
    - Note: For the fractional allocation approach, when licensing an uncorrelated Alpha, it might lead to a reduction in fund absolute returns, but an improvement of the risk-adjusted returns. For this reason, we built a function to find the optimal leverage by matching the drawdown of the fund's original NAV in the fractional allocation notebook. The fund can then see the impact of licensing this Alpha while maintaining the same risk appetite. The average monthly net profit is calculated based on this drawdown matching leverage.