

Brain Machine Learning Stock Ranking of European Stocks

Product Summary

Brain Machine Learning proprietary platform is exploited to generate a daily stock ranking based on the predicted future returns of a universe made of largest 600 European stocks on five time horizons: 2,3, 5, 10 and 21 trading days (other time horizons can be developed and tested upon request).

The model implements a voting scheme of machine learning classifiers that non linearly combine a variety of features with a series of techniques aimed at mitigating the well-known overfitting problem for financial data with a low signal to noise ratio.

Some examples of features are:

1. Time varying stock specific features like price and volume related metrics
2. Time fixed stock specific features like the sector and other database information
3. Market regime features such as volatility and other financial stress indicators
4. Calendar features representing possible anomalies, for example the month of the year

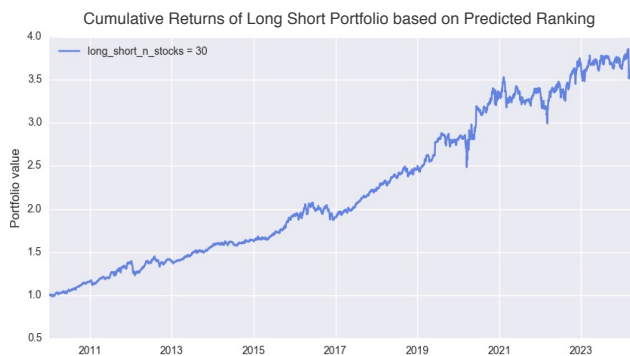
The stock universe is constituted by the largest 600 European stocks.

The model is trained and tested with a walking forward approach.

Historical data from 1st January 2010 is available as Free Trial for testing.

Prediction Weighted LS Portfolio

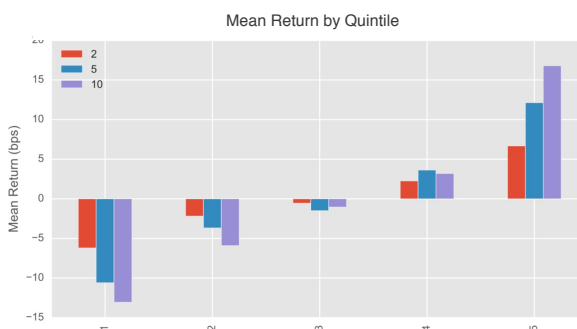
In the following graph we show the cumulative returns of a long-short portfolio built using the top/bottom 50 stocks of the out-of-sample ranking over a time horizon of 5 days and with weekly rebalancing.



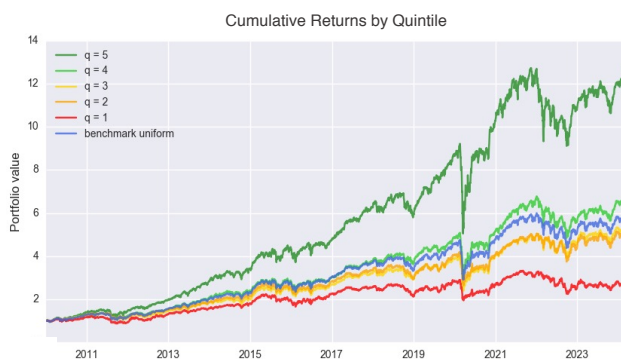
Returns Analysis by Prediction Quintiles

The following graph shows the mean forward returns, over the available timeframe, of the investable universe stocks on different time horizons (with respect to an equally weighted benchmark) as function of the predicted ranking quintile (5 days time horizon).

It clearly appears that, over the the highest predicted ranking quintile corresponds to the highest forward return, and vice versa the lowest prediction quintile corresponds to the most negative forward return following the characteristic “ladder shape”.



A portfolio including the stocks with the most positive prediction (top quintile, dark green line) shows, over the available historical data, a larger cumulative return than the return of a portfolio composed of the stocks with most negative prediction (bottom quintile, red line). The blue line represents the whole universe with uniform weights.



Contacts

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