UDACITY

Return to Classroom

Trading with Momentum

REVIEW

CODE REVIEW

HISTORY

Meets Specifications

This is a great first project and an excellent start to your Nanodegree! 👍🏽
I left you comments and a couple of suggestions below.

If you want to read more about momentum trading which is one of the most popular trading strategies, this paper is an interesting read on its risk and return over the past 140 years. Also this article on investopedia gives a nice overview of the technique to keep as reference for the future

Congratulations and all the best for the rest of your learning journey!

Market Data

The function `resample_prices` computes the monthly prices.

Good job! The pandas `resample` method is correctly used to resample prices to the argument `freq`, and the `last` method is called on the Resampler object to get the last price in each bin.

The function `compute_log_returns` computes the log returns from the prices.

The function correctly computes the log returns for each ticker utilizing the numpy `log` and the pandas `shift` methods. Nice work using the logarithmic rules!

The function `shift_returns` computes the shifted returns.

Well done! A dataframe with the values shifted by `shift_n` periods is correctly returned by the function.

Portfolio

The function `get_top_n` selects the `top_n` number of the top performing stocks.

Awesome

The function correctly returns the top performing stocks from `prev_returns` by assigning them a value of 1, while all other stocks have the value 0. Excellent use of pandas built-in methods!

Here is a one-liner (and mindbending :)) alternatiive implementation for your reference:

```
return prev_returns.apply(series >= series.nlargest(top_n).min(), args=(top_n,),
 axis=1).astype(int)
```

The function `portfolio_returns` calculates the projected returns.

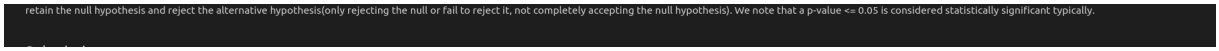
The `portfolio_returns` function correctly computes and returns the projected returns. Great!

Statistical Tests

The function `analyze_alpha` calculates the t-value and p-value.

The `t-test` is correctly performed on the sample of portfolio returns and the `analyze_alpha` function returns the 1-sided p-value by dividing the p-value returned by the two-sided test by 2. Excellent!

The student correctly identifies the p-value they got. The student indicates what the p-value indicates about their signal.



Correct! A p-value of 0.073359 that is above the significance level does not cast much doubt on the null hypothesis of expecting a mean return of the signal equal to 0.

This series of blog posts is an excellent reference on the subject of hypothesis testing. Also, if you would like to dive deeper into statistics, udacity has a free course on statistics in the context of programming that is really good: https://www.udacity.com/course/intro-to-statistics--st101

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