***“Performance\_Analytics\_App.py*” – Documentation**

# Description:

This file contains a Performance Advisor class which performs performance appraisals to inform users of how good their market time and stock picking skills are. Letting users know whether their returns come from a wide range of factor loadings or skill value added (alphas). Similar to the Risk Advisor, Performance Advisor is designed to have the capability of running on 1. Historical trades, 2. Hypothetical positions. 3. Streaming live portfolio, and it is connected to other parts in PARIS system including Back\_Testor, Live\_Trading\_Assistant and actual historical trades database.

# Dependencies:

* Risk\_Advisor
* DB\_Operator
* All other dependencies Risk\_Advisor has

# Class Function Descriptions:

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| --- | --- | --- | --- |
| **Function Name** | **Inputs** | **Output** | **Description** |
| Constructor | Graphic (bool),  All other input options available for Risk Advisor constructor | None | Performance Advisor is an inherited class from Risk Advisor and it inherits the constructor function too. Performance Advisor can also be constructed in same three ways as described in previous documentations. It has its own Graphic choice to alter its output types. |
| Basic\_chart | None | Line plot (plt) | This function plots the portfolio equity and benchmark on a line chart. |
| Exposure\_vs\_Benchmark | style (str) | styled plot  (plt) | This function plots gross and net exposure over time, alongside benchmark. Style of this plot can be changed, its default value is line plot.  Reason for change of style is because portfolio may not have holding all the time then line plot will be messier.  This plot indicates market timing. |
| Fully\_Invest\_Performance | Check (str),  Show\_current (bool) | Line plot (plt) | This function calculates the portfolio value assuming we are always investing 100% capital and only adjust asset allocation through time.  This plot indicates stock selecting. |
| \_Calculate\_Factor\_Loadings | Use\_bars (int)  Rolling (int) | None | This function calculates factor loading of our portfolio with respect to the factors named in Advisor construction.  It uses a rolling window regression approach with window size= use\_bar and rolling frequency= rolling  Then it stores the calculated factor loadings (betas) internal the Advisor class. This is an internal function to assist other functions in advisor app. |
| Return\_Attribution | None | Line plot (plt)  And  Dataframe (pd.df) | This function attributes historical returns to different factors loadings and calculate the alphas generated by investors. It returns a dataframe aggregating this information over time and plots how these returns evolved over time. |
| Show\_Loading | None | Line plot (plt)  Or  Dataframe | This function either returns factor loadings in a dataframe or plots it in a line plot. |