Asset Class Documentation

Release 0.0.1

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asset_class

A simple library that uses r-squared maximization techniques and asset sub class ETFs (that I personally chose) to determine asset class information, as well as historical asset subclass information for a given asset

1.1 Installation

```
$git clone https://github.com/benjaminmgross/asset_class
$ cd asset_class
$python setup.py install
```

1.2 Quickstart

Let's say we had some fund, for instance the Franklin Templeton Growth Allocation Fund A – ticker FGTIX – against which we we wanted to do historical attribution.

In just a couple of key strokes, we can come up with quarterly attribution analysis to see where returns were coming from

```
import pandas.io.data as web
import asset_class

fgtix = web.DataReader('FGTIX', 'yahoo', start = '01/01/2000')['Adj Close']
rolling_weights = asset_class.asset_class_and_subclass_by_interval(fgtix, 'quarterly')
```

And that's it. Let's see the subclass attributions that adjusted r-squared algorithm came up with.

```
import matplotlib.pyplot as plt

#create the stacked area graph
fig = plt.figure()
ax = plt.subplot2grid((1,1), (0,0))
stack_coll = ax.stackplot(rolling_attr.index, rolling_attr.values.transpose())
ax.set_ylim(0, 1.)
proxy_rects = [plt.Rectangle( (0,0), 1, 1,
    fc = pc.get_facecolor()[0]) for pc in stack_coll]
ax.legend(proxy_rects, rolling_attr.columns.values.tolist(), ncol = 3,
    loc = 8, bbox_to_anchor = (0.5, -0.15))
plt.title("Asset Subclass Attribution Over Time", fontsize = 16)
plt.show()
```

./images/subclass_overtime.png

Figure 1.1: sub_classes

1.3 Dependencies

1.3.1 Obvious Ones:

`pandas` `numpy` `scipy.optimize` (uses the `TNC` method to optimize the objective function of r-squared)

1.3.2 Not So Obvious:

Another one of my open source repositories `‘visualize_wealth` <https://github.com/benjaminmgross/wealth-viz>‘__ > But that’s just for adjusted r-squared functionality, you could easily clone and hack it yourself without that library

1.4 Status

Still very much a WIP, although I’ve added [Sphinx]http://sphinx-doc.org/) docstrings to auto generate documentation

1.5 To Do:

CHAPTER 2

Asset Class

CHAPTER 3

Indices and tables

- *genindex*
- *modindex*
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