Run the cell below to create your tear sheet.

In [1]:

```
bt = get_backtest('5f9442c8a3928546af1f2b92')
bt.create_full_tear_sheet()
```

```
100% Time:  0:00:05|###########################################################
####|
```

| | |
|---|---|
| **Start date** | 2016-01-05 |
| **End date** | 2020-10-15 |
| **Total months** | 57 |

| | Backtest |
|---|---|
| **Annual return** | 17.587% |
| **Cumulative returns** | 116.992% |
| **Annual volatility** | 17.158% |
| **Sharpe ratio** | 1.03 |
| **Calmar ratio** | 0.78 |
| **Stability** | 0.89 |
| **Max drawdown** | -22.518% |
| **Omega ratio** | 1.35 |
| **Sortino ratio** | 1.54 |
| **Skew** | -0.34 |
| **Kurtosis** | 17.47 |
| **Tail ratio** | 1.42 |
| **Daily value at risk** | -2.092% |
| **Gross leverage** | 0.18 |
| **Daily turnover** | 50.963% |
| **Alpha** | 0.19 |
| **Beta** | 0.00 |

| Worst drawdown periods | Net drawdown in % | Peak date | Valley date | Recovery date | Duration |
|---|---|---|---|---|---|
| **0** | 22.52 | 2019-08-12 | 2020-04-29 | 2020-07-27 | 251 |
| **1** | 13.70 | 2017-09-08 | 2018-03-01 | 2018-07-11 | 219 |
| **2** | 12.76 | 2016-12-09 | 2016-12-29 | 2017-08-30 | 189 |
| **3** | 9.42 | 2018-12-07 | 2018-12-14 | 2019-01-02 | 19 |
| **4** | 7.16 | 2019-01-14 | 2019-03-14 | 2019-06-21 | 115 |

| Stress Events | mean | min | max |
|---|---|---|---|
| **New Normal** | 0.07% | -11.00% | 8.00% |

| Top 10 long positions of all time | max |
|---|---|
| **NGD-27323** | 102.33% |
| **GG-22226** | 101.09% |
| **AEM-154** | 101.07% |
| **HMY-15814** | 100.83% |
| **PVG-42366** | 100.52% |
| **OR-47173** | 100.42% |
| **AUY-25714** | 99.88% |
| **GOLD-64** | 99.50% |
| **HL-3585** | 99.34% |
| **AGI-44156** | 96.66% |

| Top 10 short positions of all time | max |
|---|---|
| **HL-3585** | -133.74% |
| **NEM-5261** | -109.57% |
| **GSS-9738** | -95.93% |
| **ALO-42115** | -84.13% |
| **GOLD-23906** | -80.27% |
| **DRD-15796** | -78.06% |
| **GG-22226** | -72.44% |
| **SA-26203** | -61.22% |
| **GSV-38137** | -52.89% |
| **USAU-2344** | -52.16% |

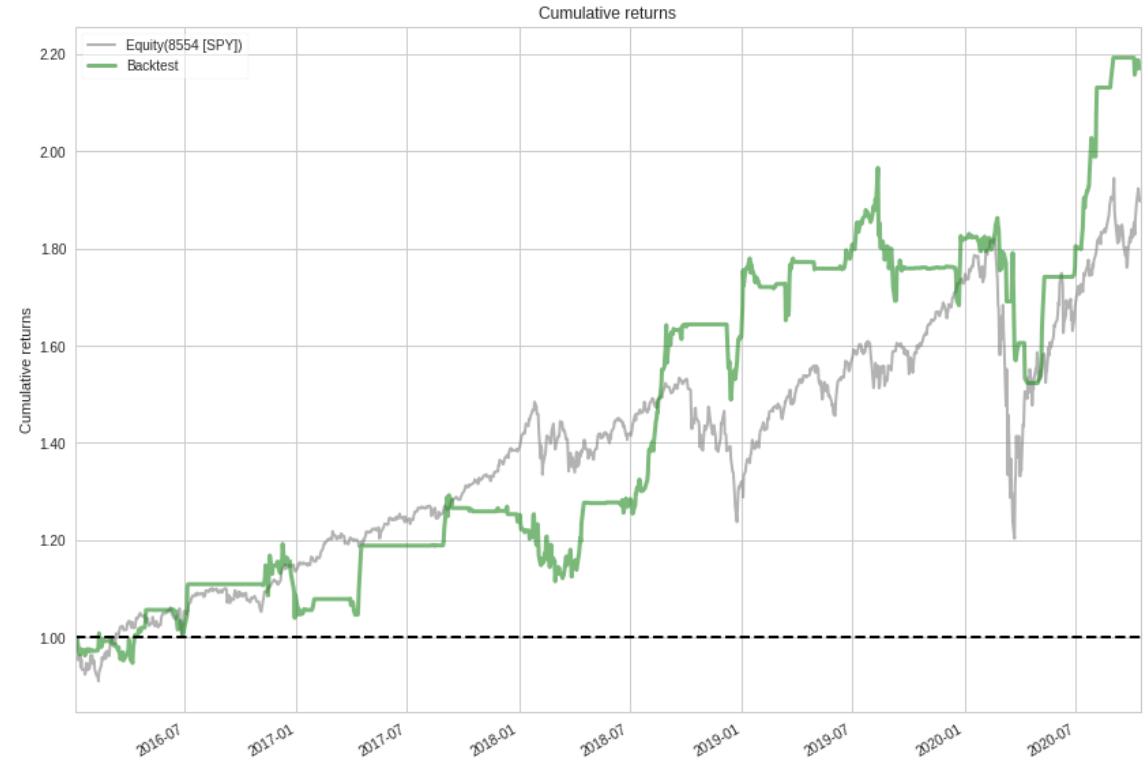
| Top 10 positions of all time | max |
|---|---|
| **HL-3585** | 133.74% |
| **NEM-5261** | 109.57% |
| **NGD-27323** | 102.33% |
| **GG-22226** | 101.09% |
| **AEM-154** | 101.07% |
| **HMY-15814** | 100.83% |
| **PVG-42366** | 100.52% |
| **OR-47173** | 100.42% |
| **AUY-25714** | 99.88% |
| **GOLD-64** | 99.50% |

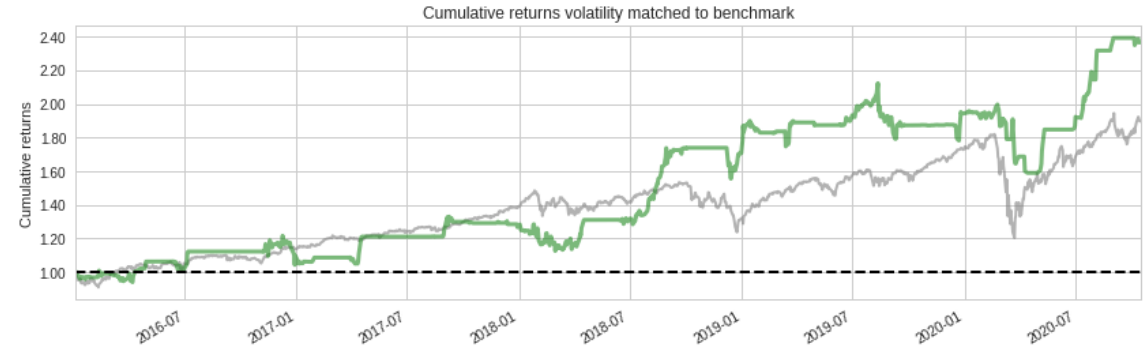
```
/venvs/py35/lib/python3.5/site-packages/matplotlib/axes/_axes.py:6521: Mat
plotlibDeprecationWarning:
The 'normed' kwarg was deprecated in Matplotlib 2.1 and will be removed in
3.1. Use 'density' instead.
  alternative="'density'", removal="3.1")
/venvs/py35/lib/python3.5/site-packages/statsmodels/nonparametric/kdetool
s.py:20: VisibleDeprecationWarning: using a non-integer number instead of
an integer will result in an error in the future
  y = X[:m/2+1] + np.r_[0,X[m/2+1:],0]*1j
/venvs/py35/src/pyfolio/pyfolio/perf_attrib.py:564: UserWarning: Could not
determine risk exposures for some of this algorithm's positions. Returns f
rom the missing assets will not be properly accounted for in performance a
ttribution.

 7 assets were missing factor loadings, including: AU-629, DRD-15796, GFI-
9936, GOLD-23906, HL_PRB-9172..SBSW-44120. Ignoring for exposure calculati
on and performance attribution. Ratio of assets missing: 0.146. Average al
location of selected missing assets:

AU-629        -15384.750000
DRD-15796      18693.192500
GFI-9936       23381.828333
GOLD-23906    -18097.261250
HL_PRB-9172     6596.262301
SBSW-44120     34672.877333
dtype: float64.

  warnings.warn(missing_stocks_warning_msg)
/venvs/py35/src/pyfolio/pyfolio/perf_attrib.py:612: UserWarning: This algo
rithm has relatively high turnover of its positions. As a result, performa
nce attribution might not be fully accurate.

Performance attribution is calculated based on end-of-day holdings and doe
s not account for intraday activity. Algorithms that derive a high percent
age of returns from buying and selling within the same day may receive ina
ccurate performance attribution.

  warnings.warn(warning_msg)
```

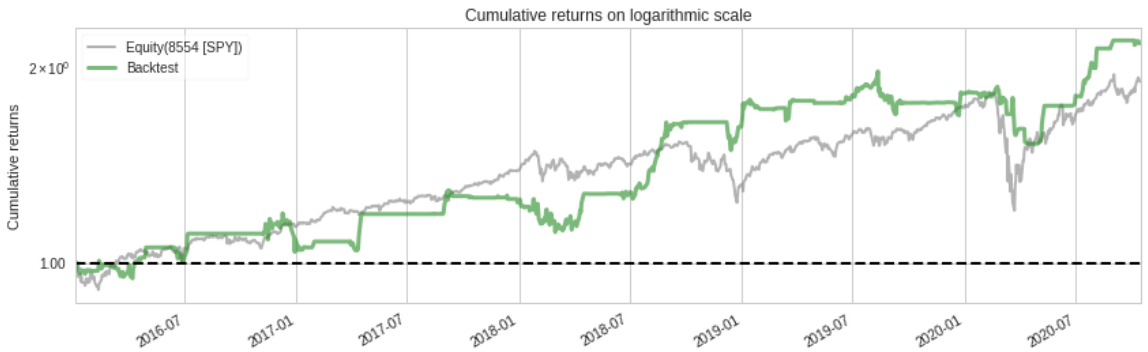
# Performance Relative to Common Risk Factors

| Summary Statistics | |
|---|---|
| **Annualized Specific Return** | 0.55% |
| **Annualized Common Return** | 8.68% |
| **Annualized Total Return** | 17.56% |
| **Specific Sharpe Ratio** | 0.23 |

| Exposures Summary | Average Risk Factor Exposure | Annualized Return | Cumulative Return |
|---|---|---|---|
| **basic_materials** | -0.02 | 4.17% | 21.57% |
| **consumer_cyclical** | 0.00 | 0.00% | 0.00% |
| **financial_services** | 0.00 | 0.00% | 0.00% |
| **real_estate** | 0.00 | 0.00% | 0.00% |
| **consumer_defensive** | 0.00 | 0.00% | 0.00% |
| **health_care** | 0.00 | 0.00% | 0.00% |
| **utilities** | 0.00 | 0.00% | 0.00% |
| **communication_services** | 0.00 | 0.00% | 0.00% |
| **energy** | 0.00 | 0.00% | 0.00% |
| **industrials** | 0.00 | 0.00% | 0.00% |
| **technology** | 0.00 | 0.00% | 0.00% |
| **momentum** | -0.22 | 1.10% | 5.36% |
| **size** | -0.10 | 2.20% | 10.98% |
| **value** | 0.12 | 1.28% | 6.27% |
| **short_term_reversal** | -0.11 | 0.55% | 2.64% |
| **volatility** | 0.14 | 0.50% | 2.43% |

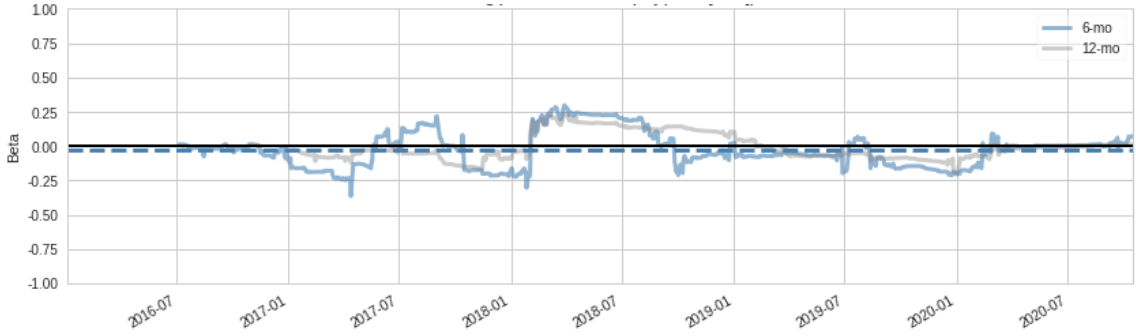


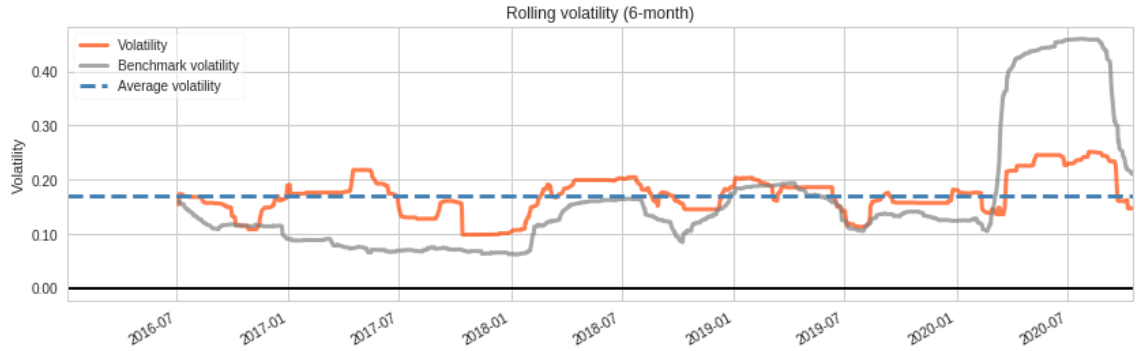



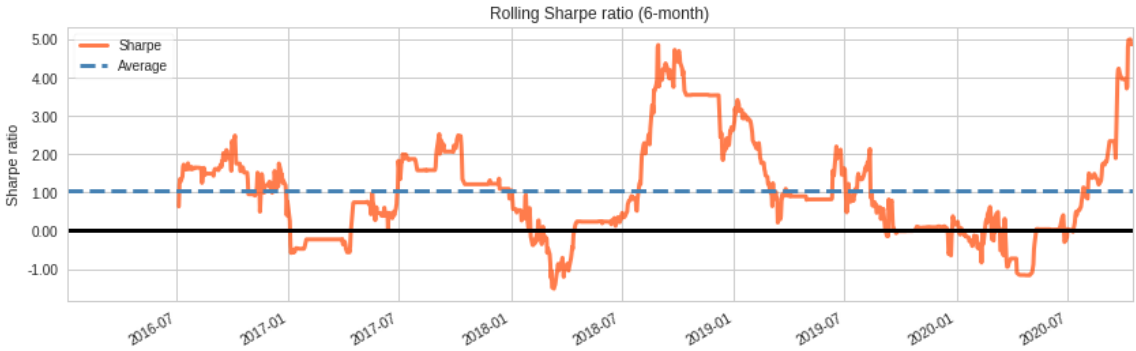



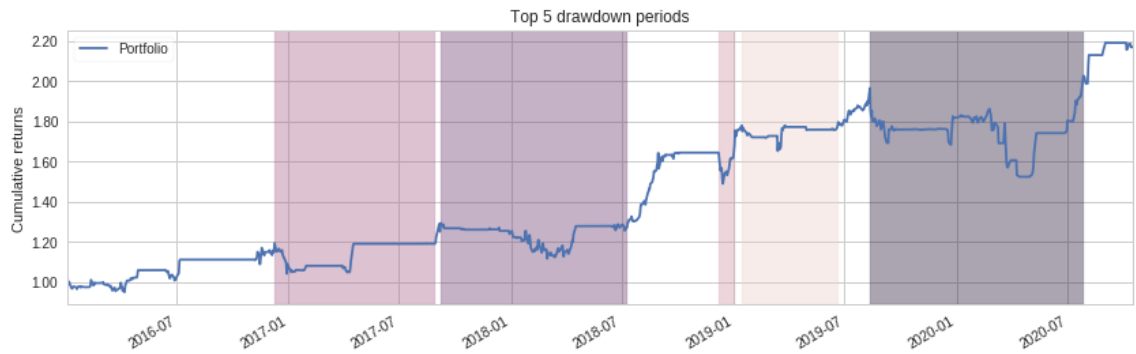


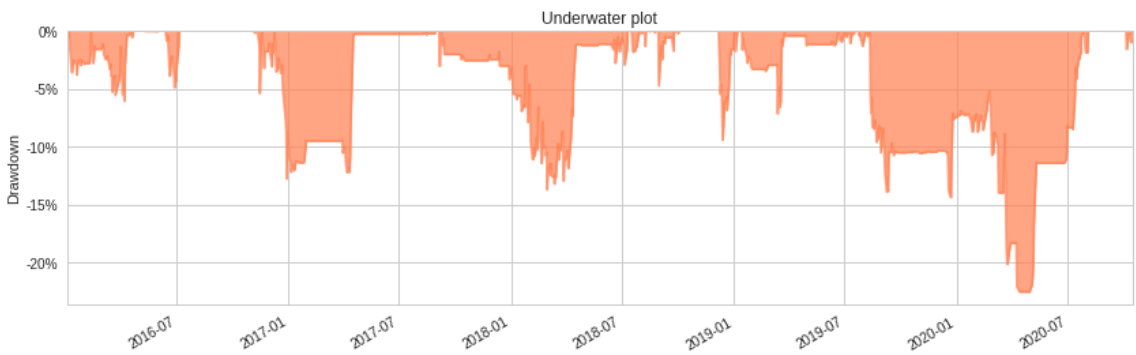
Rolling portfolio beta to Equity(8554 [SPY])


6-mo
12-mo
Beta
1.00
0.75
0.50
0.25
0.00
-0.25
-0.50
-0.75
-1.00
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

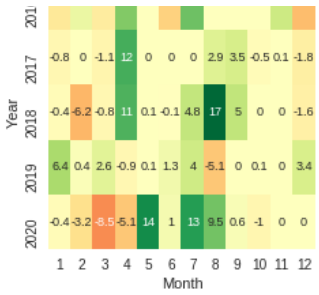

Rolling volatility (6-month)
Volatility
Benchmark volatility
Average volatility
Volatility
0.40
0.30
0.20
0.10
0.00
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07


Rolling Sharpe ratio (6-month)
Sharpe
Average
Sharpe ratio
5.00
4.00
3.00
2.00
1.00
0.00
-1.00
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

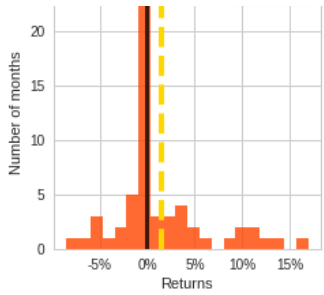

Top 5 drawdown periods
Portfolio
Cumulative returns
2.20
2.00
1.80
1.60
1.40
1.20
1.00
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

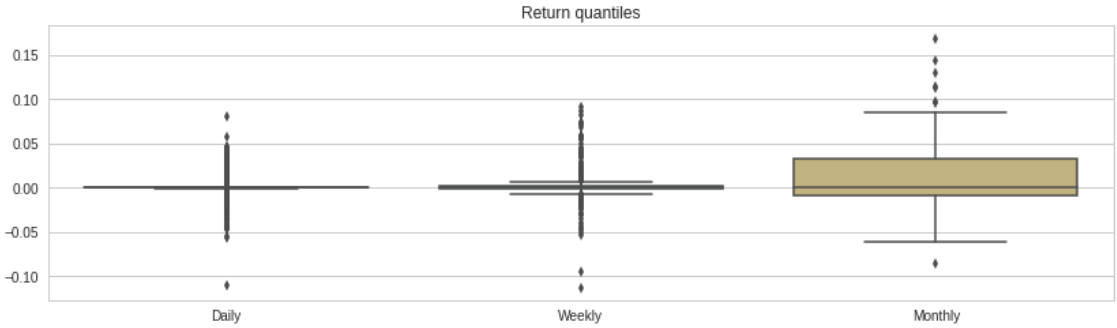

Underwater plot
Drawdown
0%
-5%
-10%
-15%
-20%
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

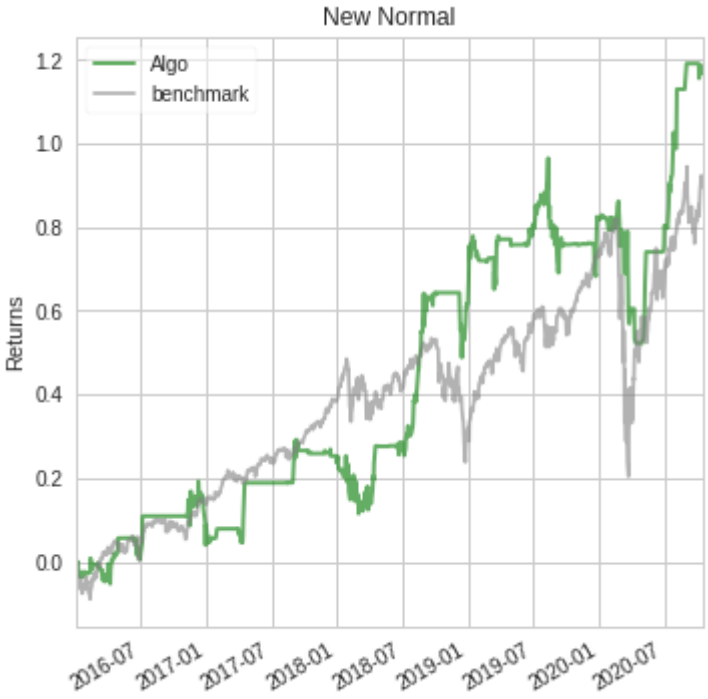

Monthly returns (%)
-2.5 1.8 -2 8.6 -0 -4.3 9.7 0 0 0 4.1 -5.8
Annual returns
2016
Mean
Distribution of monthly returns
25
Mean

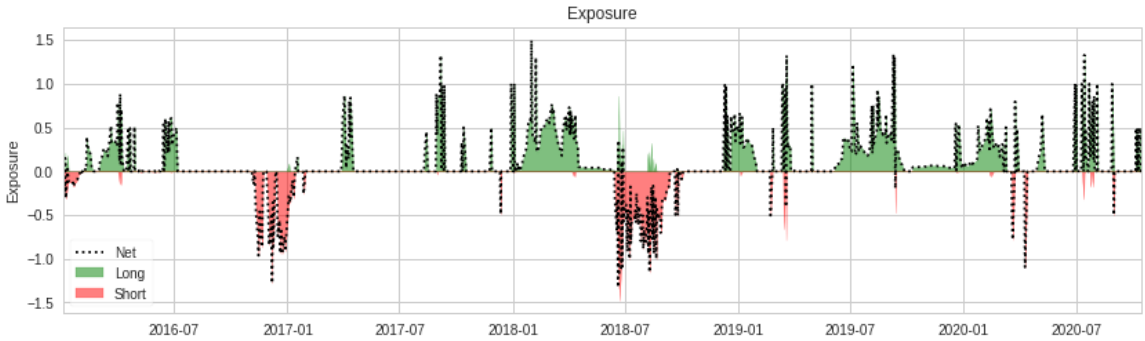

Year
2017
2018
2019
2020
-0.8 0 -1.1 12 0 0 0 2.9 3.5 -0.5 0.1 -1.8
-0.4 -6.2 -0.8 11 0.1 -0.1 4.8 17 5 0 0 -1.6
6.4 0.4 2.6 -0.9 0.1 1.3 4 -5.1 0 0.1 0 3.4
-0.4 -3.2 -5.5 -5.1 14 1 13 9.5 0.6 -1 0 0
1 2 3 4 5 6 7 8 9 10 11 12
Month

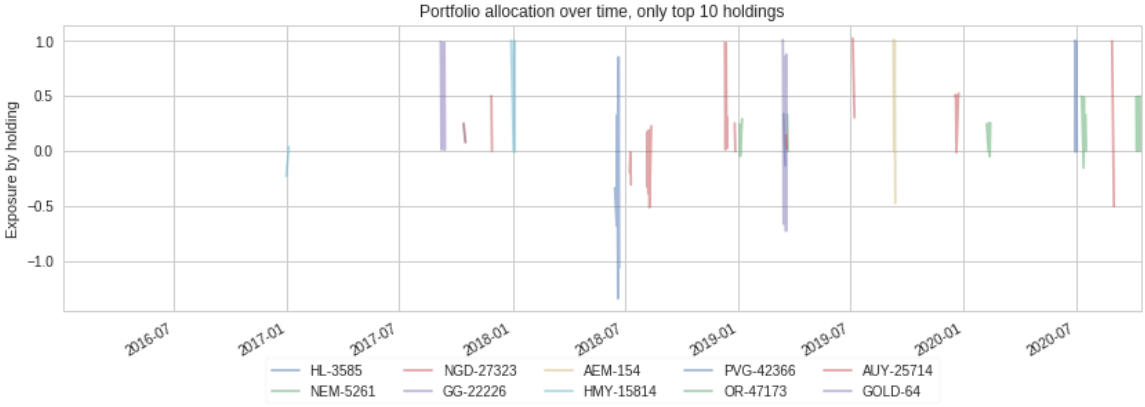

Year
2017
2018
2019
2020
0%
10%
20%
30%
Returns

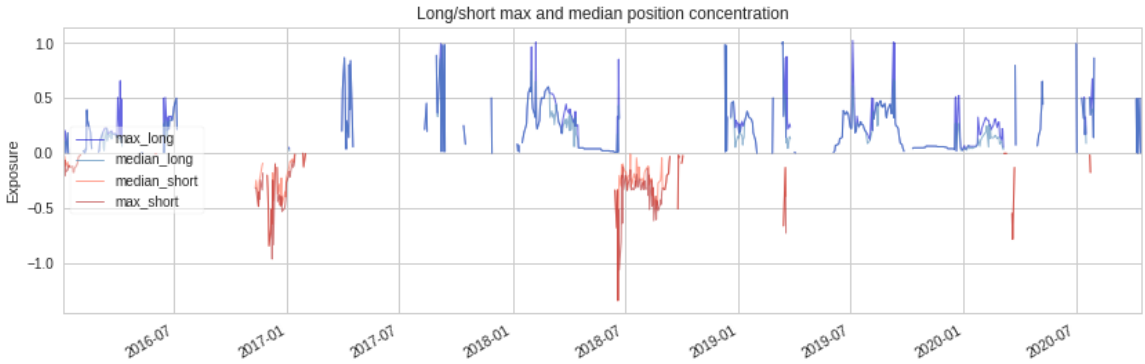

Number of months
0
5
10
15
20
-5%
0%
5%
10%
15%
Returns

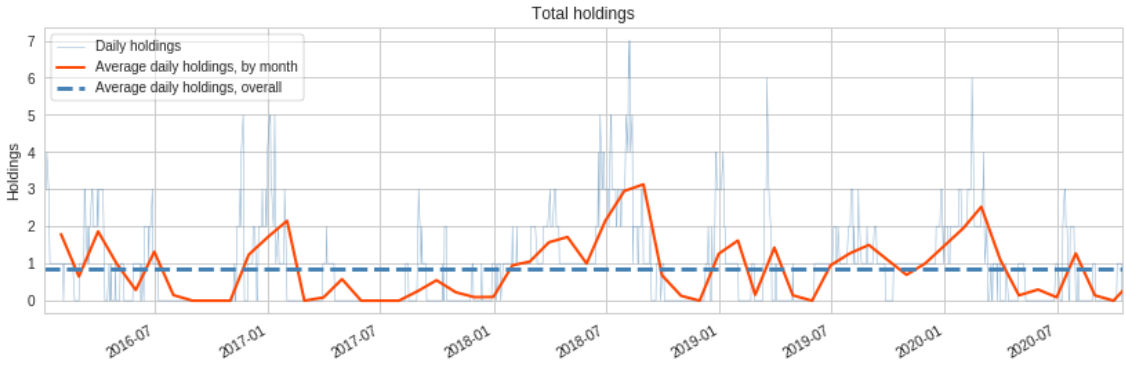

Return quantiles
0.15
0.10
0.05
0.00
−0.05
−0.10
Daily
Weekly
Monthly

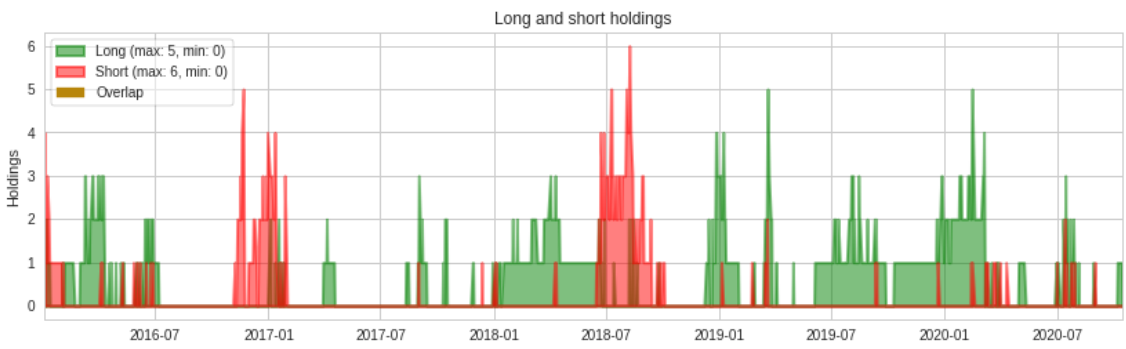

New Normal
Algo
benchmark
Returns
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

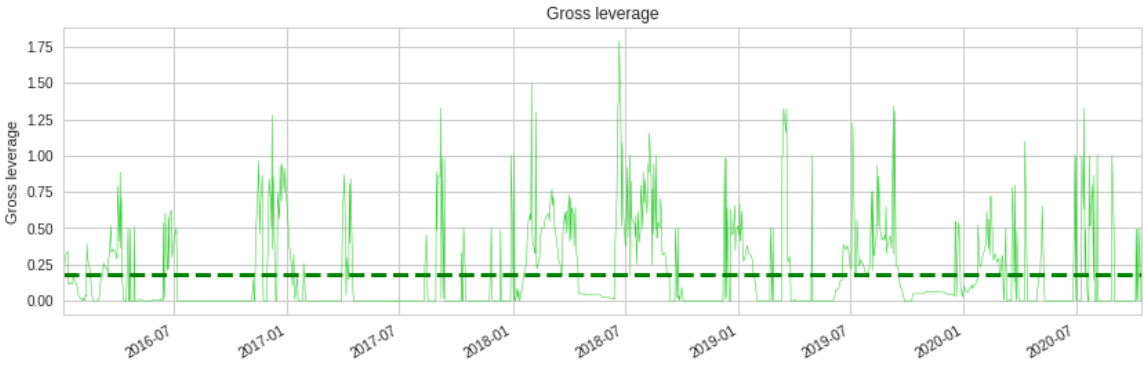

Exposure
Exposure
Net
Long
Short
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

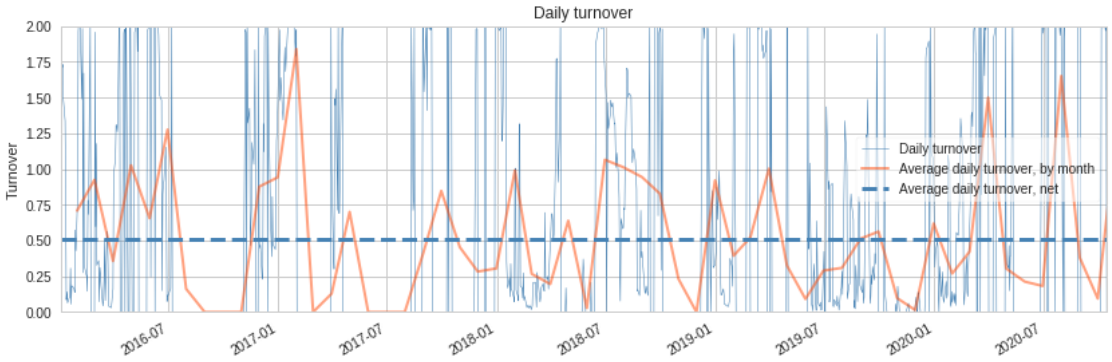

Portfolio allocation over time, only top 10 holdings
Exposure by holding
HL-3585
NGD-27323
AEM-154
PVG-42366
AUY-25714
NEM-5261
GG-22226
HMY-15814
OR-47173
GOLD-64

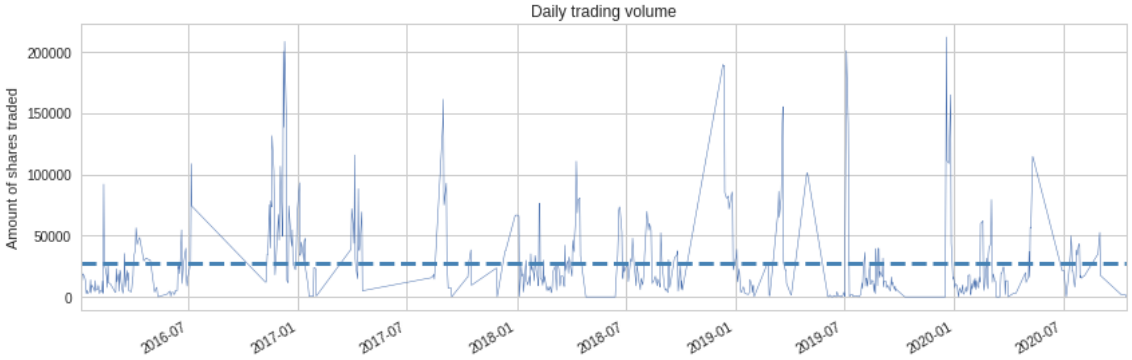

Long/short max and median position concentration
Exposure
max_long
median_long
median_short
max_short

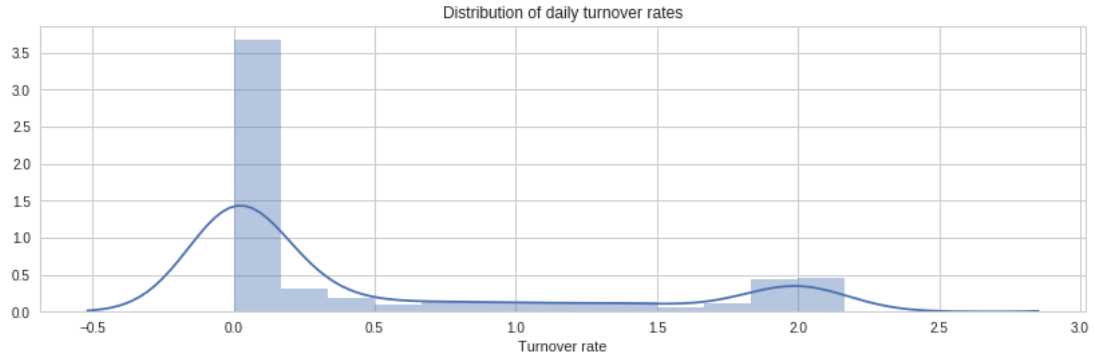

Total holdings
Holdings
Daily holdings
Average daily holdings, by month
Average daily holdings, overall

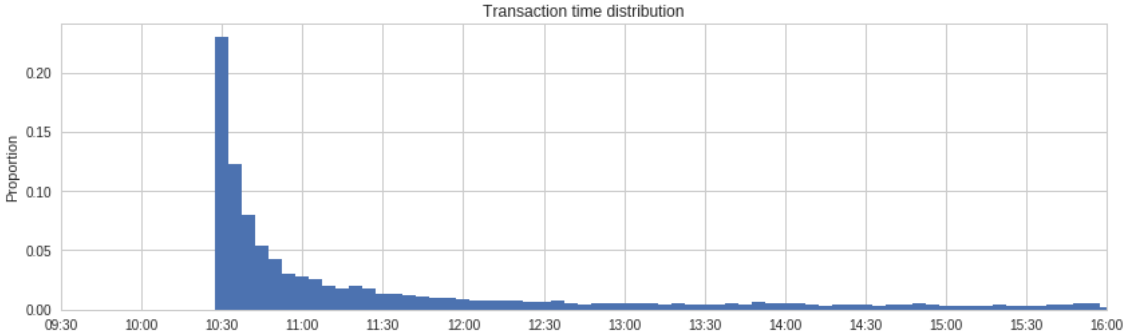

Long and short holdings
Holdings
Long (max: 5, min: 0)
Short (max: 6, min: 0)
Overlap

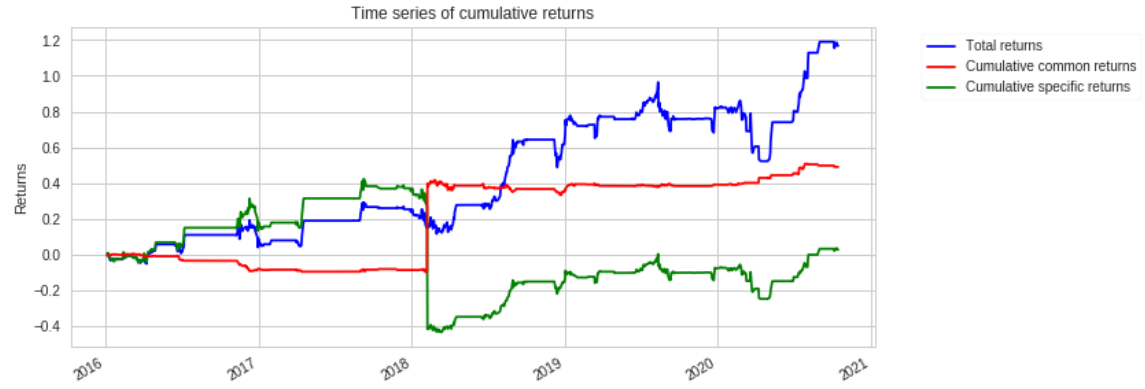

Gross leverage
Gross leverage
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

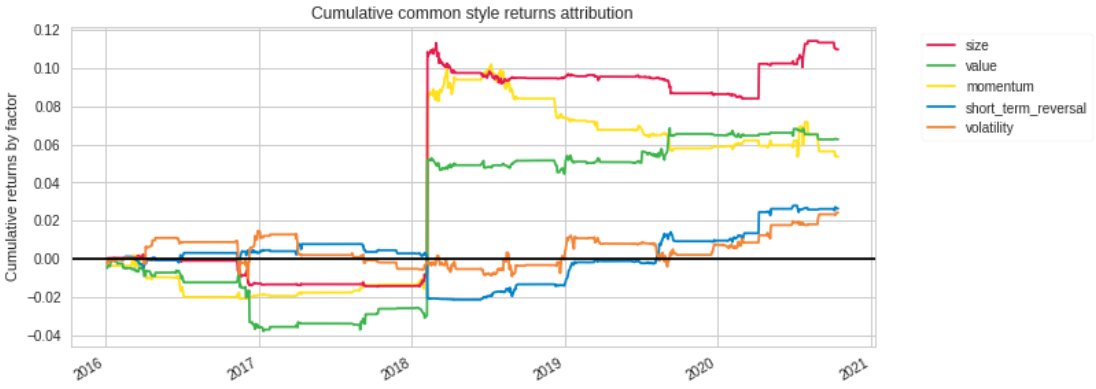

Daily turnover
Turnover
Daily turnover
Average daily turnover, by month
Average daily turnover, net
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07


Daily trading volume
Amount of shares traded
2016-07
2017-01
2017-07
2018-01
2018-07
2019-01
2019-07
2020-01
2020-07

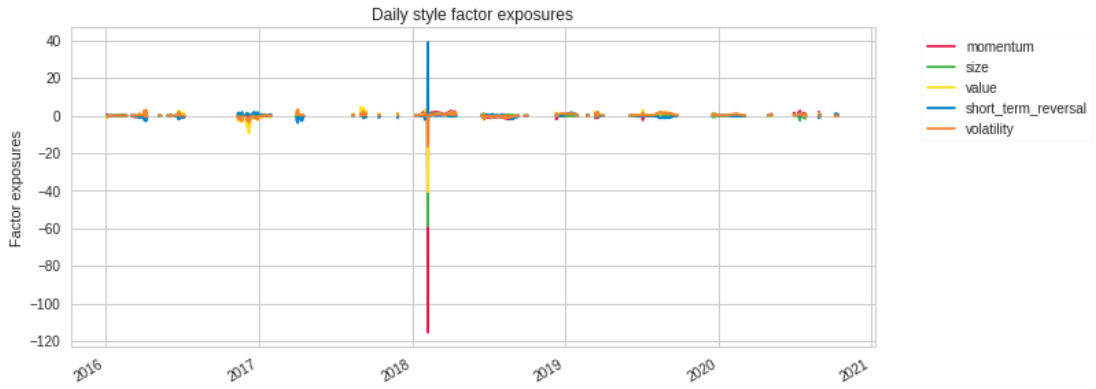

Distribution of daily turnover rates
Turnover rate

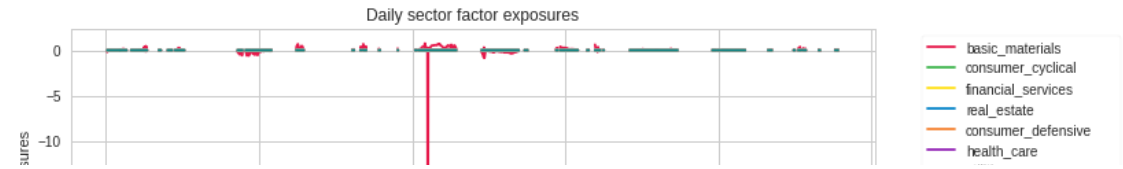

Transaction time distribution
Proportion
09:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
15:30
16:00


Time series of cumulative returns
Returns
Total returns
Cumulative common returns
Cumulative specific returns


Cumulative common style returns attribution
Cumulative returns by factor
size
value
momentum
short_term_reversal
volatility


Cumulative common sector returns attribution
Cumulative returns by factor
basic_materials
consumer_cyclical
financial_services
real_estate
consumer_defensive
health_care
utilities
communication_services
energy
industrials
technology


Daily style factor exposures
Factor exposures
momentum
size
value
short_term_reversal
volatility


Daily sector factor exposures
basic_materials
consumer_cyclical
financial_services
real_estate
consumer_defensive
health_care


Factor expos
−15
−20
−25
−30
2016
2017
2018
2019
2020
2021
utilities
communication_services
energy
industrials
technology