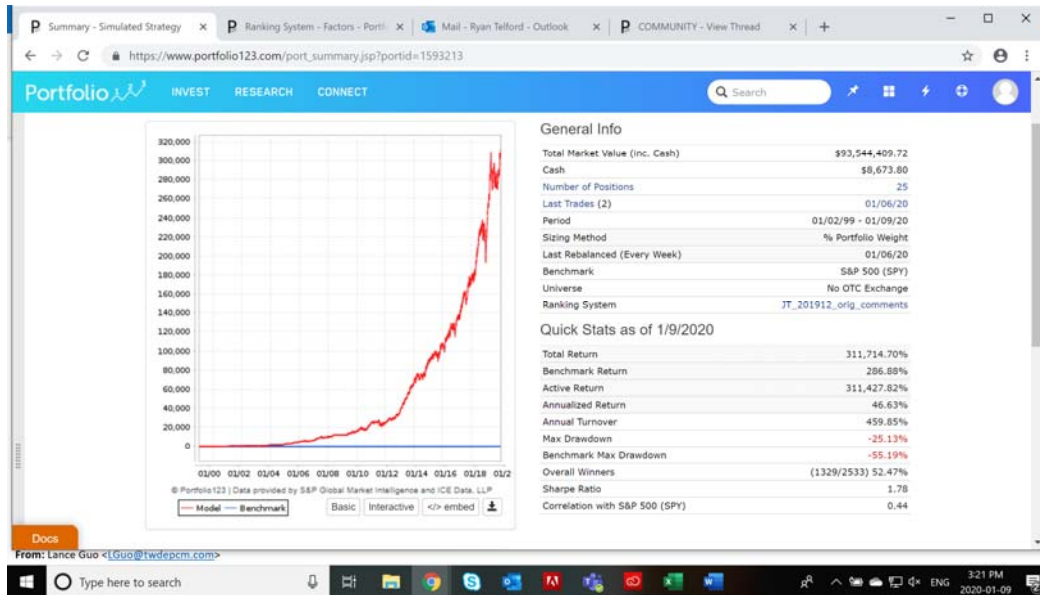


RTJT Small & Microcap Growth

Robustness Testing

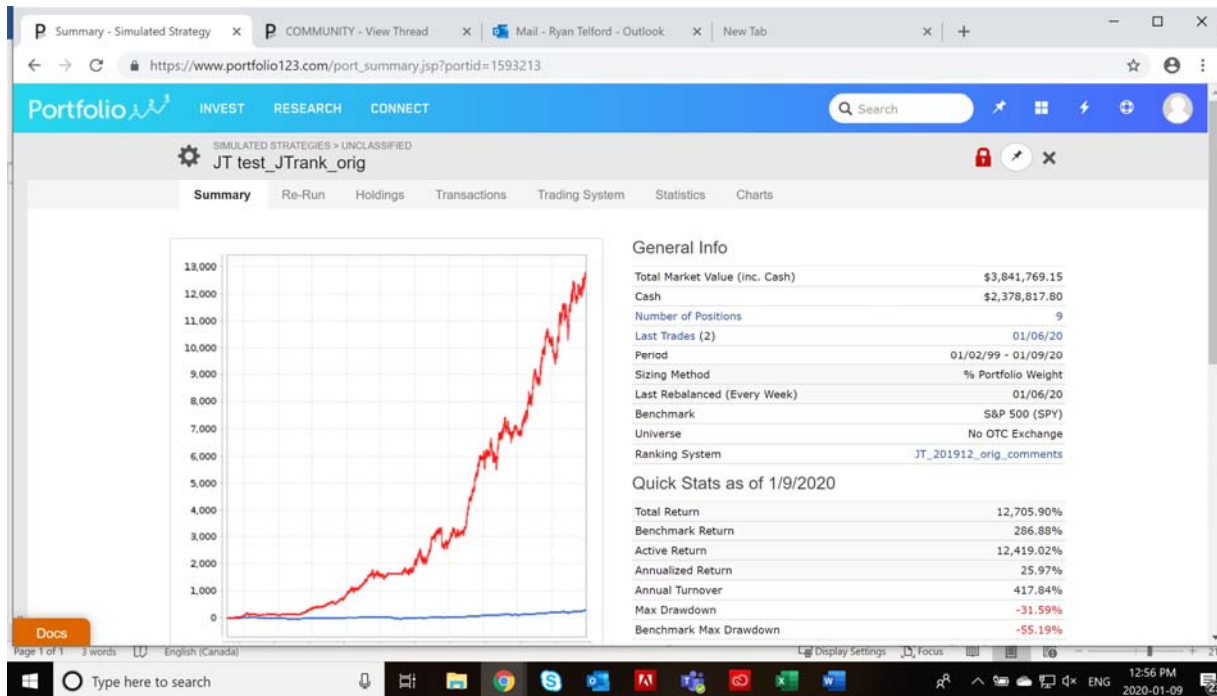
09 Jan 2020

1. Base Case

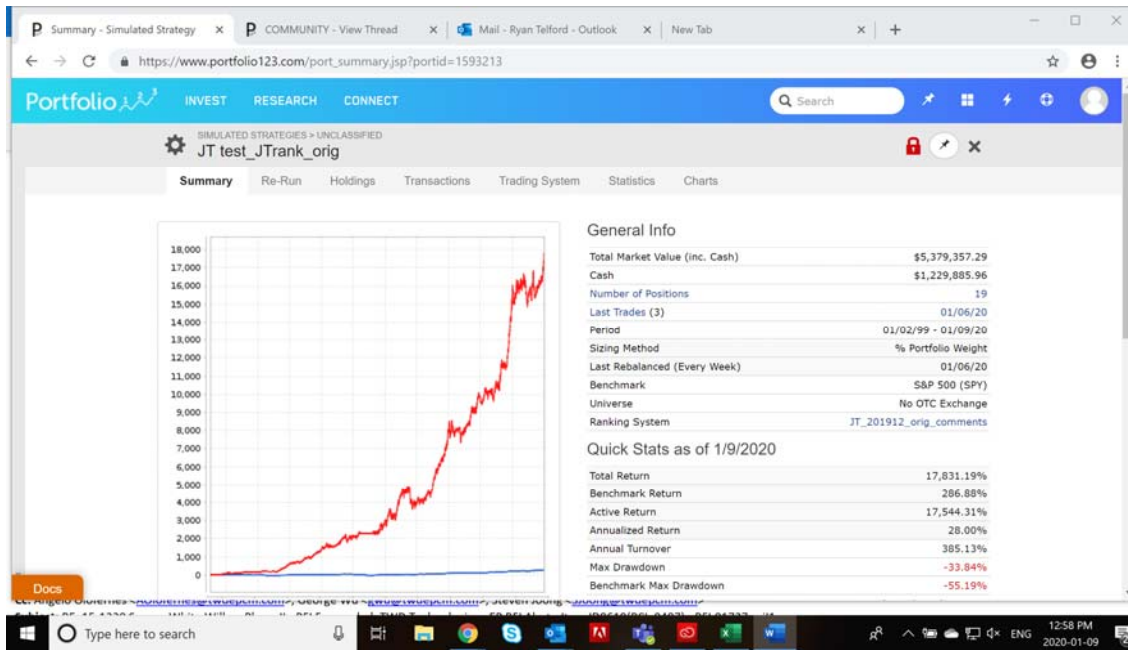


2. Split Universe

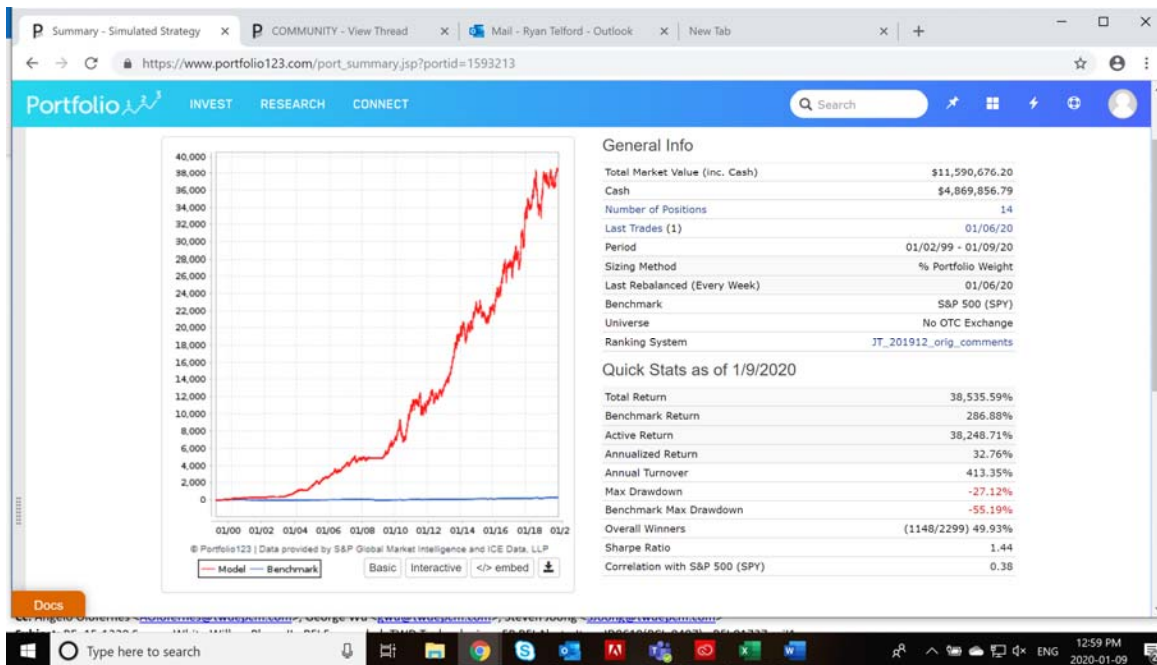
a. $EventId = 0$ and $Trunc(100 * Mod(Ln(SalesA + 1), 0.02)) = 0$



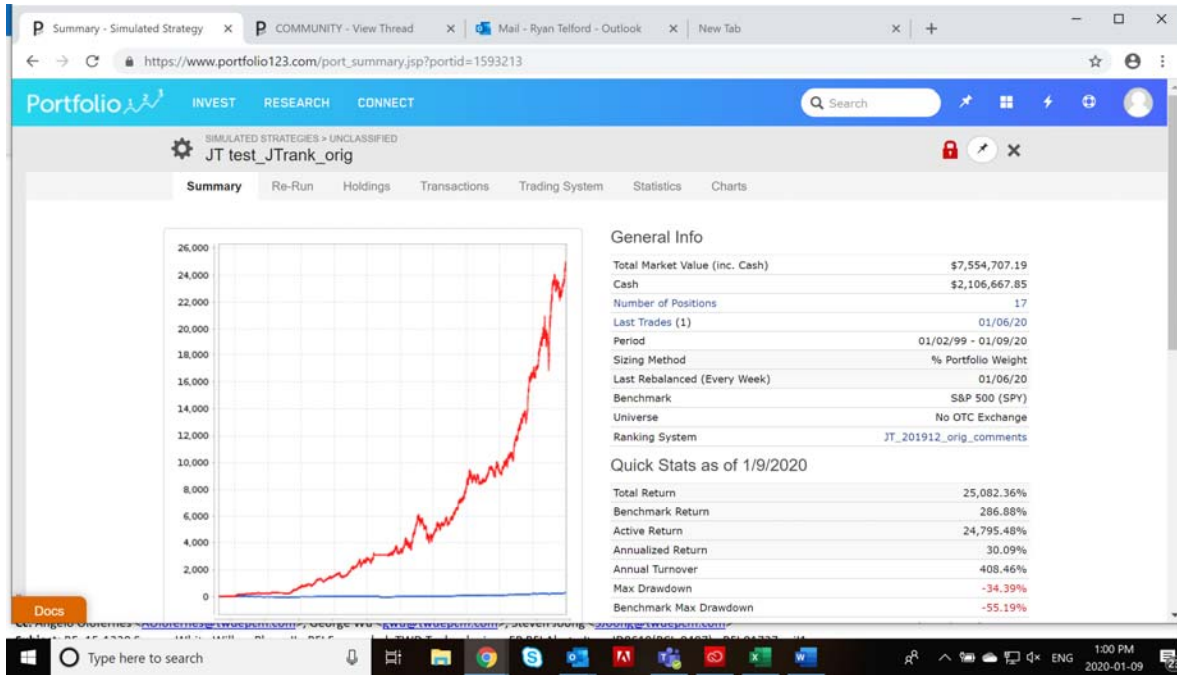
b. $\text{EventId} = 0$ and $\text{Trunc}(100 * \text{Mod}(\text{Ln}(\text{SalesA} + 1), 0.02)) = 1$



c. $\text{EventId} = 1$ and $\text{Trunc}(100 * \text{Mod}(\text{Ln}(\text{SalesA} + 1), 0.02)) = 0$



d. $\text{EventId} = 1$ and $\text{Trunc}(100 * \text{Mod}(\text{Ln}(\text{SalesA} + 1), 0.02)) = 1$

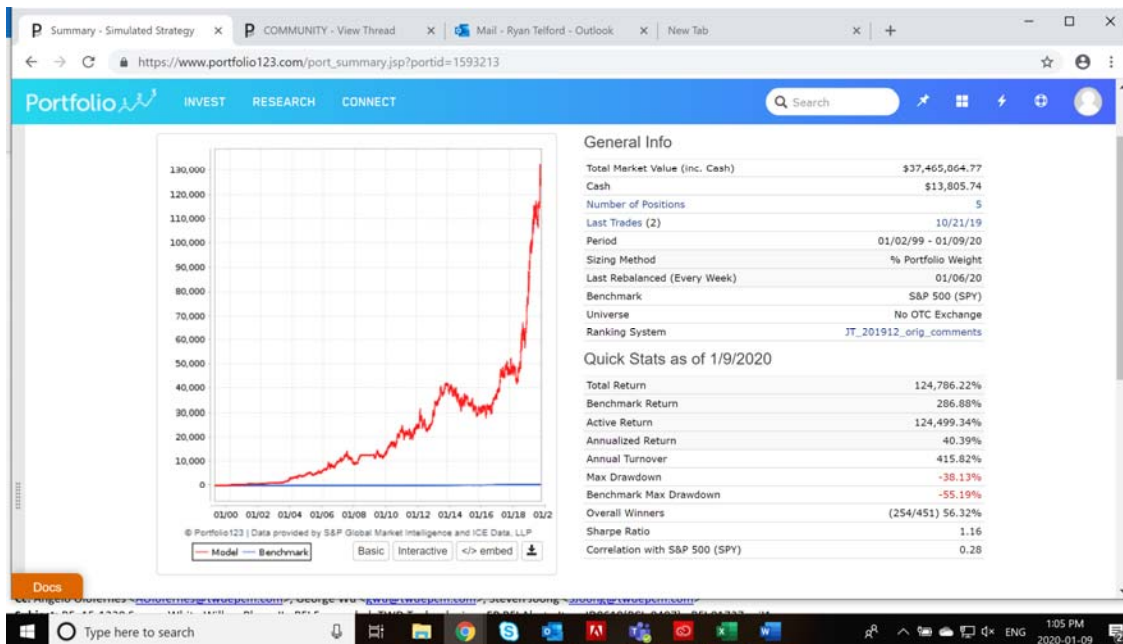


3. Adjust # of Stocks

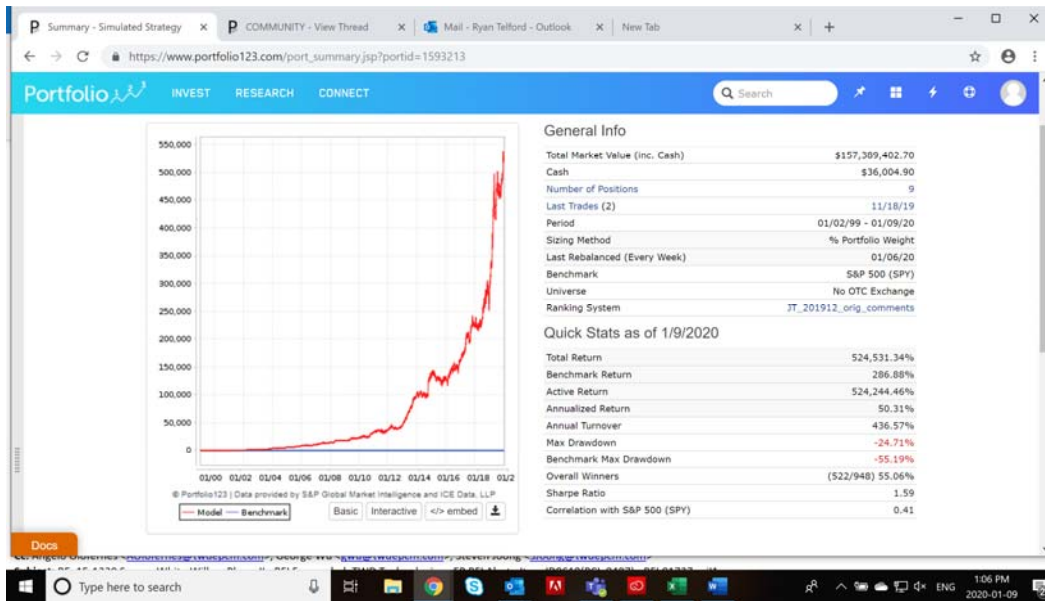
a. 3 Stocks



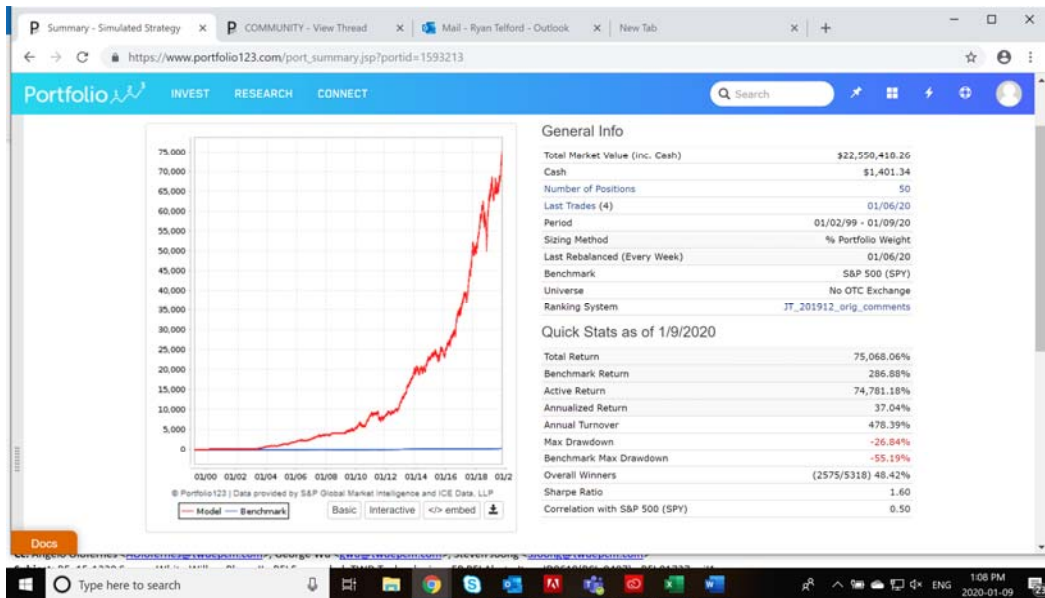
b. 5 stocks



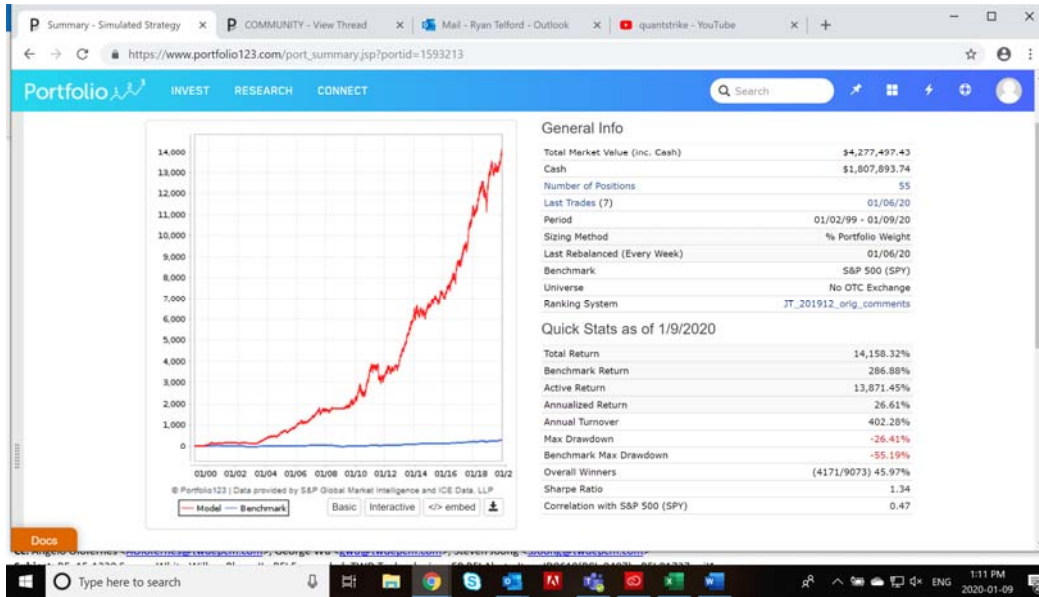
c. 10 stocks



d. 50 stocks



e. 100 stocks (max 55 currently)



4. By Sector
 a. Energy (GICS10)

25 stocks, rank>80

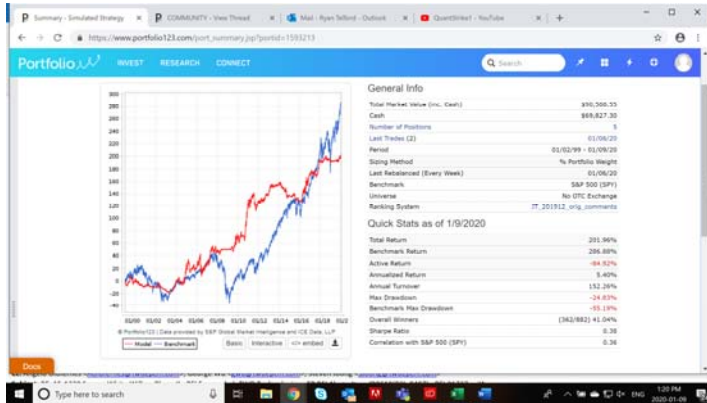


10 stocks, rank >80

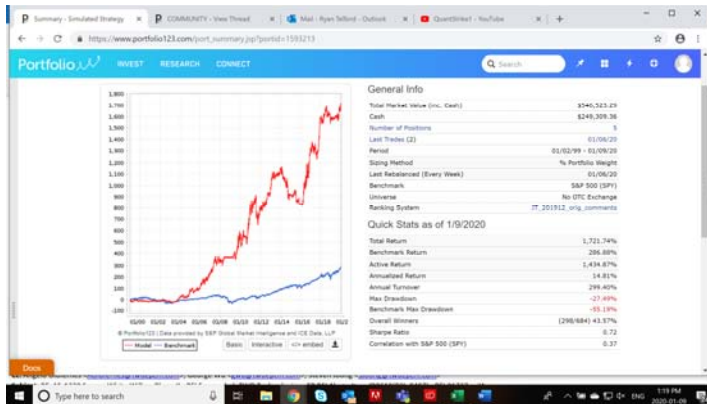


b. Materials (GICS15)

25 stocks, rank > 80

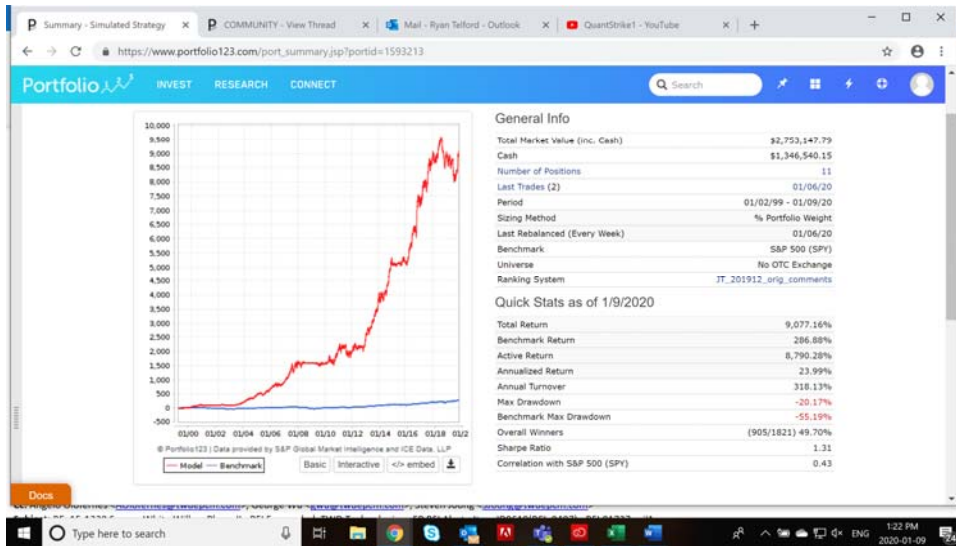


10 stocks, rank > 80

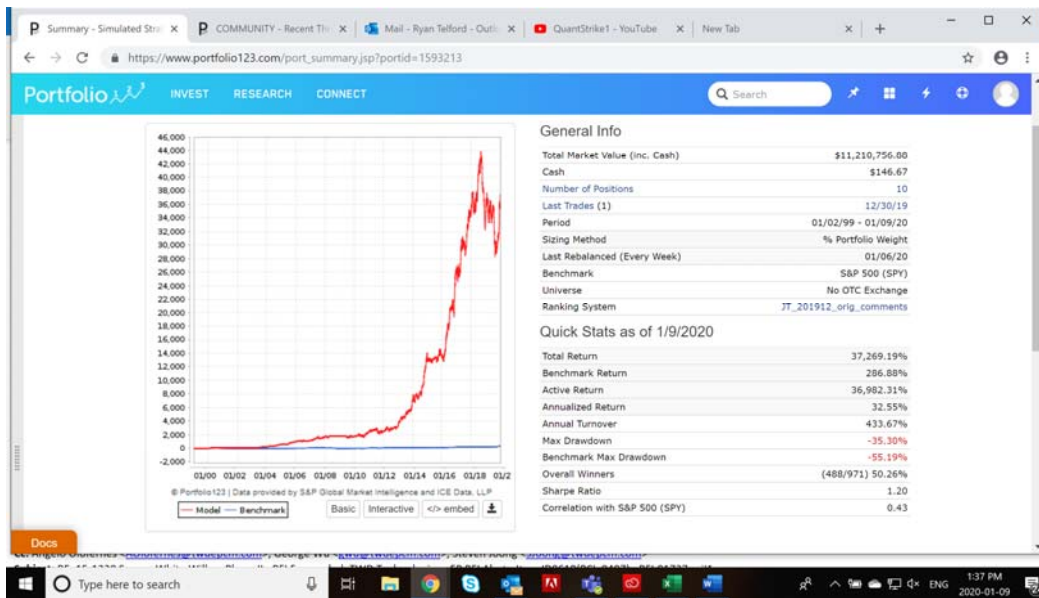


c. Industrials (GICS20)

25 positions, rank > 80



10 pos

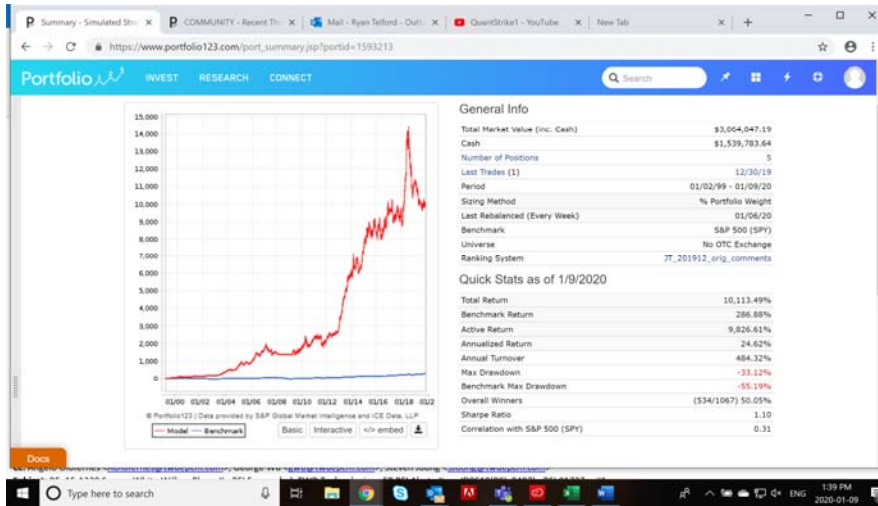


d. Consumer Discretionary (GICS25)

25 pos, rank > 80

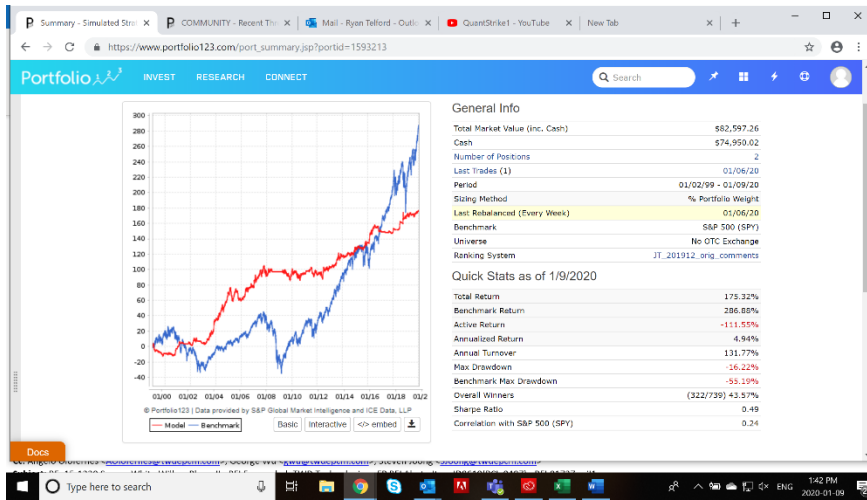


10 pos, rank >80

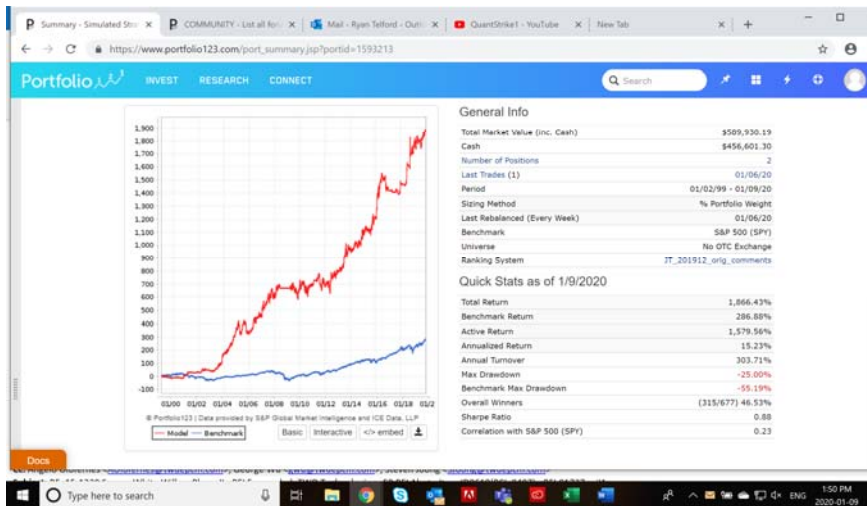


e. Consumer Staples (GICS 30)

25 pos, rank > 80

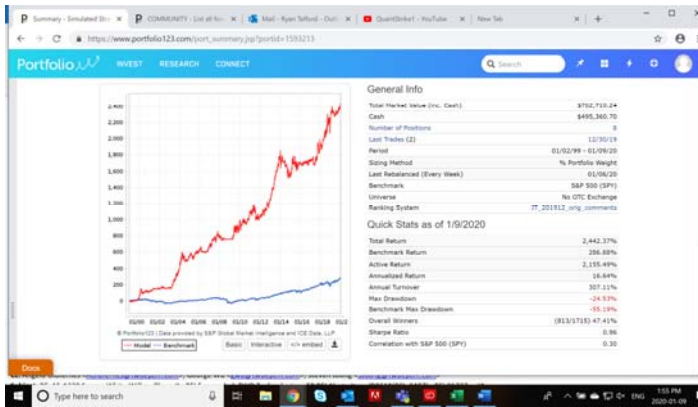


10 pos

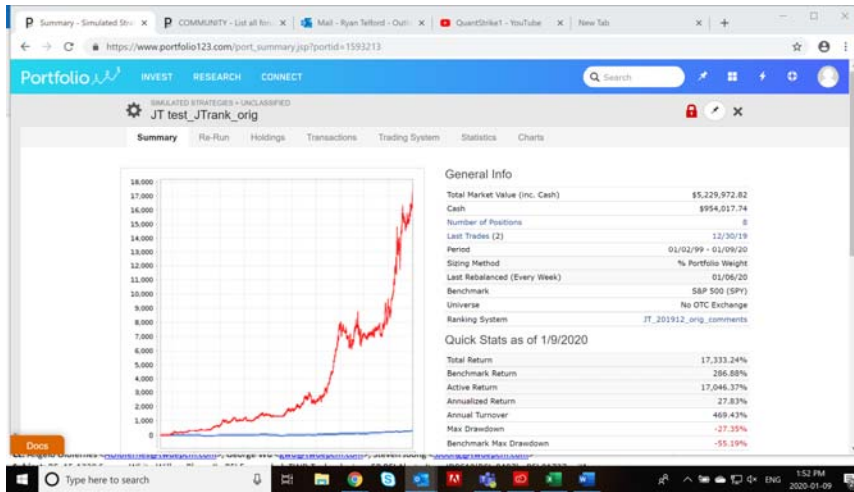


f. Healthcare (GICS 35)

25 pos

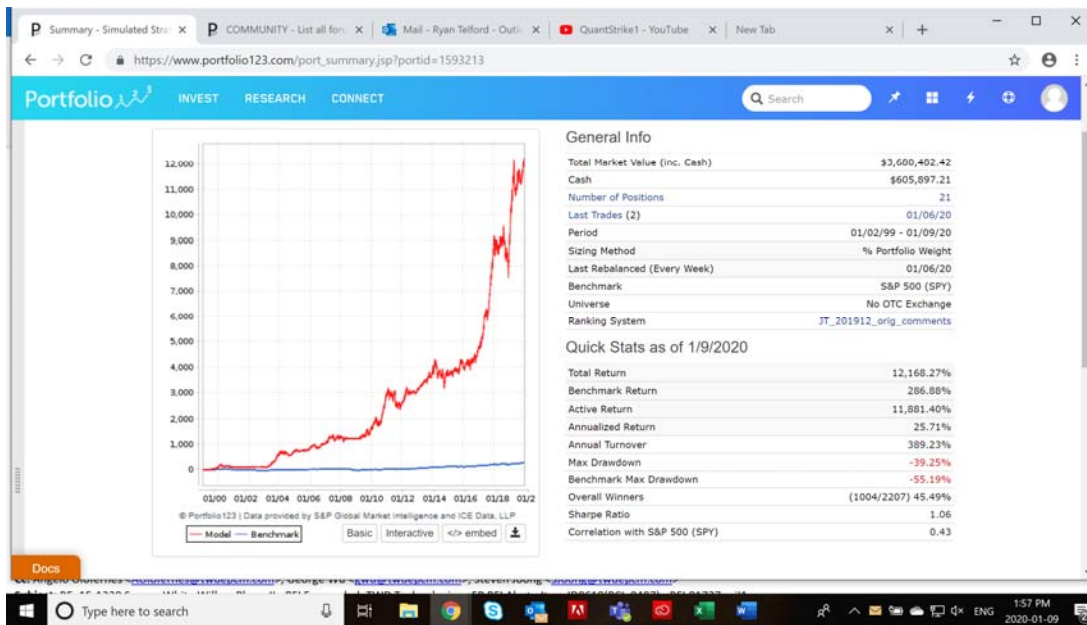


10 pos, rank > 80

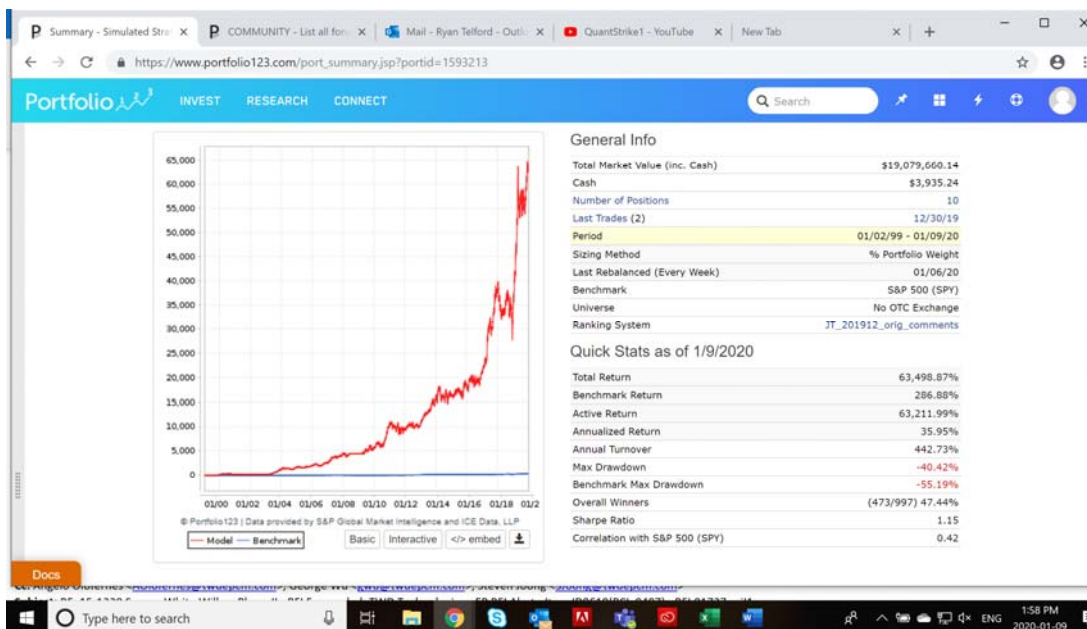


g. Tech (GICS 45)

25 pos, rank > 80

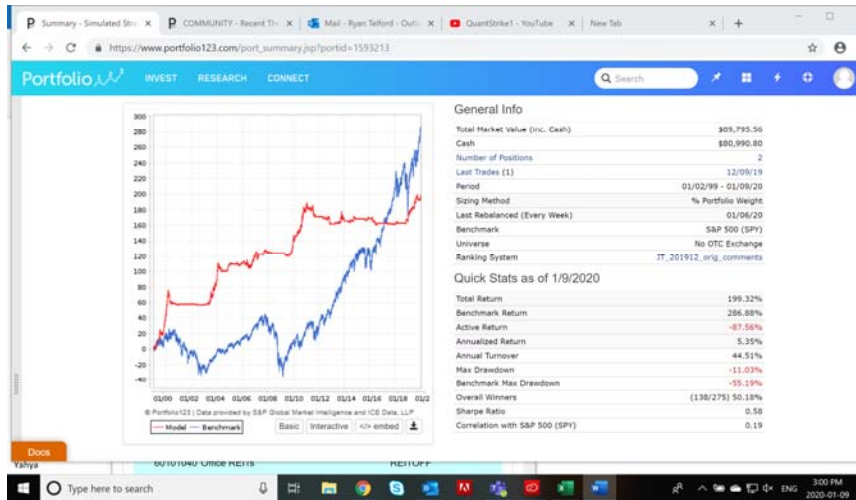


10 pos

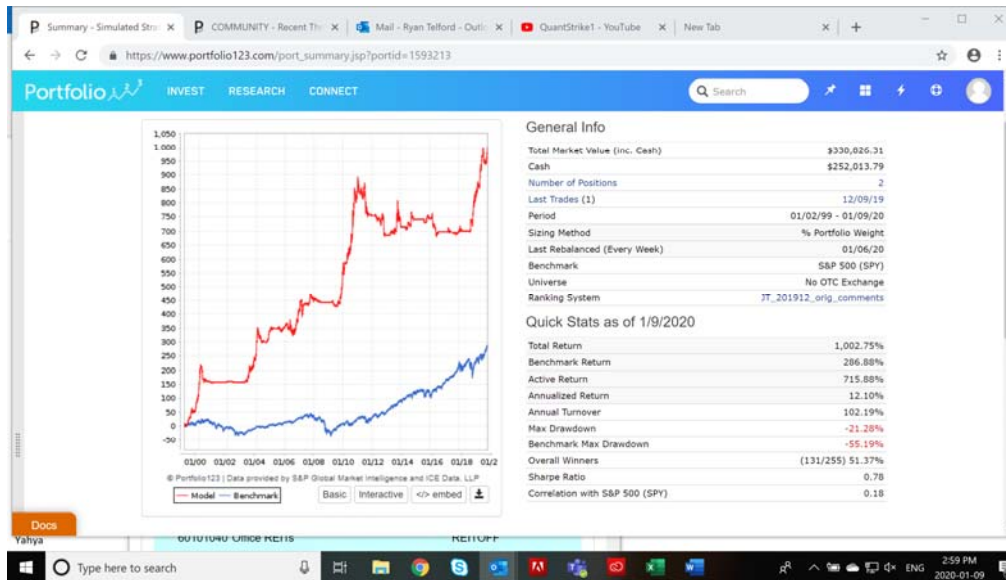


h. Communication Services

25 pos, rank > 80



10 pos, rank > 80



5. Adjust Ranking Weights

a. Base weighting

The screenshot displays the Portfolio123 ranking system interface. The main window shows a tree view of factors under the heading 'JT_201912_orig_comments'. The factors and their weights are:

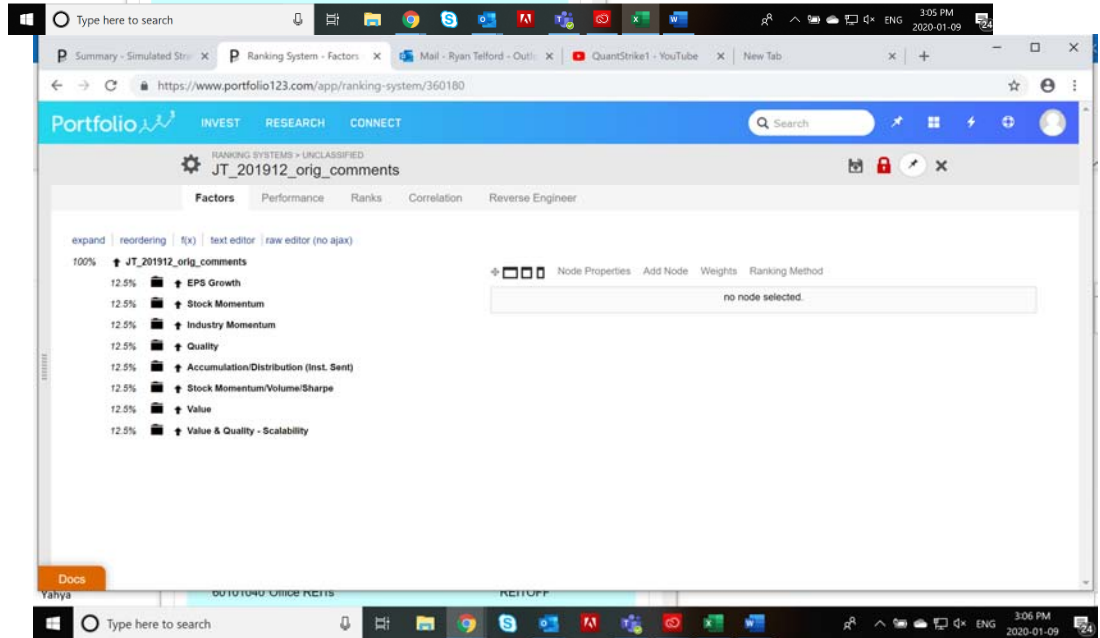
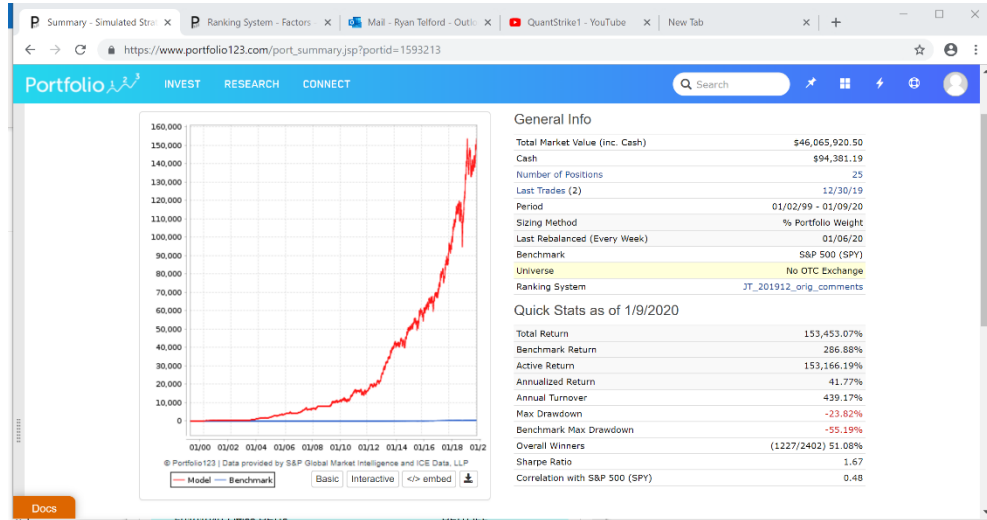
- 100% JT_201912_orig_comments
- 11% EPS Growth
- 11% Stock Momentum
- 22% Industry Momentum
- 11% Quality
- 11% Accumulation/Distribution (Inst. Sent)
- 11% Stock Momentum/Volume/Sharpe
- 11% Value
- 12% Value & Quality - Scalability

The 'Node Weights' configuration window is open, showing a table of weights for each factor. The total weight is 100%. The weights are:

Factor	Weight (%)
Total	100
EPS Growth	11
Stock Momentum	11
Industry Momentum	22
Quality	11
Accumulation/Distribution (Inst. Sent)	11
Stock Momentum/Volume/Sharpe	11
Value	11
Value & Quality - Scalability	12

The interface includes a search bar, navigation tabs (INVEST, RESEARCH, CONNECT), and a 'Node Weights' panel with an 'Update' button. The Windows taskbar at the bottom shows the time as 3:20 PM on 2020-01-09.

a. Equal Ranking



b. Remove Industry Momentum

The screenshot shows the 'Node Weights' configuration interface in Portfolio123. The 'Industry Momentum' factor is currently set to 0%. The following table represents the data shown in the interface:

Factor	Weight (%)
Total	100
EPS Growth	14
Stock Momentum	14
Industry Momentum	0
Quality	14.5
Accumulation/Distribution (Inst. Sent)	14.5
Stock Momentum/Volume/Sharpe	14.5
Value	14
Value & Quality - Scalability	14

The screenshot displays the 'General Info' and 'Quick Stats' for a portfolio. The chart on the left shows the portfolio's performance from 01/00 to 01/20, with a clear upward trend. The 'Quick Stats' table provides the following data:

Category	Value
Total Market Value (inc. Cash)	\$19,520,071.72
Cash	\$1,731.28
Number of Positions	25
Last Trades (2)	01/06/20
Period	01/02/99 - 01/09/20
Sizing Method	% Portfolio Weight
Last Rebalanced (Every Week)	01/06/20
Benchmark	S&P 500 (SPY)
Universe	No OTC Exchange
Ranking System	JT_201912_orig_comments

Quick Stats as of 1/9/2020	
Total Return	64,993.57%
Benchmark Return	286.88%
Active Return	64,706.69%
Annualized Return	36.10%
Annual Turnover	420.10%
Max Drawdown	-22.48%
Benchmark Max Drawdown	-55.19%
Overall Winners	(1175/2326) 50.52%
Sharpe Ratio	1.63
Correlation with S&P 500 (SPY)	0.53

c. Value & Momentum Only

The screenshot shows the 'Ranking System' configuration page for 'JT_201912_orig_comments'. The 'Node Weights' panel is active, displaying a list of factors and their assigned weights. The factors and their weights are:

Factor	Weight
Total	100 %
EPS Growth	0 %
Stock Momentum	25 %
Industry Momentum	0 %
Quality	0 %
Accumulation/Distribution (Inst. Sent)	0 %
Stock Momentum/Volume/Sharpe	25 %
Value	25 %
Value & Quality - Scalability	25 %

Additional controls include 'Update', 'Clear', 'Distribute Evenly', 'Fill Zeros Evenly', and 'Normalize' buttons.

The screenshot shows the 'Summary' page for 'JT test_JTrank_orig'. It features a performance chart on the left and a 'General Info' section on the right.

General Info

Total Market Value (inc. Cash)	\$13,386,037.76
Cash	\$69,053.30
Number of Positions	25
Last Trades (2)	01/06/20
Period	01/02/99 - 01/09/20
Sizing Method	% Portfolio Weight
Last Rebalanced (Every Week)	01/06/20
Benchmark	S&P 500 (SPY)
Universe	No OTC Exchange
Ranking System	JT_201912_orig_comments

Quick Stats as of 1/9/2020

Total Return	44,520.13%
Benchmark Return	286.80%
Active Return	44,233.25%
Annualized Return	33.66%
Annual Turnover	433.23%
Max Drawdown	-27.44%
Benchmark Max Drawdown	-55.19%

The performance chart shows a significant upward trend in the portfolio's value over the period shown, starting near zero and reaching approximately \$44,500.

d. Value and Growth only

Portfolio123 INVEST RESEARCH CONNECT

RANKING SYSTEMS > UNCLASSIFIED
JT_201912_orig_comments

Factors Performance Ranks Correlation Reverse Engineer

expand | reordering | f(x) | text editor | raw editor (no ajax)

100% JT_201912_orig_comments

- 34% EPS Growth
- 0% Stock Momentum
- 0% Industry Momentum
- 0% Quality
- 0% Accumulation/Distribution (Inst. Sent)
- 0% Stock Momentum/Volume/Sharpe
- 33% Value
- 33% Value & Quality - Scalability

Node Properties Add Node Weights Ranking Method

Node Weights

If all the nodes have a 0 weight, then all nodes are assigned equal weight.

Total	100	%
EPS Growth	34	%
Stock Momentum	0	%
Industry Momentum	0	%
Quality	0	%
Accumulation/Distribution (Inst. Sent)	0	%
Stock Momentum/Volume/Sharpe	0	%
Value	33	%
Value & Quality - Scalability	33	%

Update

Clear
Distribute Evenly
Fill Zeros Evenly
Normalize

Docs

Type here to search

3:12 PM
2020-01-09

Portfolio123 INVEST RESEARCH CONNECT

Summary - Simulated Strategy

Ranking System - Factors - Portl

https://www.portfolio123.com/port_summary.jsp?portid=1593213

General Info

Total Market Value (inc. Cash)	\$3,052,303.56
Cash	\$58,608.76
Number of Positions	25
Last Trades (2)	01/06/20
Period	01/02/99 - 01/09/20
Sizing Method	% Portfolio Weight
Last Rebalanced (Every Week)	01/06/20
Benchmark	S&P 500 (SPY)
Universe	No OTC Exchange
Ranking System	JT_201912_orig_comments

Quick Stats as of 1/9/2020

Total Return	10,074.35%
Benchmark Return	286.88%
Active Return	9,787.47%
Annualized Return	24.60%
Annual Turnover	423.68%
Max Drawdown	-39.52%
Benchmark Max Drawdown	-55.19%
Overall Winners (1171/2300)	50.91%
Sharpe Ratio	1.15
Correlation with S&P 500 (SPY)	0.53

13,000
12,000
11,000
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9,000
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7,000
6,000
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1,000
0

01/00 01/02 01/04 01/06 01/08 01/10 01/12 01/14 01/16 01/18 03/20

Model Benchmark

Basic Interactive </> embed

© Portfolio123 | Data provided by S&P Global Market Intelligence and ICE Data, LLP

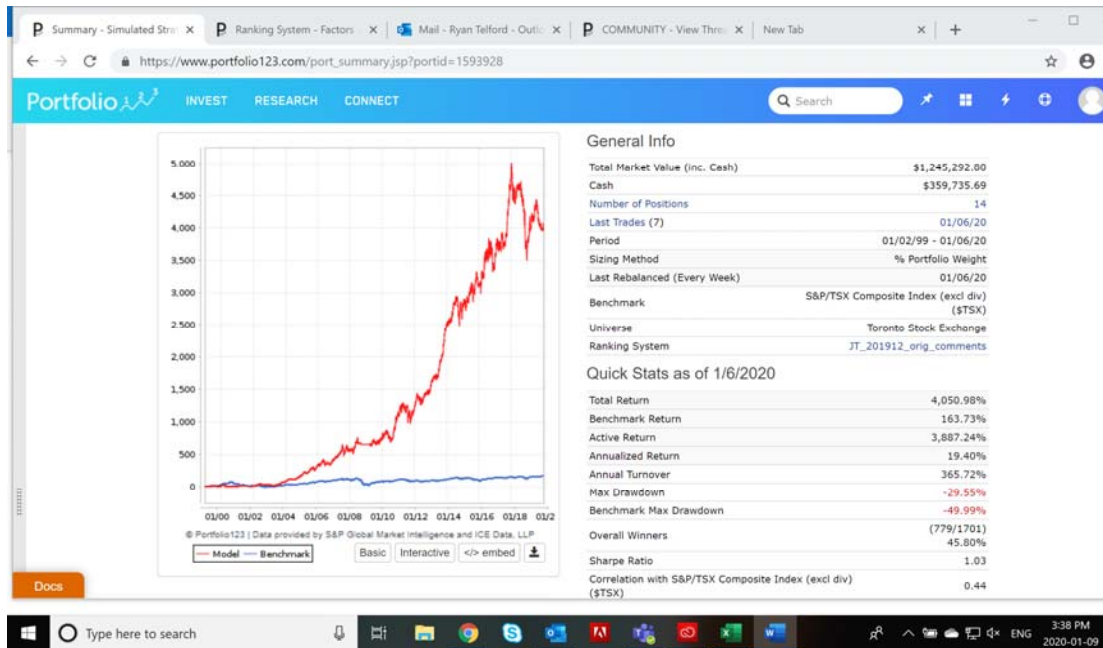
Docs

Type here to search

3:13 PM
2020-01-09

6. Toronto Stock Exchange (TSX)

a. No changes to buy/sell rules (except remove Canada Trusts)



b. Other results depending on removal of growth buy rule

c.