Alphadroid Introduces Merlyn.AI
Unleash the Wizard

by Scott Juds
7 PM PST, 9-23-2019
SumGrowth Strategies

Bull-Ride Bear-Fighter Portfolio

Hypothetical Portfolio Performance

Two Years Rolling
Disclaimers

• DO NOT BASE ANY INVESTMENT DECISION SOLELY UPON MATERIALS IN THIS PRESENTATION
• Neither SumGrowth Strategies nor I are a registered investment advisor or broker-dealer.
• This presentation is for educational purposes only and is not an offer to buy or sell securities.
• This information is only educational in nature and should not be construed as investment advice as it is not provided in view of the individual circumstances of any particular individual.
• Investing in securities is speculative. You may lose some or all of the money that is invested.
• Past results of any particular trading system are not a guarantee of future performance.
• Always consult with a registered investment advisor or licensed stock broker before investing.
ADVANCED INVESTMENT ALGORITHMS
FOR FINANCIAL ADVISORS

THE POINT  OUR STYLE  TECHNOLOGY  SIMPLICITY  EXAMPLES  OUR COMPANY
### Portfolios Management

**UserName:** aga 9/30/2019 19:48:59 PM

**Unlimited Admin Use**

**Trial Valid through:** Forever

---

#### Display Only These Portfolios

- **List By:** Name, Classification, Portfolio No.
- **In Groups:** All, Aggressive, Bear, Conservative
- **Has Classification:** Unspecified
- **Name Includes:**
- **First Row:** 1

---

#### Active Portfolios

These Portfolios generate Trade Alerts. Click a Portfolio symbol position to edit/create a Custom Portfolio.

<table>
<thead>
<tr>
<th>No.</th>
<th>Portfolio Name</th>
<th>Score</th>
<th>R. Risk</th>
<th>MDD</th>
<th>Select</th>
<th>Edit</th>
<th>View</th>
<th>Pos1</th>
<th>Pos2</th>
<th>Pos3</th>
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<th>Pos6</th>
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<th>Pos9</th>
<th>Pos10</th>
<th>Pos11</th>
<th>Pos12</th>
<th>Trades</th>
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<td>Aggressive ETFs 20:80</td>
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<td>816</td>
<td>ETF F.I.S. Strategies</td>
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<td>18%</td>
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</tbody>
</table>
It's The Only Point

See how a Royal Society Fellow, a National Medal of Science winner, and a trio of Nobel Laureates laid the foundation that forever changed the art and science of momentum investing.

Eugene Fama
Nobel Prize, 2013

J. H. Van Vleck
Nobel Prize, 1977

Claude Shannon
National Medal of Science, 1966

Samuel H. Christie
Royal Society 1836

Daniel Kahneman
Nobel Prize, 2002

Amos Tversky
Stanford University

Narasimhan Jegadeesh
Emory University

Sheridan Titman
U. of Texas, Austin

Conquering
The Seven Faces of Risk

By Scott Juds, Founder & CEO, SumGrowth Strategies
Merlyn.AI Builds On
(and does not have to re-discover)
Other Existing Knowledge

It Doesn’t Have to Reinvent All of this From Scratch
"the premier market anomaly" that’s "above suspicion."

Academic Paper - 2008:
“Dissecting Anomalies”

Eugene Fama
Nobel Prize, 2013

Kenneth French
Dartmouth College

Merlyn.AI
Accepts This
Re-Discovery Not Necessary
Signal-to-Noise Ratio

Controls the Probability of Making the Right Decision

Claude Shannon
National Medal of Science, 1966

Proved

Seeing even a little bit of the road ahead changes everything.

Merlyn.AI
Accepts This
Re-Discovery Not Necessary
Matched Filter Theory

Design for Optimum Signal-to-Noise Ratio

Think Outside of the Box

J. H. Van Vleck
Noble Prize, 1977

Merlyn.AI Accepts This
Re-Discovery Not Necessary

SMA Box

Someplace to Start

Designed for Performance
Differential Signal Processing

Removes Common Mode Noise

(Relative Strength)

Merlyn.AI Accepts This
Re-Discovery Not Necessary
Sectors Provide Power Strokes

Sector Trends (Fidelity & SPDR Sectors)

<--- 10 Years --->

Merlyn.AI Accepts This
Re-Discovery Not Necessary
StormGuard-Armor
Detect the Onset of Bad Markets

Know When the Market is Safe: Risk-On vs Risk-Off

Merlyn.AI Accepts This
Re-Discovery Not Necessary
StormGuard-Armor
+ Integrated Bear Market Strategies

Merlyn.AI
Accepts This
Re-Discovery Not Necessary
These Guys
Got us Here
Is There More?
What About Selection Bias?

Who Needs XLV-Healthcare and XLE-Energy?
Merlyn.AI is a Genetic Algorithm Layered on Top of a Strategy

Why?
To Evolve its Set of Funds Each Month

Why?
To Remove Hindsight Selection Bias

Why?
To Achieve Better Future Performance
<table>
<thead>
<tr>
<th>Artificial Intelligence Algorithms</th>
<th>Bayesian algorithms</th>
<th>Semi-supervised learning</th>
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</thead>
<tbody>
<tr>
<td>Supervised learning</td>
<td>• AODE</td>
<td>• Active learning</td>
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<tr>
<td>• Artificial neural network</td>
<td>• Bayesian statistics</td>
<td>• Deep Boltzmann machines</td>
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<tr>
<td>• Association rule learning</td>
<td>• Bayesian knowledge base</td>
<td>• Deep Convolutional neural networks</td>
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<tr>
<td>• • Prior algorithm</td>
<td>• Naive Bayes</td>
<td>• Deep Recurrent neural networks</td>
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<td>• • Eclat algorithm</td>
<td>• Gaussian Naive Bayes</td>
<td>• Hierarchical temporal memory</td>
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<td>• Gaussian process regression</td>
<td>• Multinomial Naive Bayes</td>
<td>• Generative Adversarial Networks</td>
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<td>• Gene expression programming</td>
<td>• Averaged One-Dependence Estimators (AODE)</td>
<td>• Deep Boltzmann Machine (DBM)</td>
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<tr>
<td>• Group method of data handling</td>
<td>• Bayesian Belief Network (BBN)</td>
<td>• Stacked Auto-Encoders</td>
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<tr>
<td>• Inductive logic programming</td>
<td>• Bayesian Network (BN)</td>
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<tr>
<td>• Instance-based learning</td>
<td>• Decision tree</td>
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<tr>
<td>• Lazy learning</td>
<td>• Classification and regression tree (CART)</td>
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<tr>
<td>• Learning Automata</td>
<td>• Iterative Dichotomiser 3 (ID3)</td>
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<tr>
<td>• Learning Vector Quantization</td>
<td>• C4.5 algorithm</td>
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<td>• Logistic Model Tree</td>
<td>• C5.0 algorithm</td>
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<td>• Minimum message length</td>
<td>• Chi-squared Automatic Interaction Detection (CHAID)</td>
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<tr>
<td>• Nearest Neighbor Algorithm</td>
<td>• Decision stump</td>
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<tr>
<td>• Analytical modeling</td>
<td>• Conditional decision tree</td>
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<td>• Nearest Neighbor Learning</td>
<td>• ID3 algorithm</td>
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<td>• Neighbor machine</td>
<td>• Random forest</td>
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<td>• Minimum redundancy feature</td>
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<tr>
<td>selection</td>
<td>• Linear classifier</td>
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<td>• Mixture of experts</td>
<td>• Fisher’s linear discriminant</td>
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<td>• Multiple kernel learning</td>
<td>• Linear regression</td>
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<td>• Out-of-bag error</td>
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<td>• Parallel architecture</td>
<td>• Perceptron</td>
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<td>• Partially connected components</td>
<td>• Support vector machine</td>
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<td>• PAC learning</td>
<td>• Unsupervised learning</td>
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<td>• PAC learning</td>
<td>• Semi-supervised learning</td>
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<td>• Partial least squares</td>
<td>• Transduction</td>
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<td>• Principal component analysis</td>
<td>• Semi-supervised learning</td>
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<td>• Probability distribution</td>
<td>• Statistical learning</td>
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<td>• Probabilistic graphical models</td>
<td>• Structured prediction</td>
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<tr>
<td>• Random forests</td>
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<tr>
<td>• Randomized Forests</td>
<td>• Bayesian network</td>
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<td>• Random vector machine</td>
<td>• Conditional random field (CRF)</td>
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<tr>
<td>• Reinforcement learning</td>
<td>• Hidden Markov model (HMM)</td>
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<td>• Repetitive incremental pruning</td>
<td>• Unsupervised learning</td>
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<td>to produce error reduction</td>
<td>• VC theory</td>
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<td>(RIPPER)</td>
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</table>
How SumGrowth Will Use AI
To Perceive the environment and take action to maximize success.

FWPT: Forward Walk Progressive Tuning
Adaptively changing the algorithm based on the past character of the data. Walks through out-of-sample data for its buy/sell decisions.

StormGuard - Armor
Employs Fuzzy Logic to evaluate a composite of 12 measures of the market’s character to determine current investment safety.

FWPP: Forward Walk Progressive Picking
Uses a Genetic Algorithm to evolve the candidate funds in a population of momentum strategies to eradicate remnants of hindsight selection bias.
(Note: Play Merlyn video from desktop now)
Merlyn’s Magic 100:0 Portfolio

Hypothetical Portfolio Performance

- Portfolio Inception Date: 09-20-2018
- Forward Walk Starting: 01-02-2004
- Bear Market Strategy: BMS-A.G

Note: Above statistics are measured from 6/1/2004. Calculations performed by SunGrowth Strategies.

Underlying Strategies | Weight
--- | ---
1. Style Box Fox | 16%
2. Factor Faves | 15%
3. Global Domination | 25%
4. Sector Nectar | 45%

Hypothetical portfolio model performance assumes trade signals provided are executed at the close of the subsequent market day. Past performance does not guarantee future performance. Copyright 2019 SunGrowth Strategies, LLC all rights reserved.
ETF Tax Efficiency?

An Exchange In-Kind Is a Non-Taxable Event
Originally Designed for Moving an Accounts to Another Brokerage

Market Makers Exchange a Basket of Stocks for ETF Shares
Individuals Buy and Sell Only ETF Shares – It is Not Like Mutual Fund Ownership

Market Makers Return ETF Shares to the ETF Company and Receive an In-Kind Exchange for the Current Basket of Stocks.
Thus Trades Occur Within the ETF Change the Basket, BUT the Investor Gets Long Term Tax Treatment.
ETF Liquidity Myth
Merlyn.AI Corp.
Founded Jan 2019, Raised $2.5M, Exclusive License from SGS to Create & Market Merlyn ETFs

SGS
SectorSurfer
AlphaDroid
MAI Indexes

Merlyn.AI
SGS License
Investors
ETF Sponsor

Solactive
Calculator
Publisher

US Bank
Custodian

RBC
Market Maker

Alpha Architect
ETF Advisor
Exemptive Relief
Web Services
Compliance

NYSE

Marketing
Cable CNBC
Advisor Shares
G. AdWords
Articles

Mktg. Approval

Quasar
Distributor

SEC

FINRA

 Exemptive Relief
Web Services
Compliance

Exemptive Relief
Web Services
Compliance
Bull-Rider Bear-Fighter Index
MAI Bull-Rider Bear-Fighter Index
MAI Index Methodologies

- Bull-Rider Bear-Fighter™
- Tactical Growth & Income

Updated Sept 2019
Solactive: Index Calculator & Publisher

MAI Bull-Rider Bear-Fighter Index

Chart

MASTER DATA
ISIN: DE000SLABT3
Bloomberg Ticker: MAEBRF Index
WKN: SLABT

CURRENT QUOTES
Last quote Today: 30 Sep 2019: 1843.48
Day range: 1829.38 / 1844.86
Change abs./rel.: 13.93 / 0.76
Year range: 1644.57 / 2014.72
Bull-Rider Bear-Fighter Index
Google Search – Stay Up To Date

Merlyn.AI Bull-Rider Bear-Fighter ETF - SEC.gov
https://www.sec.gov/Archives/edgar/data/...
Jun 25, 2019 - Merlyn AI Bull-Rider Bear-Fighter ETF (the "Fund") seeks to track the total return performance, before fees and expenses, of the MAI Bull-Rider ...
You've visited this page 4 times. Last visit: 9/20/19

Alpha Architect ETF Trust - Merlyn.AI Bull-Rider Bear-Fighter ...
https://lei.report:LEI/...
Business entity registration information for Alpha Architect ETF Trust - Merlyn.AI Bull-Rider Bear-Fighter ETF. Legal address, headquarters, subsidiaries and ...
You visited this page on 9/7/19.

The Merlyn.AI Bull-Rider Bear-Fighter Index | Meetup
https://www.meetup.com/...
Sep 9, 2019 - Mon, Sep 23, 2019. 7:00 PM: Merlyn.AI was first introduced through SectorSurfer and AlphaDroid in October 2018 in the form of Merlyn's Magic ...
Mon, Sep 23 SectorSurfer Galactic Headquarters, Seattle, WA, USA
Bull-Rider Bear-Fighter
Almost Found in the Partner Store
Bull-Rider Bear-Fighter
Docs In Riskalyze Partner Store (2/8 pages)

www.AlphaDroid.com/InfoPages/Merlyn-BRBF.aspx
AlphaDroid Portfolios
Logistics in Riskalyze
Why Measure Risk
If You’re not Going to Fix it?

Bull-Rider Bear-Fighter Portfolio
AI Driven Investment Model
Sep 27, 2019

Portfolio and Underlying Strategies
- Bull-Rider Bear-Fighter: Owns 8 ETFs picked by Divergent Strats
- S: 20% Sectors BRBF-a
- R: 10% Regions BRBF
- M: 10% StyleMix BRBF
- B: 10% Bonds BRBF-a
- C: 15% Countries BRBF
- F: 10% Factors BRBF
- S: 15% Sectors BRBF-b
- E: 10% Bonds BRBF-b

Industry Consensus Asset Classes and Portfolios
- Domestic Equity: VFINX
- International Equity: VTRIX
- Fixed Income-Bonds: VBMFX
- Short-Term Funds: VWSTX
- Vanguard S&P 500 Index Fund
- Vanguard International Value Fund
- Vanguard Total Bond Market Fund
- Vanguard Short-Term Tax Exempt Fund

Riskalyze Risk Number
- Hypothetical Model: 06-01-2004 To 09-27-2019
- Annualized Return
- YOU CAN BE HERE
- YOU ARE HERE

by Scott Juds SumGrowth Strategies Seattle WA