



Merlyn.AI
Unleash the Wizard

Merlyn.AI ETFs: DETAILED Q&A



DUDE

Merlyn.AI SectorSurfer Momentum ETF



BOB

Merlyn.AI Best-of-Breed Core Momentum ETF



WIZ

Merlyn.AI Bull-Rider Bear-Fighter ETF



SNUG

Merlyn.AI Tactical Growth & Income ETF



Scott Juds
Founder and Chairman
Merlyn.AI Corporation

Q. How are Merlyn.AI ETFs different from other ETFs?

A. Merlyn.AI ETFs represent a paradigm shift in ETF design. While many ETFs focus on a specific slice of the market, such as a particular sector, factor, theme, or asset class, DUDE, BOB, WIZ and SNUG are self-contained, tactical portfolio management systems in an ETF wrapper. Each month, using advanced signal processing and AI-powered algorithms they evaluate U.S. ETFs across broad and divergent markets and select a portfolio that seeks to provide the five things investors want most.

Q. What are those five things?

A. Investors often want:

- A portfolio of momentum leaders in Bull Markets;
- A portfolio of defensive leaders in Bear Markets;
- A fully automated, expert method for switching between Bull and Bear portfolios;
- The benefits of tactical trading with the added advantage of tax-efficiency; and
- Automated execution so they can focus on other important matters.

Q. How are these ETFs constructed?

A. DUDE tracks the MAI SectorSurfer Momentum Index and holds a portfolio of up to 6 diverse ETFs (4 in the Sectors category and 2 in the Geopolitical category). BOB tracks the MAI Best-of-Breed Core Momentum Index

and holds a portfolio of 3 diverse ETFs (each being giga-cap ETFs, having AUM in excess of \$10B as of date of selection). Their portfolios are selected monthly by their corresponding momentum strategies. Both DUDE and BOB hold a 100% equity allocation during bull markets and automatically move to a defensive position with up to 100% in treasuries, bonds, gold, and similar ETFs during bear markets.

WIZ tracks the MAI Bull-Rider Bear-Fighter Index while SNUG tracks the MAI Tactical Growth & Income Index. Both hold a portfolio of 8 diverse ETFs selected monthly by their corresponding momentum strategies. WIZ targets a growth portfolio's allocation of 80% equities and 20% bonds during bull markets and automatically moves to a defensive position with up to 100% in treasuries, bonds, gold, and similar ETFs during bear markets. SNUG targets a conservative portfolio's allocation of 30% equities and 70% bonds during bull markets and also automatically shifts to defensive positions during bear markets.

Together, Merlyn.AI ETFs provide the means to target an allocation blend with a wide range of expected risk and return.

Q. Is there anything special about the momentum strategies of Merlyn.AI ETFs?

A. Yes. Our ETFs employ proprietary signal processing methods that reduce market noise and seek to better identify momentum leaders. We believe that reducing market noise to improve the signal-to-noise ratio is the key to improving the likelihood of correctly identifying the momentum leaders. Our ETFs additionally employ a trifecta of Artificial Intelligence:

- Adaptive Tuning that seeks to eliminate hindsight bias in the momentum algorithm;
- Fuzzy Logic that seeks to better assess the market's Bull vs. Bear status; and
- Genetic Algorithms that evolve its strategies and seek to eliminate hindsight selection bias.

Together, we refer to these methods and technologies as Temporal Portfolio Theory.

Q. Can you put Temporal Portfolio Theory into better perspective?

A. Temporal Portfolio Theory, we believe, is a significant extension to 68-year-old Modern Portfolio Theory (MPT), developed by Nobel Laureate Harry Markowitz. Temporal Portfolio Theory additionally employs temporal (time-based) market data and the cross-disciplinary sciences of Matched Filter Theory and Differential Signal Processing. These are the same technologies that have enabled WiFi, USB, iPhones, digital TV, and remotely controlled rovers on Mars. None of these were possible 68 years ago when MPT was created. Temporal Portfolio Theory was developed over a 30-year period by Scott Juds, Co-founder and Chief Executive Officer of Merlyn.AI Corporation. Temporal Portfolio Theory is further detailed in his book, "Conquering the Seven Faces of Risk."

Q. How do Merlyn.AI ETFs attempt to manage risk?

A. Our ETFs seek to manage risk in four ways:

- They hold only ETFs in order to minimize single-stock risk;
- They buy momentum leaders that seek to avoid the risk of owning future laggards;
- They attempt to identify bear, including precipitous bear ("black swan") markets early and invest defensively in an effort to avoid losses;
- They each contain a portfolio of multiple divergent strategies, seeking to dilute single-strategy risk.

Bottom line: *Risk is not a one-dimensional problem cured by a single dose of diversification.* It's a multidimensional problem, and diversification's passive risk reduction is only just the start. Our research shows that avoiding laggards and bear markets is a more proficient risk reduction method. Both require reliable measures of momentum. We believe that's Merlyn.AI's strong suit. It's all about advanced signal processing to clarify the momentum signal.

Q. How do Merlyn.AI ETFs attempt to detect and avoid bear markets?

A. While no system can be expected to work perfectly, our ETFs employ the StormGuard™ indicator that seeks to assess U.S. equity markets across four key metrics: price-trend, market momentum, value sentiment and market volatility. Price-trend indicates the degree to which U.S. market securities prices are trending higher or lower. Market momentum is the volume-adjusted, price-trend of U.S. equity market securities and assesses investor conviction. Value sentiment indicates the recent proportion of U.S. equity market securities making 52-week highs against those making 52-week lows. Higher market volatility has historically been correlated with a higher probability of declining markets and may indicate the possible onset of an extreme market decline. When any one of the first three metrics (price-trend, market momentum, and value sentiment) is negative in value and is declining further at month-end, the “Bear” indicator is triggered and each Merlyn.AI ETF will be constructed via its bear methodology. The “Bear” indicator may also be triggered at any time during the month when excess market volatility is indicated.

Q. Can the tax efficiency of tactical trading within an ETF potentially help institutional investors?

A. Absolutely. Most hedge funds, family offices, mutual funds, insurance funds, annuity funds, and many advisor accounts are ordinary taxable accounts. Their fund managers must decide between the benefits of tactical trading versus tax efficiency. Individuals can face the same investment dilemma if they have inherited money, sold a business, or have discretionary income remaining after maxing out their IRA and 401k contributions. Our ETFs were designed to provide a path for ordinary taxable accounts to enjoy the benefit of tactical trading without abandoning tax-efficiency. Specifically, our ETFs take advantage of the IRS “in-kind exchange” rule (Section 852(b)(6) of the tax code) to make most trading within its ETF wrapper a non-taxable event. The structure of DUDE, BOB, WIZ and SNUG as self-contained automated tactical portfolio management systems within a tax-efficient ETF wrapper seeks to make the best of both worlds possible.

Q. How do Merlyn.AI ETFs compare to Robo Advisors?

A. We believe Merlyn.AI ETFs represent the next evolutionary step for Robo Advisors – here's why:

- DUDE, BOB, WIZ and SNUG are self-contained automated portfolio management systems in an ETF wrapper. Robo Advisors generally employ a form of Modern Portfolio Theory (often described as employing buy-and-hold and diversify-and-rebalance methods), whereas our ETFs employ Temporal Portfolio Theory (often described as employing momentum and risk-avoidance methods).
- Together, DUDE, BOB, WIZ and SNUG provide a means to create target allocation portfolios with a range of expected risk and return to serve an individual's specific needs.
- Our ETFs can be bought and sold like any other ETF in an existing brokerage account and thus do not require setting up a new account and transferring funds to a Robo Advisor firm.
- DUDE, BOB, WIZ and SNUG employ the “in-kind exchange” rule bestowing it with tax efficiency.

Q. Can you tell me more about the algorithms and methodology that drive Merlyn.AI ETFs?

Yes. Our algorithms are built on the premise that (1) owning momentum leaders is desirable (2) signal-to-noise ratio controls the probability of identifying the momentum leader; (3) there are multiple methods for noise reduction; (4) different asset classes have different characteristics and require different treatment; (5) market characteristics drift and require adaptive solutions; and (6) bear markets are a separate problem. Merlyn.AI ETFs take a divide-and-conquer approach, seeking to apply the right tool for each job.

Q. What are these divide-and-conquer tools for the job?

A. Granted, no system can be successful 100% of the time; however, we believe momentum, signal processing, adaptive tuning, fuzzy logic, and genetic algorithms can all meaningfully improve investment selections. A detailed summary of each is provided below.

- **Momentum:** Merlyn.AI believes that momentum inherently provides information about the near future based on the recent past. Momentum indicates what investors are “already” doing, which is very different from value and dividend strategies, which analyze quarterly reports and other documents to estimate what a stock’s price “should” be with the hope that others will later discover the mispricing and buy up the shares. In our view, “already” is better than “should”.
- **Signal-to-Noise Ratio:** Merlyn.AI understands that signal-to-noise ratio determines the probability of making a good decision in identifying the momentum leader(s). We believe that Job-1 is to clarify the momentum signal by minimizing the market noise that is inherently mixed with it.
- **Signal Processing:** Our ETFs employ the two well-known noise reduction tools referred to as “matched filter theory” and “differential signal processing.” When applied to finance, matched filter theory specifies how to design a momentum filter in an attempt to optimally reduce market noise. We believe that the industry-standard 6-month and 1-year SMA (simple moving average) are far from optimum in shape and duration. In retrospect, it should not be surprising that an equally weighted one-year filter was not the result of analytic design, but could have been a simple guess made by someone that was never challenged.
- **Adaptive Tuning:** Market characteristics change over time. It is well understood that the character of bonds is different from broad indexes, which is different from sectors, which is different from commodities, and which is different from currencies. Thus our ETFs employ adaptive filter tuning that seeks to adjust momentum filter configuration as the market’s character changes over time or as candidate funds with different characteristics are encountered. No investing system can predict the future; however, we attempt to analyze recent past market data and optimally adjust the momentum filters for use in future periods. Such efforts seek to improve the probability of making better investment selections.
- **Genetic Algorithms:** Our ETFs employ Genetic Algorithms as a means to potentially mitigate the risk of human-based hindsight selection bias in the ETF selection process. The genetic algorithm evolves populations of slightly different strategies in much the same way human populations evolve through gene mutations and crossovers. In this analogy, humans all have the same body parts, but they vary from person to person. A population of sector rotation strategies likewise would always have the same sector fund categories, such as healthcare, finance, technology, etc., but could have different fund selections in each category. The genetic algorithm tests minor strategy variations each month. Variations that perform better

than their parent, replace their parent. By this means, the population of strategies seeks to evolve and adapt over time in a manner that attempts to be free from human-based hindsight selection bias.

- **Fuzzy Logic:** Our ETFs employ Fuzzy Logic, a type of mathematics that can combine logical (true/false) pieces of information with analog (continuously variable) pieces of information in a manner that produces a single output value. Humans do this kind of thing all the time. When driving a car, we assess the state of the traffic lights, the presence of other vehicles, the speed of the car, and numerous other things to determine how hard to press the brake pedal. Our ETFs employ Fuzzy Logic in an attempt to assess overall market safety and determine the value of its bull/bear indicator using 14 different measures (thresholds, directions, recent turns, etc.) associated with the previously described market metrics: price-trend, market momentum, value sentiment and market volatility.

Q. Has Merlyn.AI Technology been tested in real markets?

A. Yes, in two ways.

- In 2010, we launched SectorSurfer, a web-delivered, Temporal Portfolio Theory strategy platform for individuals. AlphaDroid, a similar service for financial advisors, was launched in 2017. Subscribers have been managing their 401k, IRA, and taxable accounts for years.
- In 2019, we launched Merlyn.AI Corporation, with a mission to exclusively license the Merlyn.AI technology, to raise \$2.5M to create and market ETFs, and to secure an additional \$5M commitment from these investors to seed the ETFs. Approximately 2/3rd of this \$7.5M financing came from long-term SectorSurfer subscribers who understood what the technology could do.

Q. Can you tell us more about Merlyn.AI Corporation's business?

A. Merlyn.AI Corporation (MAI) is a Palo Alto-based Financial Technology company that was founded in January 2019. MAI is exclusively licensed to create and market investment solutions based on the Merlyn.AI technology.

FURTHER INFORMATION

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DISCLAIMERS

Our research shows that avoiding laggards and bear markets is one of the more proficient risk reduction methods.

Before investing one should carefully consider the Fund's investment objectives, risks, charges, and expenses. This and other information can be found in the fund's summary or full prospectus, which may be obtained by visiting www.MerlynETFs.com. Please read the prospectus carefully before investing.

An investment in the Fund is subject to investment risk, including the possible loss of principal. DUDE, BOB, WIZ and SNUG ETF shares may be bought and sold through a brokerage account. Brokerage commissions and ETF expenses will reduce investment returns. There can be no assurance that an active trading market for ETF shares will be developed or maintained. There is no guarantee the DUDE, BOB, WIZ and SNUG ETF strategies will be successful. Because they invest primarily in other ETFs, DUDE, BOB, WIZ and SNUG ETF's investment performance largely depends on the investment performance of those underlying ETFs. An investor will indirectly bear the principal risks and its share of the fees and expenses of the underlying ETFs. The risks associated with these ETFs are detailed in the prospectus and could include factors such as concentration risk, foreign and emerging markets risk, equity market risk, momentum investing risk, value investing risk, fixed income risk, gold risk, high portfolio turnover risk, and bull index bond risks. Maintaining investments regardless of market conditions or the performance of an individual investment could cause the ETF's returns to be lower than if the ETF employed an active strategy. The performance of the ETF and its Index may differ due to tracking error. The Index uses a form of (AI) artificial intelligence. Investments utilizing quantitative methods may perform differently than the market as a whole. Momentum investing can turn quickly and cause significant variation from other types of investments. There may be periods when the momentum style is out of favor, and during which the investment performance of an ETF using a momentum strategy may suffer. DUDE, BOB, WIZ and SNUG ETFs are non-diversified and may be more sensitive to economic, business, political or other changes affecting individual issuers or investments than a diversified fund, which may result in greater fluctuation in the value of the ETF's Shares and greater risk of loss.

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