The Benefits of Using AI for Investing

Introduction

This paper introduces the benefits of using artificial intelligence (AI) to help investors overcome common challenges. The goal of "buy low and sell high" is easier said than done, but AI can increase the chances of success and consistent profits.

AI systems use computer software to perform human cognitive tasks like writing essays, interpreting speech, and identifying patterns. In fact, you may be surprised to hear, but AI assisted in producing this document! The FUM AI mimics the human ability to identify financial asset trends using quantitative math applied to asset prices. This allows investors to know when prices have reached a low or high point, and when a trend has likely reversed. By using AI to guide us on trend changes, we can benefit from a mathematically proven method for improved decision-making when considering when to buy and sell stocks, cryptocurrencies, and other assets.

In this paper, we'll explore specifically 3 Benefits for how the FUM AI

Improved Decision

Challenges to Investing

Investor psychology is the study of how emotions and behaviors affect investment decisions. Investors are subject to several psychological biases that can lead to suboptimal investment decisions. Some of the most common investor psychology challenges include:

- **Fear:** Fear is a powerful emotion that can lead investors to make rash decisions. For example, investors may sell their investments when the market experiences a downturn, even if the investments are still fundamentally sound.
- **Greed:** Greed is another powerful emotion that can lead investors to make bad decisions. For example, investors may buy into a stock that is overvalued because they believe that it will continue to rise in price.
- **Herding behavior:** Herding behavior is the tendency of investors to follow the crowd. This can lead investors to make decisions that are not in their best interests. For example, investors may buy a stock because it is popular, even if they do not understand the company or the investment.
- **Overconfidence:** Overconfidence is the belief that you know more than you actually do. This can lead investors to make risky investments that they cannot afford to lose.
- **Loss aversion:** Loss aversion is the tendency to avoid losses more than we seek out gains. This can lead investors to hold onto losing investments for too long, in the hope that they will eventually recover their losses.

- **Market volatility:** If the stock market experiences a sudden decline, investors who are not prepared for volatility may panic and sell their investments at a loss.
- **Information overload:** Investors who are overwhelmed by the amount of information available may make investment decisions based on incomplete or inaccurate information.
- **Time horizon:** Investors who have a short-term investment horizon may be tempted to sell their investments when the market experiences a downturn. This could lead to them locking in losses.
- **Risk tolerance:** Investors who invest in assets that are too risky for their risk tolerance may experience significant losses.
- **Behavioral biases:** Investors who are not aware of their behavioral biases may make investment decisions that are not in their best interests. For example, an investor who is anchored on a specific stock price may be reluctant to sell the stock even if it is overvalued.

The Benefits of Using AI for Investing

Investors are excited about AI for several reasons, including:

- **The potential for improved accuracy:** AI algorithms can process large amounts of data and identify patterns that would be missed by human analysts. This can lead to more accurate investment decisions.
- **The potential for reduced costs:** AI can automate many of the tasks involved in investing, such as data analysis and portfolio management. This can lead to lower costs for investors.
- **The potential for emotional neutrality:** AI is not subject to the same emotional biases as humans. This can help to ensure that investment decisions are made based on sound financial principles.
- **The potential for scalability:** AI can be scaled to handle large amounts of data and complex trading strategies. This makes it possible to invest in a wider range of assets and markets.
- **The potential for continuous learning:** AI algorithms can learn and adapt over time. This means that they can become more accurate and efficient as they are exposed to more data.

Of course, there are also some challenges associated with using AI for investing. These include:

- **The availability of data:** AI algorithms need access to large amounts of data to be effective. This data may not always be available, or it may be expensive to obtain.
- **The complexity of AI models:** AI models can be complex and difficult to understand. This can make it difficult to explain how investment decisions are being made.

- **AI guidance can feel counterintuitive:** AI-powered investment strategies can provide insights and suggest actions that go against human bias and emotion.

Overall, the potential benefits of using AI for investing outweigh the challenges. As the technology continues to develop, we can expect to see even more widespread adoption of AI in the investment world.

Here are some specific examples of how AI is being used in investing today:

- **Portfolio management:** AI can be used to manage portfolios by automatically rebalancing them, selecting new investments, and monitoring risk.
- **Risk management:** AI can be used to identify and manage risks in a portfolio. This can help to protect investors from losses.
- **Trading:** AI can be used to trade stocks, bonds, and other assets. This can help investors to make faster and more informed trading decisions.

As the field of AI for investing continues to develop, we can expect to see even more innovative applications of this technology.

The Demonstrable Benefits of employing the FUM AI

The purpose of this section is to demonstrate the benefits of using the FUM AI to base investing decisions using FUM asset trend changes as a guide for when to buy and sell. To accomplish this, a mathematical back test was using NVIDIA stock as the target asset that would be bought and sold on the trend signal changes.

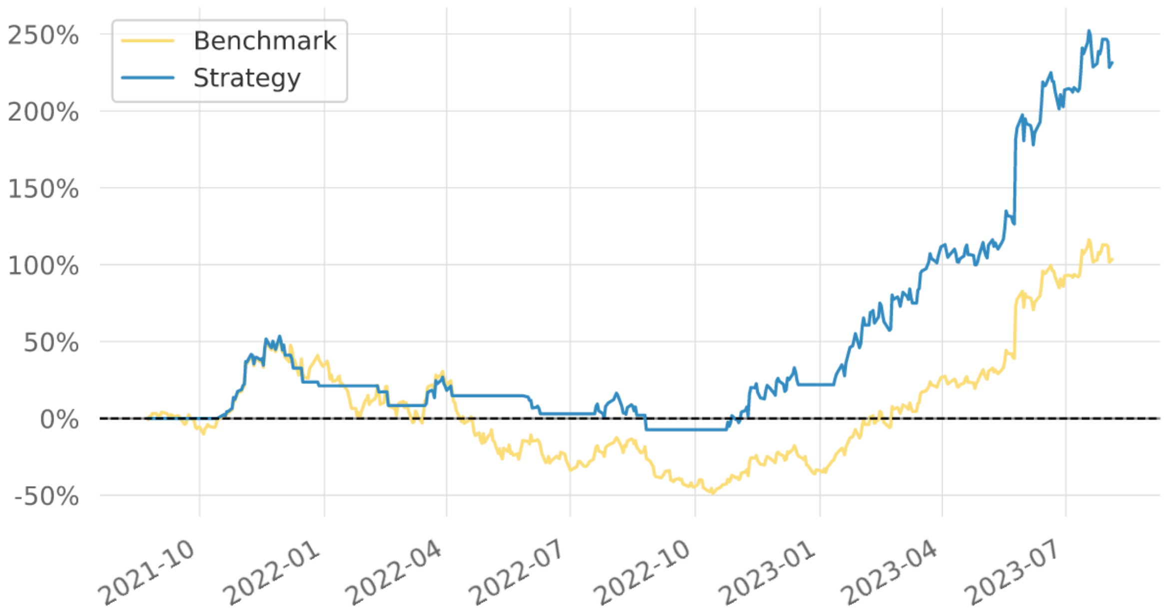
The table shows the Key Performance Metrics (KPM) for two investment strategies: the Strategy and the Benchmark.

Key Performance Metrics

Metric	Strategy	Benchmark
Risk-Free Rate	0.0%	0.0%
Time in Market	54.0%	100.0%
Cumulative Return	231.35%	103.48%
CAGR%	85.13%	44.08%
Sharpe	1.65	0.91
Sortino	3.15	1.45
Max Drawdown	-39.62%	-66.36%
Longest DD Days	423	541
Volatility (ann.)	42.61%	58.76%
R^2	0.53	0.53
Calmar	2.15	0.66
Skew	2.37	0.79
Kurtosis	17.08	3.97

The Strategy has a higher cumulative return (231.35%) and CAGR (85.13%) than the Benchmark (103.48% and 44.08%, respectively). The Strategy also has a higher Sharpe ratio (1.65) and Sortino ratio (3.15) than the Benchmark (0.91 and 1.45, respectively). This means that the Strategy has generated higher returns with less risk.

Cumulative Returns vs Benchmark



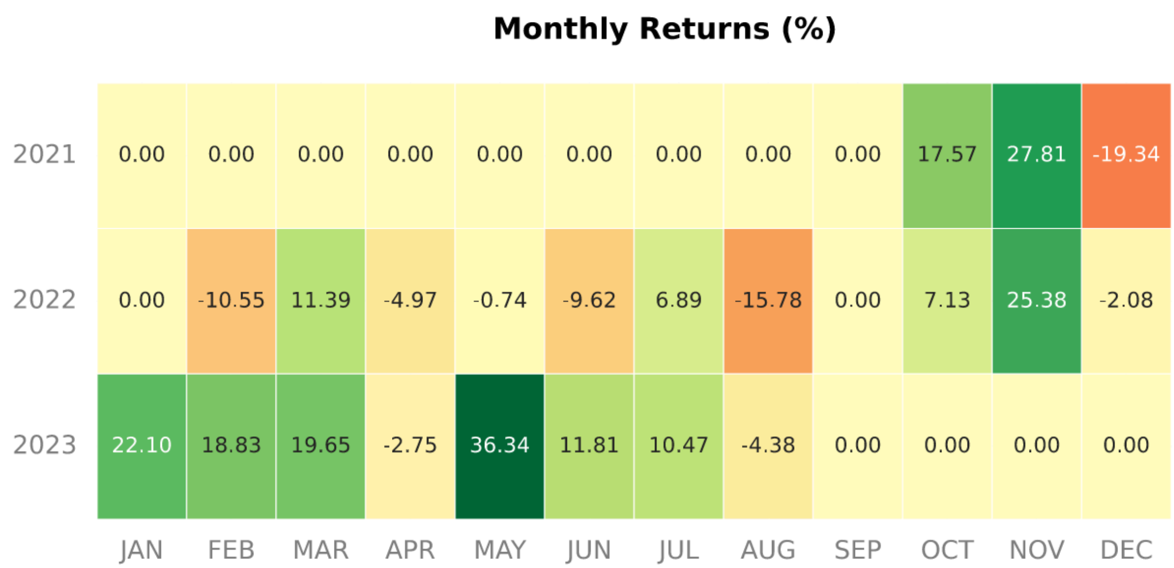
However, the Strategy also has a lower maximum drawdown (-39.62%) and a shorter longest drawdown days (423) than the Benchmark (-66.36% and 541, respectively). This means that the Strategy experienced less volatility and has had a smaller decline in value during the 2021-2022 downturn, compared to the benchmark. When 2023 began and stocks began a new upturn, the strategy recovered as well and from a higher starting point, just below the zero line, compared to -50% below.

Here is a summary of the key differences between the two strategies:

- **Cumulative Return -** The cumulative return is the total change in the investment price over the sample period.
    - The Strategy has a higher cumulative return (231.35%) than the Benchmark (103.48%).
- **CAGR -** Ratio that provides a constant rate of return over an annual period.
    - The Strategy has a higher CAGR (85.13%) than the Benchmark (44.08%).
- **Sharpe Ratio -** Measures the performance of an investment compared to a risk-free asset and represents the additional amount of per unit of increase in risk.
    - The Strategy has a higher Sharpe ratio (1.65) than the Benchmark (0.91).
- **Sortino Ratio -** The Sortino ratio is used to score a portfolio's risk-adjusted returns relative to an investment target using downside risk.
    - The Strategy has a higher Sortino ratio (3.15) than the Benchmark (1.45).
- **Maximum Drawdown:**

    - The Strategy has a lower maximum drawdown (-39.62%) than the Benchmark (-66.36%).
- **Longest Drawdown Days:**
    - The Strategy has a shorter longest-drawdown period (423) than the Benchmark (541).

This table provides a summary of the monthly returns generated by the strategy and represent hypothetical returns for an investor who utilizes the FUM AI trend signals to avoid downturns by moving to the sidelines during down trending periods.



In summary, the KPMs provide quantitative proof that the FUM Strategy guidance for when to buy and sell results in higher investment returns than the Benchmark and provide these benefits:

- **Higher returns:** The Strategy generated higher returns than the Benchmark over the specified period. This means that investors who followed the Strategy would have made more money than investors who simply invested in the Benchmark.
- **Less volatility:** The Strategy experienced less volatility than the Benchmark over the specified period. This means that the Strategy's returns were less likely to fluctuate wildly, which can help to mitigate risk.
- **Smaller drawdowns:** The Strategy experienced smaller drawdowns than the Benchmark over the specified period. This means that the Strategy's losses were less severe during periods of market downturns.

It is important to note that past performance is not a guarantee of future results. The Strategy guidance for when to buy and sell may not continue to generate higher returns than the Benchmark in the future. However, the metrics do provide strong evidence that the Strategy has the potential to help investors achieve their investment goals.

Summary

AI is a powerful tool that can help investors to improve their chances of success. By using AI, investors can identify trends, reduce risk, and automate tasks. This can help investors to make more informed decisions and achieve their financial goals.

Here are some additional benefits of using AI in investing:

- AI can help investors to stay up to date on the latest market news and trend data.
- AI can help investors to identify new investment opportunities.
- AI can help investors to manage their portfolios more effectively.
- AI can help investors to mitigate risk.

We discussed the capability of the FUM Strategy to outperform the B&H approach in terms of return and risk-adjusted return. Additionally, it is important to note that the Strategy experienced less volatility and a smaller decline during the 2022 downturn.

In summary, AI is a valuable tool that can help investors to improve their chances of success in the financial markets.

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