# The Solaria MAG 7 Family

Esteban Reyes

May 2026

**Abstract**

This paper builds three versions based on the MAG 7, capturing its success while reducing risk and/or improving returns. This model was created to introduce readers who are unfamiliar with the MAG 7 and its influence on the market, while experimenting with various diversification methods to adapt each version to the risk level of the investor. The Solaria MAG7 Family Model is divided into three versions: Core, Select, and Max. Core attempts to reduce volatility and subsequent drawdowns when compared to simply holding the MAGS ETF. Select is built on maintaining similar volatility while improving returns through momentum-based selection. Max takes on the most risk, increasing volatility while greatly improving returns. Performance for each of the three versions was backtested beginning from the initial release date of the MAGS ETF. The Solaria MAG7 Family presents three approaches to MAG 7 exposure, ranging from balanced risk control to higher potential growth.

## 1 Introduction

The MAG 7 refers to the seven largest and most influential tech and growth stocks in the U.S. stock market, which include Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia, and Tesla [2]. Each of these companies consistently stands among the top 10 stocks by market cap, making up close to a third of the S&P 500's total value [2]. Investing in these companies is highly desirable due to their strong growth and market leadership, and they can be attractive for investors seeking concentrated exposure. Alongside the high returns from a concentrated portfolio in the MAG 7, the low diversification leads to higher volatility and increased potential drawdowns. The Solaria MAG 7 Family was created to both educate investors about the MAG 7 and build on the inherent strengths associated with these companies. The Solaria MAG 7 Family is separated into three versions so investors can compare levels of diversification and risk exposure, choosing the version that best aligns with their risk tolerance. This paper evaluates the benefits and costs of each model and how each compares to holding the MAGS ETF, which provides equal-weight exposure to the Magnificent Seven stocks [1]. Core tests how adding diversification can reduce risk. Select tests whether momentum selection can improve the return-to-risk balance. Max tests whether concentrated momentum exposure can maximize upside.

# 2 Objective

The Solaria MAG7 Family is designed to apply calculated exposure to the MAG 7 while adjusting that exposure to the differing risk levels of investors. This exposure is aimed at capturing long-term growth by using the market leadership of the MAG 7, specifically through the Select and Max versions. Alongside capturing long-term growth, the Core and Select versions aim to reduce volatility and drawdowns while maintaining strong returns. The three versions allow investors to choose which risk level best aligns with them. Each of the three versions was compared to holding the MAGS ETF, and each has its own benefit, whether through reduced volatility, improved return-to-risk balance, or higher returns.

# 3 Methodology

The Solaria MAG7 Family is strictly rules-based, eliminating investor and emotional biases while maximizing consistency and repeatability. The model also strictly selects from the aforementioned MAG 7, not the top seven stocks ranked by market cap in the U.S. stock market. Beginning with Core, this version holds each of the MAG 7 companies equally, based on total portfolio balance. It also includes holding SPY at 20% of the total portfolio balance. The addition of SPY creates broader market exposure outside the MAG 7. In turn, this reduces concentration risk and can lower volatility during periods of MAG 7 underperformance. Because Core is designed to maintain balanced exposure, it must be rebalanced more frequently compared to the Select and Max versions. Rebalancing is biweekly for Core.

Select keeps SPY, but at 30% of the total portfolio balance. This version selects the top three ranked companies rather than holding the entire MAG 7. Select uses momentum scores to improve return potential, while SPY exposure helps prevent the portfolio from becoming too aggressive. The momentum score is calculated using six-month momentum, which is then compared to each of the other MAG 7 holdings. The companies are then ranked by their score, and the top three are selected. The final weight of each selected holding is equal to one-third of the remaining 70% of the total portfolio balance. For the Max version, SPY is eliminated completely; Max uses the same top-three momentum selection process as Select, but 100% of the total portfolio balance is split equally across the three selected companies. Rebalancing for both Select and Max occurs on a triweekly basis, allowing the models to update momentum exposure while giving price trends time to develop.

## 3.1 Momentum and Weighting Formulas

The six-month momentum score is calculated as:

$$\text{Momentum Score}_i = \frac{P_{i,t}}{P_{i,t-126}} - 1$$

where:

$$P_{i,t} = \text{current price of stock } i$$

$$P_{i,t-126} = \text{price of stock } i \text{ approximately 126 trading days ago}$$

After each company is ranked by six-month momentum, the top three companies are selected. These selected companies are then equally weighted.

$$w_i = \frac{1}{3}$$

For Select, the final weight of each selected holding is:

$$\text{Final Weight}_i = 0.70 \times \frac{1}{3}$$

$$\text{Final Weight}_i = 23.33\%$$

with:

$$\text{SPY Weight} = 30\%$$

For Max, the final weight of each selected holding is:

$$\text{Final Weight}_i = 1.00 \times \frac{1}{3}$$

$$\text{Final Weight}_i = 33.33\%$$

# 4 Results

Each of the three versions was backtested from the initial date of the MAGS ETF in April 2023 to May 2026 and compared to the performance of simply holding the MAGS ETF. Historical MAGS price data was collected from Yahoo Finance [3]. The main performance metrics recorded from testing were total return, CAGR, volatility, max drawdown, and Sharpe risk-to-return balance. Sharpe ratio was included because it measures return relative to risk [4].

Table 1: Performance Summary of the Solaria MAG7 Family

| Model | Total Return | CAGR | Volatility | Sharpe | Max Drawdown | Growth of $1 |
|---|---|---|---|---|---|---|
| MAGS ETF | 196.85% | 41.68% | 25.94% | 1.473 | -29.91% | $2.97 |
| Solaria Core | 194.85% | 41.37% | 23.24% | 1.606 | -26.73% | $2.95 |
| Solaria Select | 229.62% | 46.51% | 26.23% | 1.587 | -28.93% | $3.30 |
| Solaria Max | 306.08% | 56.63% | 32.21% | 1.553 | -34.57% | $4.06 |

Compared to holding the MAGS ETF, Core reduced volatility by 10.41%, improved Sharpe by 9.03%, and reduced max drawdown by 10.63%. However, this came at the cost of a 1.02% reduction in total return and a 0.74% reduction in CAGR. Select improved total

return by 16.65%, CAGR by 11.59%, and Sharpe by 7.74%. While volatility increased by 1.12%, max drawdown improved by 3.28%. This makes Select the strongest overall blend of return improvement and risk control. Max significantly improved total return by 55.49%, improved CAGR by 35.87%, and increased Sharpe by 5.43%. However, these higher returns came at the cost of volatility increasing by 24.17% and max drawdown worsening by 15.58%.

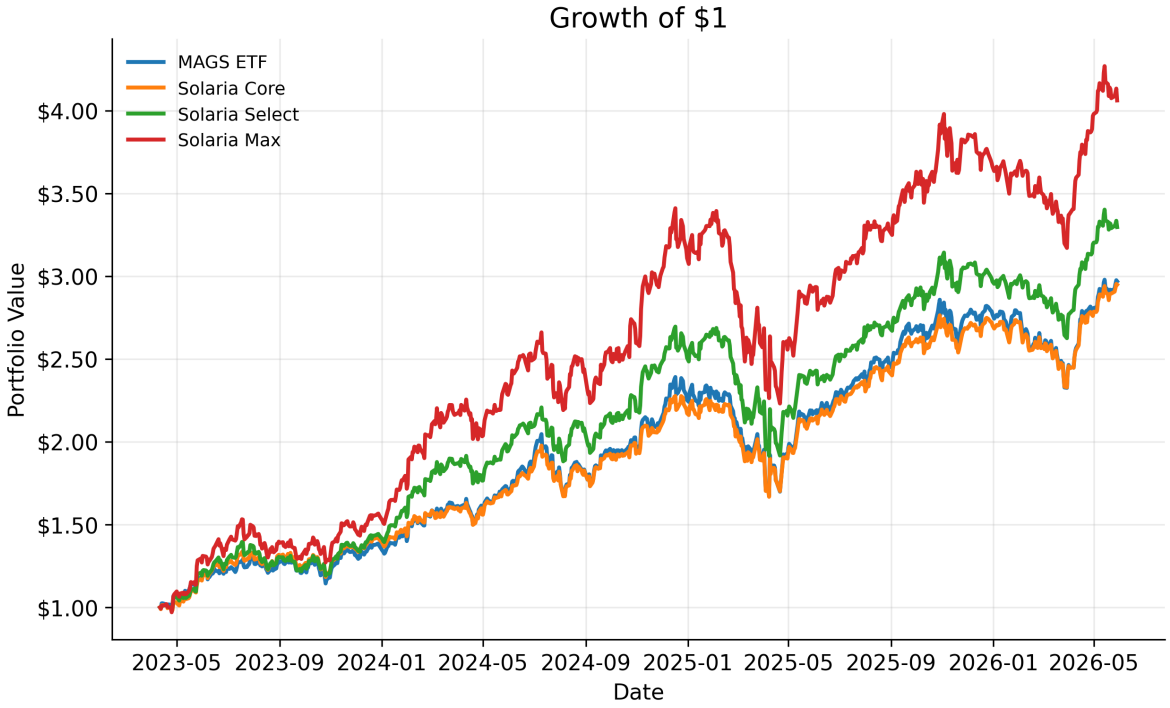



Figure 1: Growth of $1 for the Solaria MAG7 Family compared to the MAGS ETF.

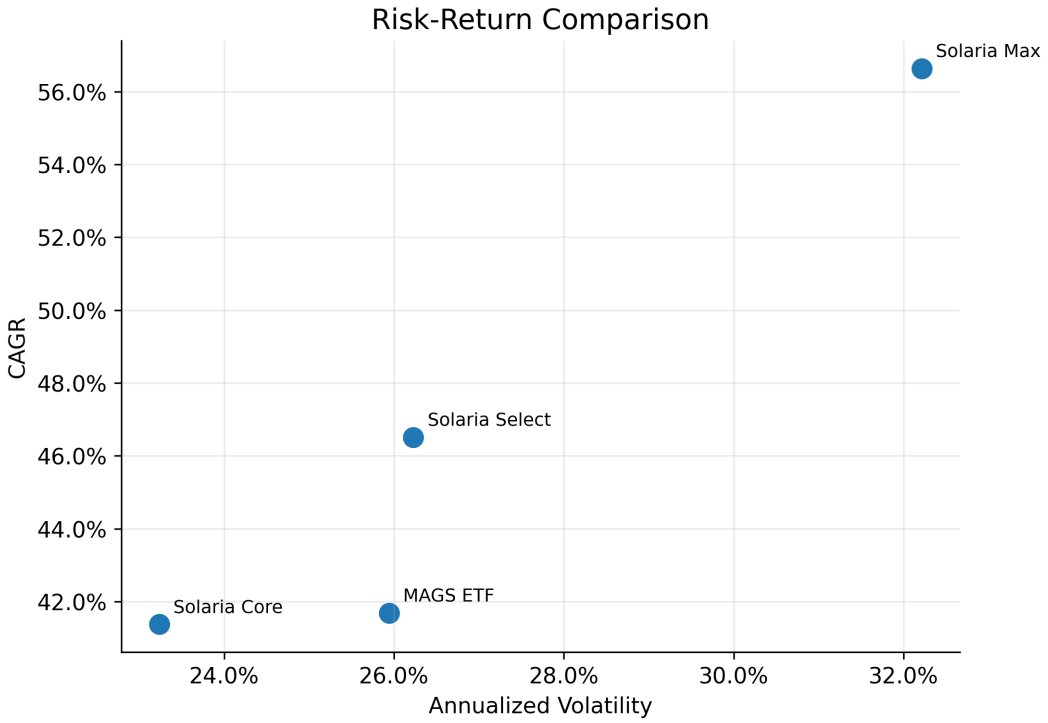



Figure 2: Risk-return comparison using CAGR and annualized volatility.

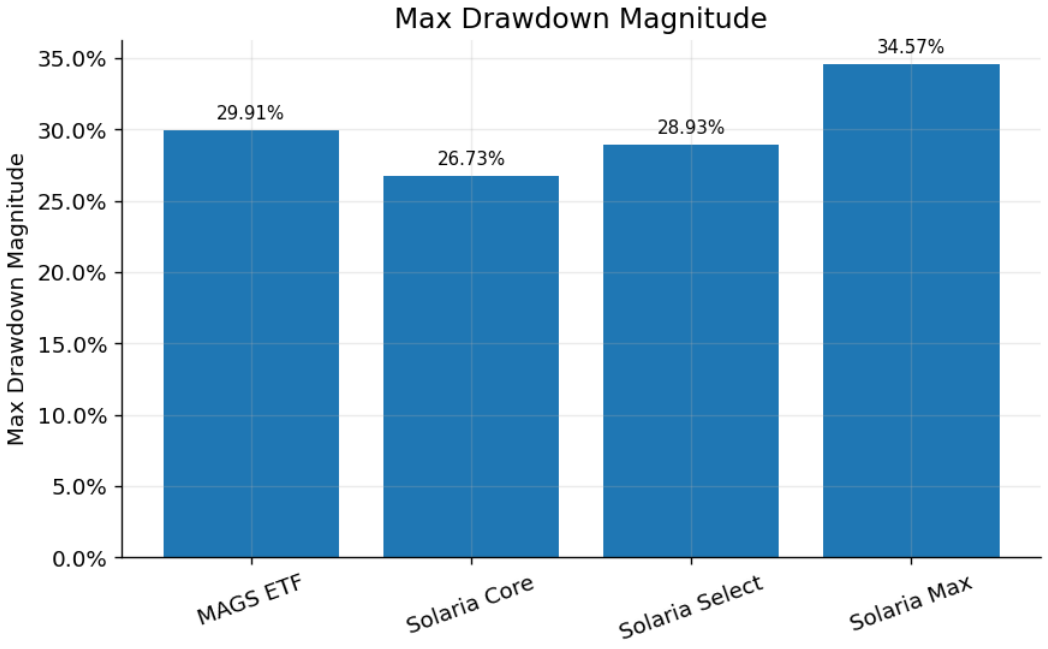



Figure 3: Maximum drawdown magnitude for each model. Lower values represent smaller portfolio declines.

# 5 Discussion and Limitations

It is crucial to note that although the returns are strong, each of the three versions still carries high concentration and market risk. Because each version is designed to capture the strong growth of the MAG 7 and SPY, each version will also capture their drops and losses. Since the MAG 7 and SPY are still heavily tied to large-cap technology and growth stocks, any downward pressure in this sector will affect each of the three versions to varying degrees. Furthermore, Select and Max carry intrinsic momentum risk, as six-month momentum may react more slowly to sudden trend shifts. Specifically for Max, although the total returns are the highest, the max drawdowns and high volatility are also much higher. This should deter investors with low risk tolerance, low tolerance for volatility, or high liquidity needs. As for backtesting, the period is relatively short at just over three years, during which these companies performed strongly. This does not guarantee future growth or future outperformance. With those limitations stated, the results of this paper still provide value and support the educational purpose of the model family.

# 6 Conclusion

The purpose of this paper is to test whether applying a quantitative model to the MAGS ETF can improve returns and/or reduce volatility while educating investors about the MAG 7. Core aims to be the most balanced version due to its reduced volatility and max drawdown, while maintaining similar returns to the MAGS ETF. Select is the strongest overall version, as it improved returns, CAGR, Sharpe, and max drawdown while keeping volatility close to MAGS. Max had the highest upside, but also had the highest volatility and deepest drawdown. The Solaria MAG7 Family gives investors three different ways to approach MAG 7 exposure, depending on their risk tolerance. While the model family is useful for educational and research purposes, future testing over longer time periods would be needed before making stronger conclusions.

# A Appendix: Supporting Figures

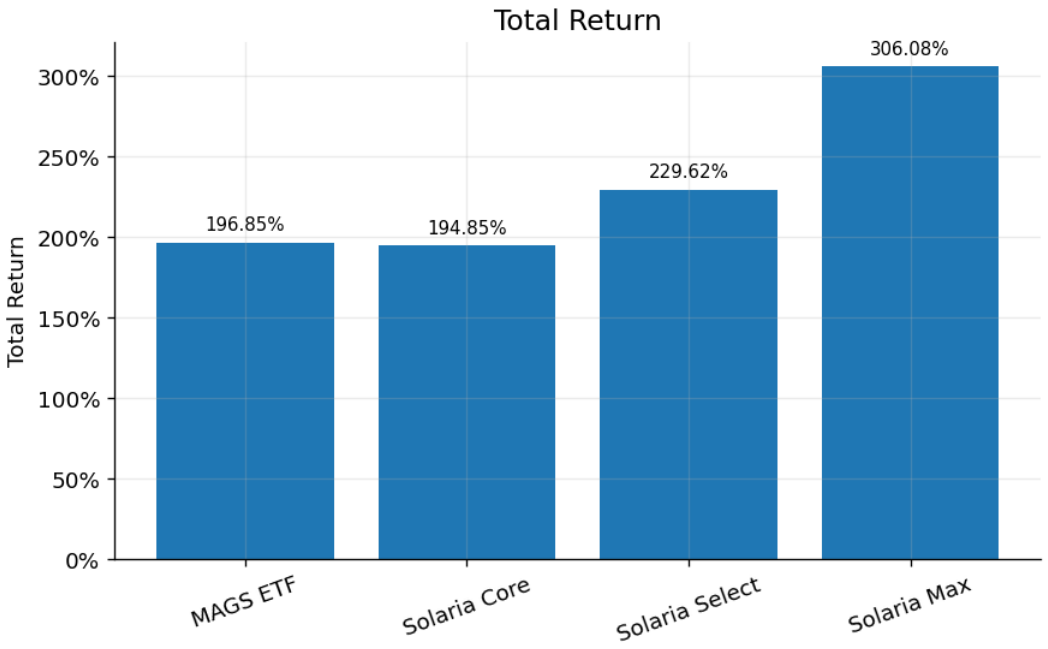



Figure 4: Total return comparison across the MAGS ETF and Solaria MAG7 versions.

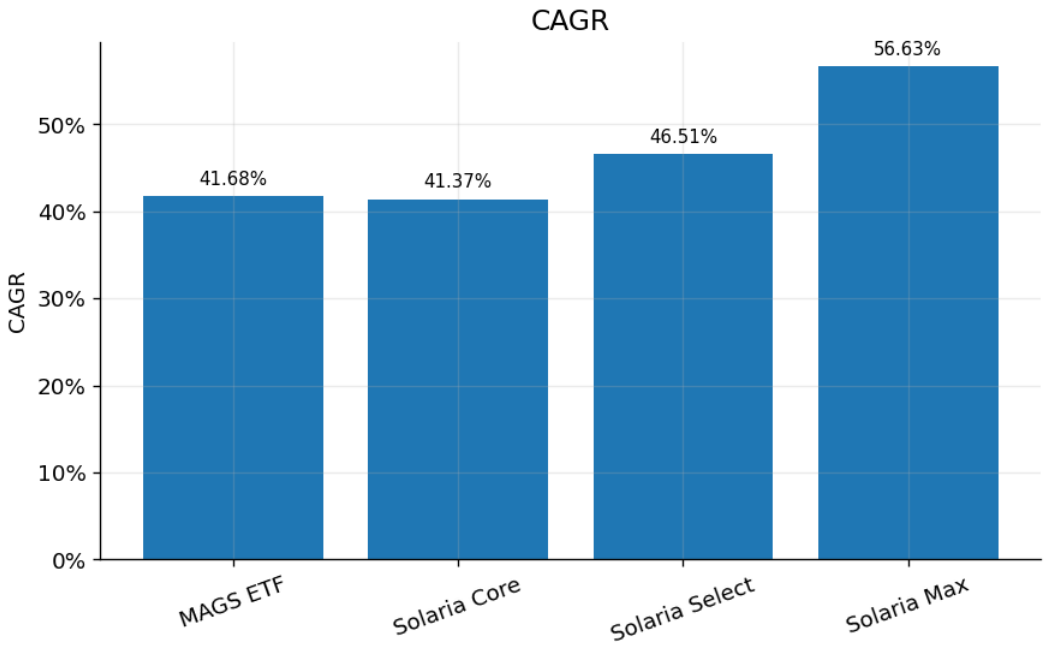



Figure 5: CAGR comparison across the MAGS ETF and Solaria MAG7 versions.

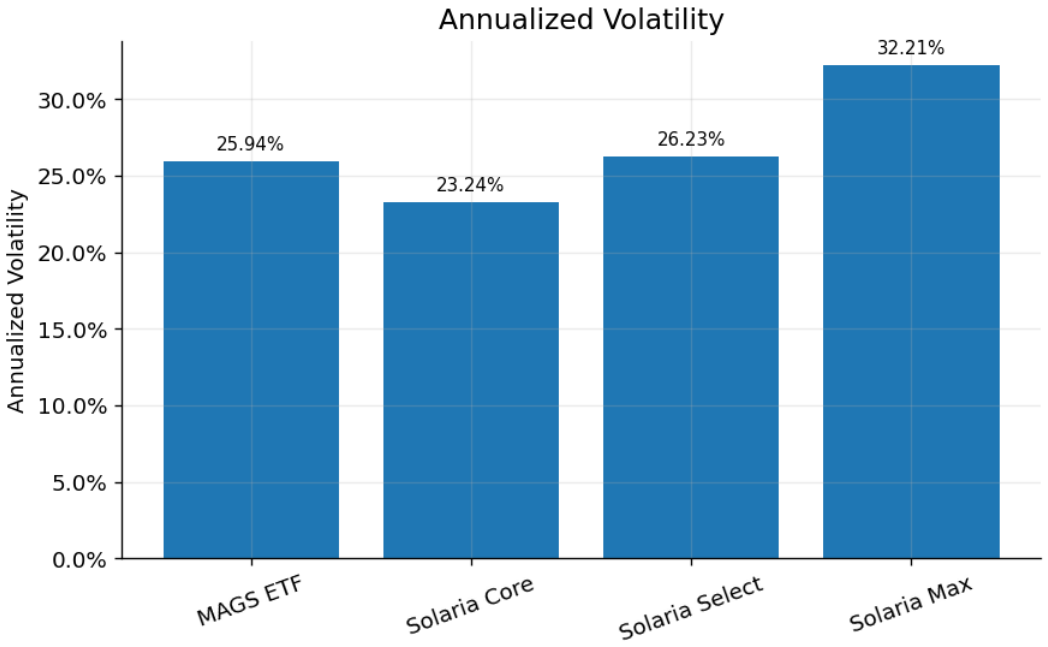



Figure 6: Annualized volatility comparison across the MAGS ETF and Solaria MAG7 versions.

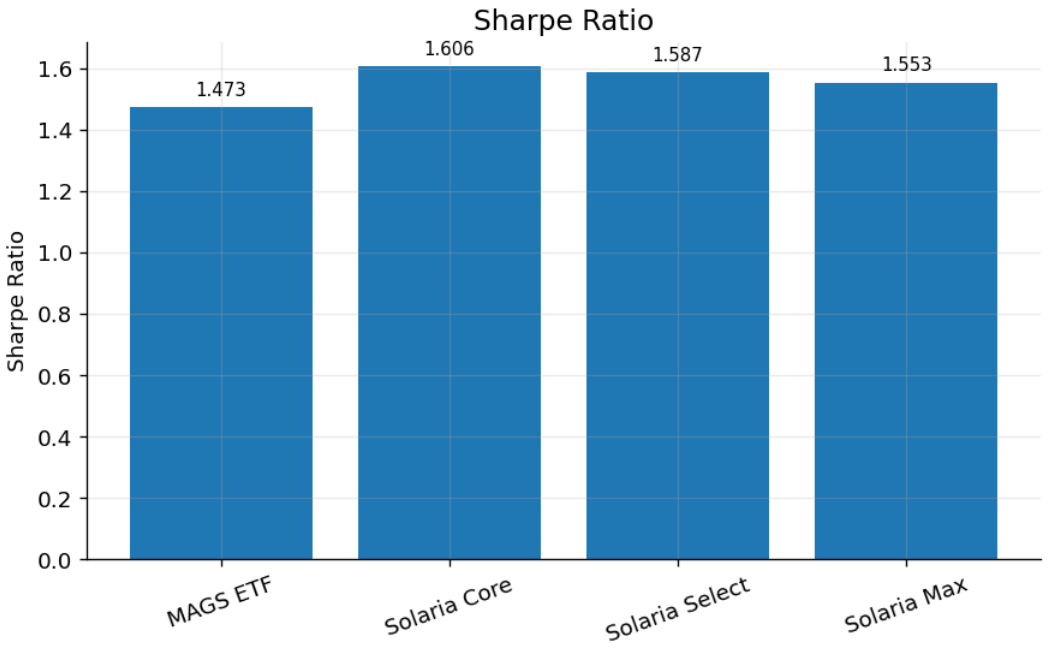



Figure 7: Sharpe ratio comparison across the MAGS ETF and Solaria MAG7 versions.

# References


[1] Roundhill Investments. "MAGS Magnificent Seven ETF." *Roundhill Investments*. https://www.roundhillinvestments.com/etf/mags/

[2] Fidelity. "What Are the Magnificent 7 Stocks?" *Fidelity Learning Center*. https://www.fidelity.com/learning-center/smart-money/magnificent-7-stocks

[3] Yahoo Finance. "Roundhill Magnificent Seven ETF (MAGS)." *Yahoo Finance*. https://finance.yahoo.com/quote/MAGS/

[4] Investopedia. "Sharpe Ratio: Definition, Formula, and Examples." *Investopedia*. https://www.investopedia.com/terms/s/sharperatio.asp