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THE TECHNOLOGY SECTOR AS A GROWTH ENGINE OF THE MAIN U.S. STOCK MARKET INDEXES: ANALYSIS, VALUATION, AND CONSTRUCTION OF AN INVESTMENT PORTFOLIO

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ABSTRACT

This study analyzes the impact of the technology sector as one of the main drivers of growth in the most important indexes in the United States, specifically the S&P 500 and NASDAQ, based on the participation and importance of technology companies within the indices, considering their influence on overall market behavior. Likewise, it proposes integrating artificial intelligence (AI) development as a growth factor within the sector. For this analysis, a sample of the "Magnificent Seven" was considered, composed of: Meta Platforms (META), Apple (AAPL), Alphabet (GOOG), Tesla (TSLA), adding Texas Instruments (TXN) and IONQ Inc (IONQ) to the portfolio. With these assets, a simulated investment portfolio was built with an initial capital of USD $1,000,000, evaluating its performance over a 15-day period. During that period, the portfolio reached a value of USD $1,051,992.94, equivalent to a return of 3.42%; additionally, based on the observed performance, a projected annualized return of 109.60% was obtained—validating that the technology sector can represent an important investment opportunity.

Keywords: Financial Simulation, Magnificent Seven, Artificial Intelligence Investment

1.0 INTRODUCTION

In the current market environment, much is said about the importance and the change that Artificial Intelligence (AI) is bringing to the world, and along with this, major infrastructure investments are being announced to support the capacity this tool promises. Given this, it is important to highlight that today's largest companies are focused on advancing this technology, which is closely tied to their business models. This group of companies, known as the "Magnificent Seven," is made up of Amazon.com, Inc. (AMZN), Meta Platforms (META), NVIDIA Corporation (NVDA), Alphabet Inc (GOOG), Apple (AAPL), Microsoft Corp. (MSFT) and Tesla, Inc. (TSLA); these tech giants represent between 33-35% of the total market capitalization of the S&P 500 index and around 42-45% of the NASDAQ index. (Grobys, 2026)

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The strong concentration of these companies in the indices is mainly due to how the indices are constructed, giving greater weight to companies with larger market capitalization; this implies that the performance of these seven names explains a significant part of the total return of both indices (Maranjian, 2026). Nvidia has become the most valuable company in the market, with a market capitalization exceeding 5 trillion dollars in 2026, contributing to the performance of the same tech giants by creating an "AI ecosystem" that triggers a multiplier effect. (Ji, 2026). Although it is important to note that the market capitalization of the Magnificent Seven and their heavy dependence on index performance could generate systematic risk if their growth is based on unsustainable expectations or valuation bubbles. (History of Market, 2026)

2.0 GENERAL OBJECTIVE

To design and evaluate an investment portfolio concentrated in leading technology-sector companies linked to the development of artificial intelligence, with the objective of assessing its impact on portfolio performance and its relationship with the S&P 500 and NASDAQ indices, through the use of technical analysis tools and stock market simulation.

3.0 SPECIFIC OBJECTIVES

1. Identify and select technology-sector assets linked to the development of artificial intelligence, considering their market capitalization, liquidity, and weight within the S&P 500 and Nasdaq-100 indices.
2. Apply technical analysis tools and stock market simulation to build an investment portfolio and evaluate its performance over a short-term horizon (15 days).
3. Evaluate the impact of concentration in the technology sector (META, AAPL, GOOG, TSLA, TXN, IONQ) on portfolio performance.

4.0 THEORETICAL FRAMEWORK

● Analysis of macroeconomic trends: AI as a driver of structural transformation

The relevance of AI as a macroeconomic trend lies in the fact that it is affecting different areas of the economy, such as productivity (automation and optimization), investment in infrastructure and software, labor demand, international trade, and economic policy. The International Monetary Fund (IMF) has indicated that AI could affect up to 40% of jobs worldwide, with differentiated impacts depending on each region's level of economic development. (Cazzaniga, 2024)

● Asset selection: criteria of market capitalization, liquidity, and thematic exposure

The selection of the companies that make up the portfolio is based on four main criteria. First, market capitalization is taken into account, prioritizing large companies because they generally

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offer greater stability and liquidity, which helps reduce transaction costs and execution risk. Second, asset liquidity is analyzed, considering factors such as average daily trading volume and the bid-ask spread, with the aim of ensuring that positions can be opened and closed efficiently. Likewise, thematic exposure to artificial intelligence is considered, selecting companies linked to AI development, cloud computing infrastructure, specialized semiconductors, and generative AI applications. Finally, the weight of the companies within benchmark indices is evaluated, particularly the S&P 500 and the Nasdaq-100, since their presence in these indices increases their visibility among institutional investors and favors the participation of passive investment flows. (Gao & Feng, 2023)

● Sectoral concentration and systematic risk: empirical and theoretical evidence

Concentrating a portfolio in a small number of companies or sectors increases exposure to systematic risk; in the case of the "Magnificent Seven," their combined weight of 33–35% in the S&P 500 and 42–45% in the Nasdaq-100 implies that a simultaneous correction in these companies could spread quickly throughout the index, generating a contagion effect among assets. (Sahoo & Kumar, 2024)

Korinek and Stiglitz (2024) warn that AI could generate recessionary pressures if automation displaces jobs faster than new occupations are created, which in turn could affect the valuation fundamentals of technology companies.

5.0 METHODOLOGY

The strategy was carried out using TradingView's "Stock Screener" menu to identify the companies with the largest market capitalization, facilitating the asset's tradability and evaluating how investors react to daily market volatility. For its execution, the Investopedia Stock Simulator was used, allowing participation in market changes and strengthening decision-making under pressure.

Image 1. TradingView Stock Screener

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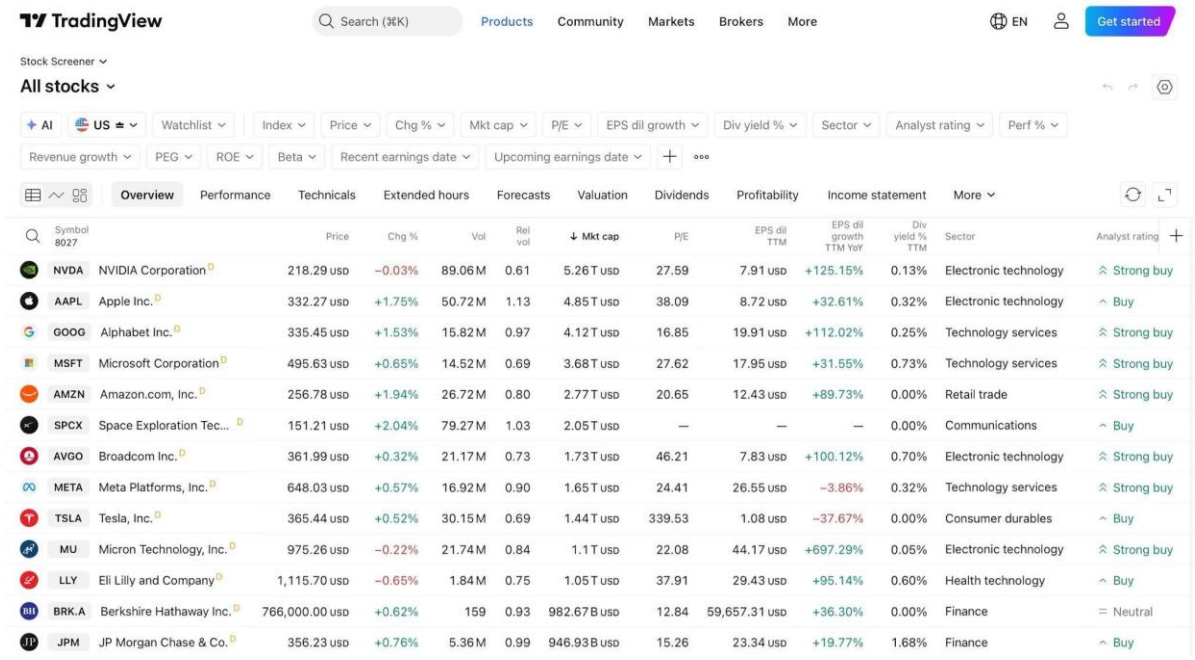

Symbol 8027		Price	Chg %	Vol	Rel vol	Mkt cap	P/E	EPS dil TTM	EPS dil growth TTM YoY	Div yield % TTM	Sector	Analyst rating
NVDA	NVIDIA Corporation	218.29 USD	−0.03%	89.06 M	0.61	5.26 T USD	27.59	7.91 USD	+125.15%	0.13%	Electronic technology	Strong buy
AAPL	Apple Inc.	332.27 USD	+1.75%	50.72 M	1.13	4.85 T USD	38.09	8.72 USD	+32.61%	0.32%	Electronic technology	Buy
GOOG	Alphabet Inc.	335.45 USD	+1.53%	15.82 M	0.97	4.12 T USD	16.85	19.91 USD	+112.02%	0.25%	Technology services	Strong buy
MSFT	Microsoft Corporation	495.63 USD	+0.65%	14.52 M	0.69	3.68 T USD	27.62	17.95 USD	+31.55%	0.73%	Technology services	Strong buy
AMZN	Amazon.com, Inc.	256.78 USD	+1.94%	26.72 M	0.80	2.77 T USD	20.65	12.43 USD	+89.73%	0.00%	Retail trade	Strong buy
SPCX	Space Exploration Tec...	151.21 USD	+2.04%	79.27 M	1.03	2.05 T USD	—	—	—	0.00%	Communications	Buy
AVGO	Broadcom Inc.	361.99 USD	+0.32%	21.17 M	0.73	1.73 T USD	46.21	7.83 USD	+100.12%	0.70%	Electronic technology	Strong buy
META	Meta Platforms, Inc.	648.03 USD	+0.57%	16.92 M	0.90	1.65 T USD	24.41	26.55 USD	−3.86%	0.32%	Technology services	Strong buy
TSLA	Tesla, Inc.	365.44 USD	+0.52%	30.15 M	0.69	1.44 T USD	339.53	1.08 USD	−37.67%	0.00%	Consumer durables	Buy
MU	Micron Technology, Inc.	975.26 USD	−0.22%	21.74 M	0.84	1.1 T USD	22.08	44.17 USD	+697.29%	0.05%	Electronic technology	Strong buy
LLY	Eli Lilly and Company	1,115.70 USD	−0.65%	1.84 M	0.75	1.05 T USD	37.91	29.43 USD	+95.14%	0.60%	Health technology	Buy
BRK.A	Berkshire Hathaway Inc.	766,000.00 USD	+0.62%	159	0.93	982.67 B USD	12.84	59,657.31 USD	+36.30%	0.00%	Finance	Neutral
JPM	JP Morgan Chase & Co.	356.23 USD	+0.76%	5.36 M	0.99	946.93 B USD	15.26	23.34 USD	+19.77%	1.68%	Finance	Buy

Source: TradingView (2026)

Upward trends and buying opportunities were identified; taking into account analysts' opinions together with the use of technical analysis, it was decided to build the portfolio with META, AAPL, GOOG, TSLA, TXN, and IONQ.

These companies make up close to 20% of the total weighting of the S&P 500 index—a fifth of the index concentrated in 4 companies—where it is worth noting that the largest one currently is NVIDIA Corporation (NVDA), holding 7.32%, followed by Apple (AAPL) with 6.49% and Alphabet (GOOG/GOOGL), which is split into two share classes but together make up 6.1% of the index. With a smaller share are Meta Platforms (META) with 2.68% and Tesla (TSLA) with 2.42% of the total S&P 500.

Table 1: Composition of the S&P 500 Index

S&P Component	Index Weighting
NVIDIA Corporation (NVDA)	7.32%
Apple Inc. (AAPL)	6.49%
Microsoft Corporation (MSFT)	5.8%
Amazon.com, Inc. (AMZN)	3.98%
Alphabet, Class A (GOOGL)	3.16%
Alphabet, Class C (GOOG)	2.94%
Meta Platforms, Inc. (META)	2.68%
Broadcom Inc. (AVGO)	2.64%

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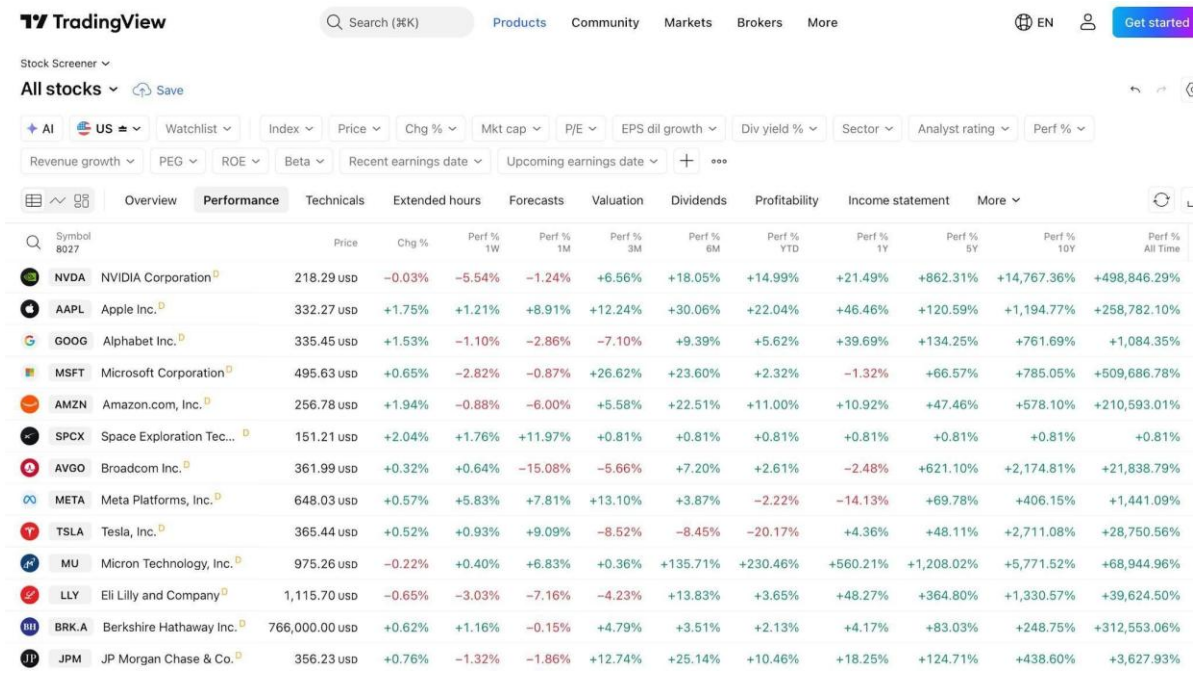
Tesla, Inc. (TSLA)	2.42%
Berkshire Hathaway Inc. (BRK.A)	1.75%

Source: (Tillier, 2024)

6.0 RESULTS

The results obtained validate a sustained upward momentum in technology companies strongly linked to advances in artificial intelligence, demonstrating consistency in asset appreciation during the simulation period. Technical and fundamental analysis suggests that these assets remain relatively undervalued, given their structural exposure to AI macro trends, which represents opportunities for superior returns for investors with short- and medium-term horizons in the U.S. technology sector.

Image 2. Performance of Stock by TradingView



Symbol		Price	Chg %	Perf % 1W	Perf % 1M	Perf % 3M	Perf % 6M	Perf % YTD	Perf % 1Y	Perf % 5Y	Perf % 10Y	Perf % All Time
NVDA	NVIDIA Corporation	218.29 USD	−0.03%	−5.54%	−1.24%	+6.56%	+18.05%	+14.99%	+21.49%	+862.31%	+14,767.36%	+498,846.29%
AAPL	Apple Inc.	332.27 USD	+1.75%	+1.21%	+8.91%	+12.24%	+30.06%	+22.04%	+46.46%	+120.59%	+1,194.77%	+258,782.10%
GOOG	Alphabet Inc.	335.45 USD	+1.53%	−1.10%	−2.86%	−7.10%	+9.39%	+5.62%	+39.69%	+134.25%	+761.69%	+1,084.35%
MSFT	Microsoft Corporation	495.63 USD	+0.65%	−2.82%	−0.87%	+26.62%	+23.60%	+2.32%	−1.32%	+66.57%	+785.05%	+509,686.78%
AMZN	Amazon.com, Inc.	256.78 USD	+1.94%	−0.88%	−6.00%	+5.58%	+22.51%	+11.00%	+10.92%	+47.46%	+578.10%	+210,593.01%
SPCX	Space Exploration Tec...	151.21 USD	+2.04%	+1.76%	+11.97%	+0.81%	+0.81%	+0.81%	+0.81%	+0.81%	+0.81%	+0.81%
AVGO	Broadcom Inc.	361.99 USD	+0.32%	+0.64%	−15.08%	−5.66%	+7.20%	+2.61%	−2.48%	+621.10%	+2,174.81%	+21,838.79%
META	Meta Platforms, Inc.	648.03 USD	+0.57%	+5.83%	+7.81%	+13.10%	+3.87%	−2.22%	−14.13%	+69.78%	+406.15%	+1,441.09%
TSLA	Tesla, Inc.	365.44 USD	+0.52%	+0.93%	+9.09%	−8.52%	−8.45%	−20.17%	+4.36%	+48.11%	+2,711.08%	+28,750.56%
MU	Micron Technology, Inc.	975.26 USD	−0.22%	+0.40%	+6.83%	+0.36%	+135.71%	+230.46%	+560.21%	+1,208.02%	+5,771.52%	+68,944.96%
LLY	Eli Lilly and Company	1,115.70 USD	−0.65%	−3.03%	−7.16%	−4.23%	+13.83%	+3.65%	+48.27%	+364.80%	+1,330.57%	+39,624.50%
BRK.A	Berkshire Hathaway Inc.	766,000.00 USD	+0.62%	+1.16%	−0.15%	+4.79%	+3.51%	+2.13%	+4.17%	+83.03%	+248.75%	+312,553.06%
JPM	JP Morgan Chase & Co.	356.23 USD	+0.76%	−1.32%	−1.86%	+12.74%	+25.14%	+10.46%	+18.25%	+124.71%	+438.60%	+3,627.93%

Source: Trading View (2026)

Image 3 presents the performance of the simulated portfolio in the Investopedia Stock Simulator over a 15-day period, from August 28 to September 11. The results demonstrate consistency in asset appreciation; the high concentration in the technology sector allows for increased expected gains as a result of a higher beta.

Image 3. Portfolio Performance in the Investopedia Stock Simulator

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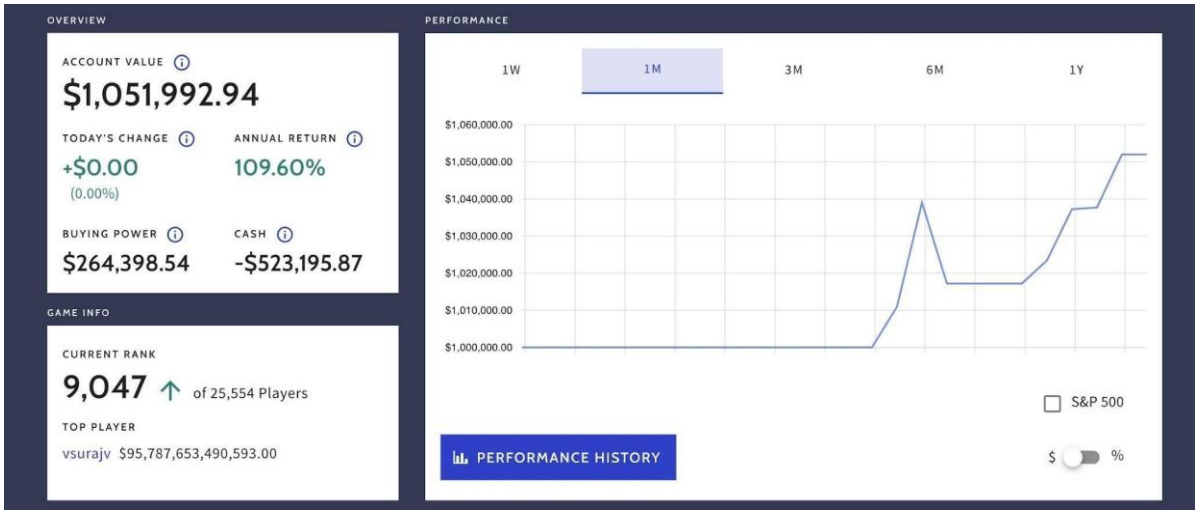
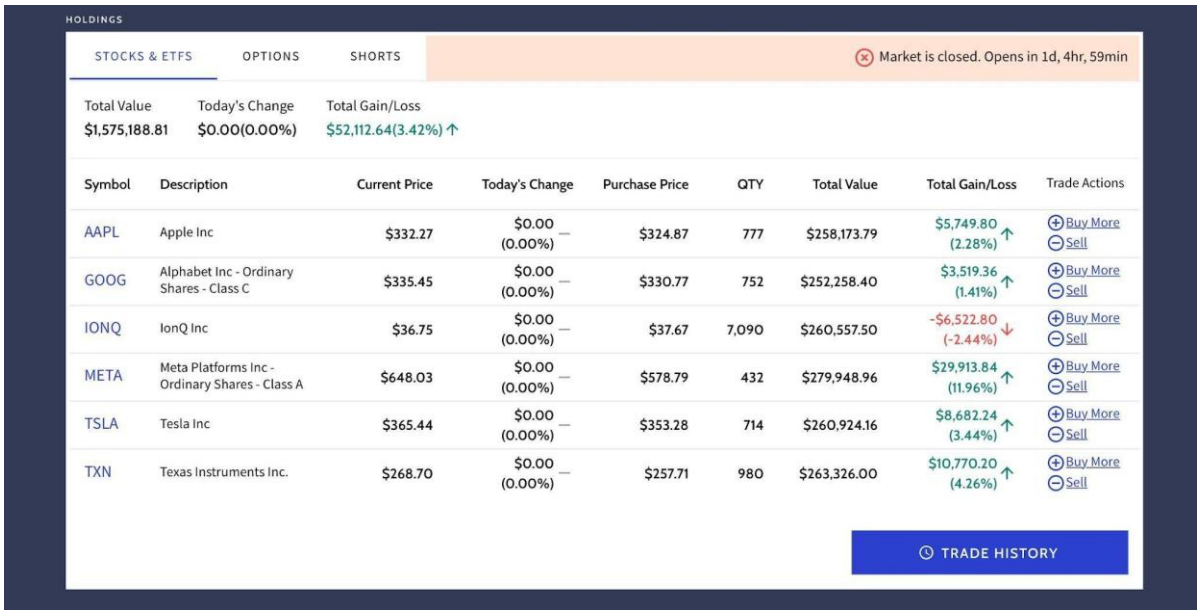


Source: Investopedia Stock Simulator (2026)

Image 4. Asset Performance in the Investopedia Stock Simulator



Source: Investopedia Stock Simulator (2026)

The increase in the portfolio's value validates the growth opportunity in these companies, with Meta Platforms (META) leading the upward trend, growing 11.96% in value since its acquisition and representing a gain of $29,913.84 USD for the portfolio. Tesla, Inc. (TSLA) and Texas Instruments Inc. (TXN) increased 3.44% and 4.26%, respectively. Finally, Apple, Inc. (AAPL) and Alphabet, Inc. (GOOG) show solid growth with strong upside potential, while IONQ, Inc. (IONQ) represents a very significant buying opportunity.

7.0 CONCLUSION

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The current market is driven by the euphoria surrounding AI; trillions of dollars are transacted daily through the shares of these companies, which represent a significant portion of the indices that measure the market's overall performance (S&P 500 / NASDAQ 100 indices). Although the Magnificent Seven operate within the same sector, their individual diversification and timely purchases make it possible to maximize gains for the portfolio.

The negative cash position within the simulator's context (-$523,195.87 USD) represents an aggressive strategy; accompanied by high levels of volatility and an upward cycle, the annual return could grow exponentially. The analysis shows that tools such as the Investopedia Stock Simulator turn training into a practical experience, allowing direct interaction with real market conditions.

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