How To Teach AI To Pick Stocks

AI is rapidly gaining traction in the investing business, with growing interest from both individuals and institutions seeking to integrate it into their workflows. Getting AI to pick stocks would be a major advancement for all involved, particularly as the utility of the current state-of-the-art data analytics continues to decline.

As enticing as the idea of getting AI to pick stocks is, it still appears a long way off. At this time, machines are not good at analyzing and interpreting financial data.

This article, published by XBRL, titled "Beyond the Hype: How Structured Data Can Save AI Financial Analysis", illustrates just how poorly current large language models (LLMs) perform when interpreting financial data from corporate filings. Even when given sophisticated prompts and an answer key, this recent paper shows LLMs struggle to interpret complex financial disclosures.

The bottom line is that the machines cannot figure out anything that a human can't teach it to figure out. In other words, without explicit guidance, LLMs can't navigate the nuances of accounting. Consequently, they cannot generate meaningful insights or reliable signals.

At present, the only task LLMs perform somewhat accurately is locating where financial facts appear in filings. However, they fail miserably at understanding the meaning and significance. What good is that? One could just manually search for keywords and find data points in a filing without AI. That's not financial analysis.

As noted in the report, a research team comprising members from The Fin AI, Columbia University, Georgia Institute of Technology, and Gustavus Adolphus College, created a new benchmark, called "FinTagging", for evaluating how well LLMs can extract and structure financial information from corporate reports.

The study showed that even the best LLMs achieved only 17% accuracy when linking extracted numbers and text to correct concepts in US-GAAP taxonomy. In practical terms, these models fail to understand the meaning of data points more than 80% of the time.

The article goes on to suggest that feeding AI's "structured" XBRL data will solve these challenges, but, as experts agree, it's proven that is not the case. XBRL data is not as consistent as often assumed. Companies can extend or rename fields and data points, which creates flexibility that undermines standardization. It's extremely difficult to maintain consistency when filings span hundreds of pages and contain thousands of data points with inconsistent naming across thousands of companies.

A broad LLM using unstructured or inconsistent data, like XBRL, can't develop accurate and reliable financial analysis capabilities.

A Real Solution

Financial analysis is inherently a deep and complex field, and general-purpose AI models lack the expertise to navigate it effectively. If we expect an AI to produce reliable stock picks or insights of any kinds, we must endow it with the subject matter expertise (SME) required to operate with the skill of human experts.

Anyone who has ever studied for a PhD knows how hard it is for humans to endow other humans with deep SME. We think the endowing machines with deep SME is even harder.

Why do we believe this? Because we did it.

Don't worry, you don't have to take our word on the effectiveness of our AI Agent.

We have empirical evidence that proves we have unrivaled experience and success in endowing machines with the subject matter expertise needed to perform like human experts.

First, this paper from the Harvard Business School and MIT Sloan professors empirically proves the idiosyncratic alpha in our proprietary measure of Core Earnings.

Second, all three of the indices based on our research and managed by Bloomberg, strongly outperformed the S&P 500 in over the last five years. See Figures 1, 2, and 3.

1. Bloomberg New Constructs Core Earnings Leaders Index (ticker: BCORET:IND)

Important Disclosure Information is contained on the last page of this report.
The recipient of this report is directed to read these disclosures.

2. [Bloomberg New Constructs Ratings VA-1 Index](#) (ticker: BNCVA1T:IND)
3. [Bloomberg New Constructs 500 Index](#) (ticker: B500NCT:IND)

The Bloomberg New Constructs Core Earnings Leaders Index, which allocates based on Earnings Capture and Core Earnings, beat the S&P 500 by over 42% over the past five years. The Index (ticker: BCORET:IND) was up 131% while the S&P 500 was up 90%.

Figure 1: Bloomberg New Constructs Core Earnings Leaders Index Outperforms S&P 500: Last 5 Years
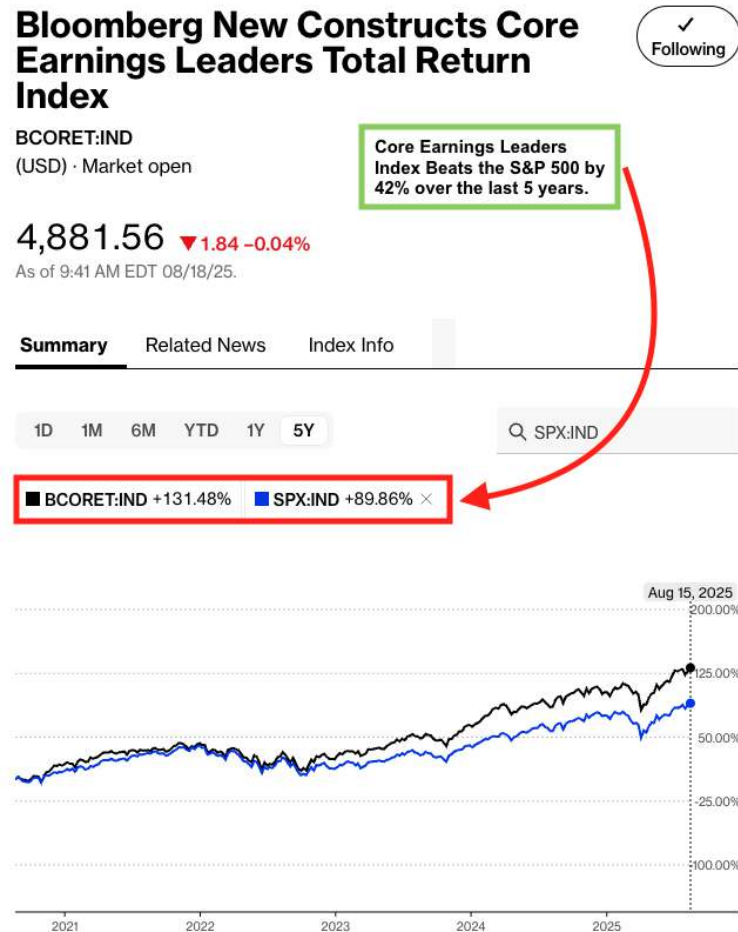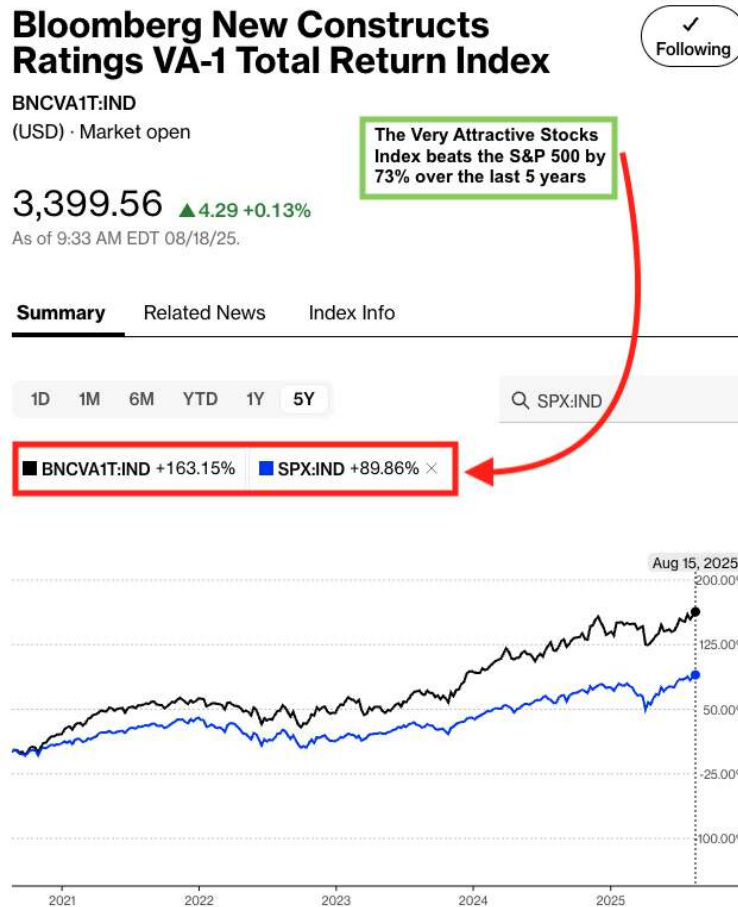

Sources: [Bloomberg](#) as of August 15, 2025
Note: Past performance is no guarantee of future results.

The "Very Attractive Stocks" Index, which allocates to stocks that get a Very Attractive rating by our AI Agent for Investing, beat the S&P 500 by 73% over the last five years. Bloomberg's official name for the index is Bloomberg New Constructs Ratings VA-1Index (ticker: BNCVAT1T:IND). Figure 4 shows it was up 163% while the S&P 500 was up 90%.

Figure 2: Very Attractive-Rated Stocks Strongly Outperform the S&P 500: Last Five Years
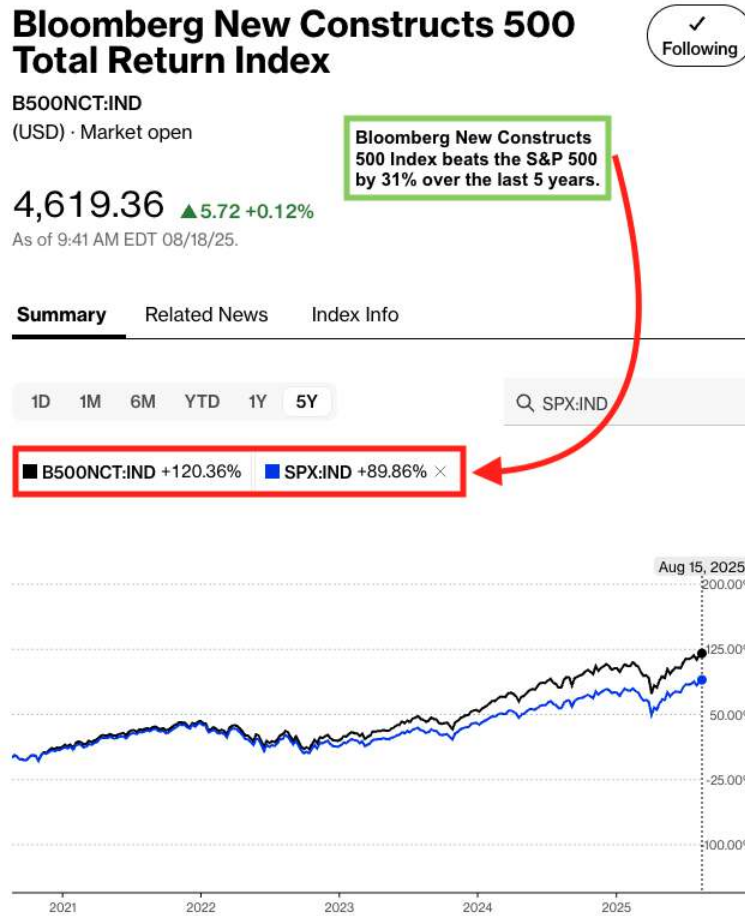

Sources: Bloomberg as of August 15, 2025
Note: Past performance is no guarantee of future results.

Our "Core-Earnings Weighted S&P 500" Index, which weights the largest 500 U.S. companies by Core Earnings instead of market cap, beat the S&P 500 by 31% over the past five years. Bloomberg's official name for the index is Bloomberg New Constructs 500 Total Return Index (ticker: B500NCT:IND). Figure 5 shows it was up 120% while the S&P 500 was up 90%.

Figure 3: Bloomberg New Constructs 500 Index Strongly Outperforms the S&P 500: Last Five Years

Sources: Bloomberg as of August 15, 2025
Note: Past performance is no guarantee of future results.

Note that these indices are not available to the public. The only way to build strategies that achieve this kind of outperformance based on superior fundamental data is to be a New Constructs member.

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Questions on this report or others? Join our online community and connect with us directly.

It's Official: We Deliver the Best Fundamental Data in the World

Many firms claim their research is superior, but none of them can prove it with independent studies from highly-respected institutions as we can. Three different papers from both the public and private sectors show:

1. The stock market is missing footnotes – and only we have that critical data.
2. Legacy fundamental datasets suffer from significant inaccuracies, omissions, and biases.
3. Our proprietary drives novel alpha. Our measures of Core Earnings and Earnings Distortion materially improve stock picking and forecasting of profits.

Best Fundamental Data in the World

In The Journal of Financial Economics, a top peer-reviewed journal, Core Earnings: New Data & Evidence proves our Robo-Analyst technology overcomes material shortcomings in legacy firms' data collection processes to provide superior fundamental data, earnings models, and research. More details.

Key quotes from the paper:

- "[New Constructs'] *Total Adjustments* differs significantly from the items identified and excluded from Compustat's adjusted earnings measures. For example… 50% to 70% of the variation in *Total Adjustments* is not explained by *S&P Global's (SPGI) Adjustments* individually." – pp. 14, 1st para.

- "A final source of differences [between New Constructs' and S&P Global's data] is due to data collection oversights…we identified cases where Compustat did not collect information relating to firms' income that is useful in assessing core earnings." – pp. 16, 2nd para.

Superior Models

Ernst & Young features the superiority of our ROIC, NOPAT and Invested Capital research to Capital IQ & Bloomberg's in Getting ROIC Right. See the Appendix for direct comparison details.

Key quotes from the paper:

- "…an accurate calculation of ROIC requires more diligence than often occurs in some of the common, off-the-shelf ROIC calculations. Only by scouring the footnotes and the MD&A [as New Constructs does] can investors get an accurate calculation of ROIC." – pp. 8, 5th para.

- "The majority of the difference…comes from New Constructs' machine learning approach, which leverages technology to calculate ROIC by applying accounting adjustments that may be buried deeply in the footnotes across thousands of companies." – pp. 4, 2nd para.

Superior Stock Ratings

Robo-Analysts' stock ratings outperform those from human analysts as shown in this paper from Harvard Business School. Bloomberg features the paper here.

Key quotes from the paper:

- "the portfolios formed following the buy recommendations of Robo-Analysts earn abnormal returns that are statistically and economically significant." – pp. 6, 3rd para.

- "Our results ultimately suggest that Robo-Analysts are a valuable, alternative information intermediary to traditional sell-side analysts." – pp. 20, 3rd para.

Our mission is to provide the best fundamental analysis of public and private businesses in the world and make it affordable for all investors, not just Wall Street insiders.

We believe every investor deserves to know the whole truth about the profitability and valuation of any company they consider for investment. More details on our cutting-edge technology and how we use it are here.

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