Trade Smarter vs. Harder: The Need for a New Tool

Danario J. Edgar II
Prairie View A&M University
Graduate Student
Sugar Land, Texas
Dedgar1@pvamu.edu

Kelechi J. Anaghara
Prairie View A&M University
Graduate Student
Alief, Texas
Kanaghara@pvamu.edu

Tarjae S. Hall
Prairie View A&M University
Graduate Student
Dallas, Texas
Thall37@pvamu.edu

ABSTRACT

This study evaluates some of the most popular AI trading agents and AI-powered crypto assets currently used by both retail and institutional traders. As financial markets increasingly depend on AI-driven decision-making, it has become essential to understand the strengths and weaknesses of these tools. The research compares six major AI trading agents and coins—Virtuals Protocol, Fetch.ai, AIXBT, AI16Z, Paal AI, and ChainGPT—analyzing their market presence, technical performance, and overall usefulness for trading and investing. A simple but effective ranking system was created to rate these tools. The research identified major gaps, especially around how adaptable these tools are to different markets, how transparent their decisions are, and how well they can respond to fast market changes. These findings suggest there is a growing need for a new AI trading agent that can fill these gaps and better meet the needs of modern traders.

AUTHOR KEYWORDS

AI trading tools, cryptocurrency, stock market, blockchain, algorithmic trading, market adaptability.

INTRODUCTION

In the early 2000s, artificial intelligence in trading was something only big Wall Street firms or technical experts used. Investments in the stock market were typically used to determine a company's finances, evaluating the competition and tracking analytical processes on a monthly or quarterly basis. Some trade geniuses used trading in the stock market to determine future trends based on price changes throughout the years and its demanding volumes. Now, it's become significantly more common that even everyday people can use AI trading tools right from their smartphones, tablets and computers for their own personal reasons. These tools are showing up in a wide range of applications, from crypto wallets to trading platforms, and they make the harder decisions to help predict what should be your next buy or which stock to sell.

As AI becomes more popular, most of the tools only work for one type of market, either stocks or cryptocurrency, but not both. This is primarily due to fundamental differences in the mark structure, regulatory environments, trading hours, data availability and volatility characteristics. This notable limitation underscores the urgent need for a specialized AI trading agent designed specifically for the unique dynamics of cryptocurrency markets—one that can adapt to real-time fluctuations, decentralized data sources, and the absence of traditional regulatory safeguards. This study looks at how these tools perform and where they're falling behind. We want to figure out which ones are helpful, which ones aren't, and what could be improved to make AI trading better for everyone.

RELATED WORK

The application of artificial intelligence in financial markets has become an increasingly prominent area of research, with didactic studies examining its potential to automate, optimize, and enhance trading strategies. Foundational work by Zhang, Liu, and Wang (2022) provides a comprehensive review of deep reinforcement learning in the context of stock trading. Their study outlines how AI agents can utilize trial-and-error learning to improve decision-making over time, drawing from large volumes of historical data to simulate and refine trading strategies. This research is instrumental in highlighting the theoretical strengths of DRL-based approaches. However, their analysis remains largely conceptual and algorithm-focused, with limited attention to the usability, design, and real-world deployment of existing AI-powered trading platforms accessible to non-expert users. This disconnect between theory and practice underscores a critical gap in the literature that our study seeks to address.

In a related but more market-specific study, Lin, Lu, and Zhang (2021) investigated the landscape of cryptocurrency trading bots. Their comparative evaluation of automated trading systems in the crypto space offered valuable insights into the operational features of these tools—such as signal generation, algorithm customization, and exchange integration. While their study provided a detailed understanding of how AI is being applied within decentralized digital markets, it was confined exclusively to the cryptocurrency domain. This narrow focus limits its generalizability across broader financial environments, such as traditional equities markets, where the regulatory, structural, and behavioral conditions are markedly different. Our research builds upon their work by conducting a cross-market evaluation, analyzing tools used in both stock and cryptocurrency trading environments to identify overlapping challenges, unique requirements, and design limitations.

Beyond the academic sphere, industry perspectives also inform this research. A report by McKinsey & Company (2023) outlines the growing prevalence of AI across financial services, identifying its use in areas ranging from automated trading to fraud detection and customer service automation.

While not a technical study, this report emphasizes the accelerating integration of AI technologies in mainstream financial operations and reinforces the relevance and urgency of critically assessing AI applications in trading. The report also suggests that AI's role in finance is not a temporary trend but rather a transformative shift that is reshaping how financial institutions operate. This insight validates the need for ongoing evaluations of AI tools to ensure their effectiveness, safety, and accessibility.

Equally important to the technical and market considerations are the ethical and interpretability issues associated with AI systems. Kroll et al. (2017) explore the concept of algorithmic accountability, drawing attention to the lack of transparency inherent in many machine learning and AI models. Their analysis demonstrates that users are often unable to discern the rationale behind AI-generated decisions, a problem that is especially troubling in high-stakes domains like finance. The opacity of many trading bots reinforces the need for systems that provide explainability and user trust. Informed by this, our study pays close attention to the transparency and interpretability features of current AI trading agents, evaluating whether users can understand and evaluate the logic behind trading recommendations or actions.

Finally, the work of Gudgeon et al. (2020) contributes a cybersecurity perspective by analyzing vulnerabilities in decentralized finance (DeFi) platforms. Although their focus is not directly on trading bots, their examination of attack vectors in blockchain-based ecosystems is highly relevant, as many contemporary AI trading tools operate within or interact with DeFi infrastructures. Their findings highlight how even technically advanced systems can be exploited if not designed with robust security mechanisms. This perspective guided our assessment of AI trading tools not only in terms of performance but also in terms of risk, reliability, and user safety.

Collectively, these works provide critical theoretical, technical, market-based, and ethical perspectives that form the foundation of our research. While each contributes valuable insights into specific aspects of AI trading, none offers a holistic, tool-level comparison of AI agents functioning across both cryptocurrency and traditional stock markets. Our study seeks to bridge this gap by delivering a practical, comparative analysis of currently available AI trading platforms, with an emphasis on usability, transparency, market adaptability, and risk.

METHODOLOGY

This research adopts an experimental and comparative framework to evaluate the performance, usability, and strategic positioning of modern AI trading tools in the context of cryptocurrency markets. The primary goal is to assess how these tools function under real-world conditions, especially in terms of adaptability, effectiveness, and user engagement. To achieve this, six AI-powered trading platforms were selected for detailed analysis. These platforms were chosen based on their popularity among users, market relevance, and the uniqueness of their technological and strategic features.

Each platform, along with its associated cryptocurrency assets, was analyzed using a SWOT framework, an established strategic analysis tool that examines strengths, weaknesses, opportunities, and threats. This approach enabled a nuanced exploration of each platform's role within the rapidly evolving digital asset ecosystem and provided a structured way to assess both internal capabilities and external market dynamics.

Several key factors guided the analysis. Market capitalization and levels of speculation were assessed to determine the financial significance and volatility of each asset. Transaction processing speed (TPS) was considered as a metric for network scalability and efficiency, both of which directly impact the performance of algorithmic trading agents. The primary use case and intended target audience of each platform were examined to evaluate market positioning and user focus. Particular attention was paid to identifying platform strengths and weaknesses, such as reliability, user interface design, and support for customization. Development roadmap progress and future growth potential were evaluated based on public updates and whitepapers. Finally, real-world adoption and user feedback were incorporated to provide insight into user satisfaction, accessibility, and functional effectiveness.

Data for this study were drawn from a combination of credible sources. Real-time market statistics were obtained from cryptocurrency tracking services such as CoinMarketCap and CoinGecko. Technical documentation and development plans were sourced from official whitepapers and websites maintained by the respective project teams. Additional qualitative data were collected from user communities on platforms such as Reddit, Telegram, and Discord, as well as from financial news reports and fintech-focused media outlets. This multi-sourced data collection approach ensured a well-rounded, contextually rich analysis of each AI trading tool.

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By combining strategic analysis with empirical data, this methodology provides a comprehensive evaluation of the current landscape of AI-driven trading systems. The findings aim to inform both academic inquiry and practical development, while identifying current limitations and future opportunities for innovation in the field.

RESULTS

The evaluation of six prominent AI-powered trading tools and their associated cryptocurrency projects was conducted using the SWOT analysis framework. The platforms were

ranked based on a combination of strategic strengths, adoption levels, innovation, and user accessibility. The summary ranking and key observations are outlined as:

**GRAPH RANKS

Fetch.ai (FET) emerged as the top-ranked platform. It demonstrated robust institutional partnerships and meaningful real-world applications, particularly in areas such as autonomous economic agents and decentralized machine learning. However, its technical complexity poses a barrier for casual or non-expert users, which may limit broader adoption. In second place, **Virtual Protocol** showcased an innovative approach by creating an open marketplace for AI agents, enabling users to deploy or access a variety of automated trading strategies. Its primary weakness lies in its relatively limited staking options and early-stage adoption, which constrain its current market reach.

AI16Z, ranked third, stood out for its rapid development cycle and significant market interest, especially among speculative investors. Despite this growth, the platform remains highly volatile, with its valuation largely driven by market hype rather than proven utility. **AIXBT**, in fourth place, was recognized for its effective use of sentiment analysis derived from social media platforms. Nevertheless, its adoption appears to be confined primarily to niche communities, limiting its impact across wider financial ecosystems.

Paal AI, ranked fifth, offers practical trading tools and has cultivated a steadily growing community of users. Yet, it lacks the level of ecosystem integration or institutional support needed for widespread adoption. Finally, **ChainGPT**, while offering a broad range of AI-driven services including smart contract generation and analytics, is hindered by a relatively small market presence and limited visibility within mainstream trading communities.

Across all platforms, several key trends and limitations were identified. Most notably, none of the tools evaluated support both stock and cryptocurrency trading within a single unified platform. This lack of cross-market compatibility represents a significant limitation in a financial environment where multi-asset trading is increasingly common. In addition, the majority of platforms lack adaptive learning capabilities. That is, their AI agents do not dynamically update or refine their trading strategies in response to evolving market conditions, which reduces long-term effectiveness and adaptability.

Another widespread issue observed was a lack of transparency. Users are often unable to understand or verify the reasoning behind AI-driven decisions, which raises concerns regarding trust, accountability, and the interpretability of machine learning models. Furthermore, customization remains limited, particularly for users without technical backgrounds. While some platforms offer configurable strategies or dashboards, they tend to cater to advanced users, leaving novice or retail traders underserved.

These findings highlight substantial opportunities for innovation and improvement in the AI trading ecosystem. Specifically, there is a clear need for platforms that integrate multi-market functionality, support adaptive learning, and offer greater transparency and accessibility for a broader range of users.

DISCUSSIONS/LIMITATIONS

While the SWOT analysis offered valuable insights, it also had limits. Some data, especially around how certain AI models make decisions, was not fully available due to proprietary restrictions. Also, market conditions can change rapidly, which means the findings reflect a specific moment in time (spring 2025). Lastly, we focused on six tools, which gives a good but not complete picture of the industry.

Every submission should begin with an abstract of about 150 words, followed by a set of keywords. The abstract and keywords should be placed in the left column of the first page under the left half of the title. The abstract should be a concise statement of the problem, approach, and conclusions of the work described. It should clearly state the paper's contribution to the field of HCI.

CONCULSION

Through a structured SWOT analysis, we identified that while each platform offered unique strengths—ranging from strong partnerships to innovative agent marketplaces—they all exhibited common limitations. Notably, none of the tools analyzed supported both cryptocurrency and stock market trading within a single integrated framework. Additionally, most lacked adaptive learning mechanisms, had limited transparency in decision-making processes, and offered minimal customization options for non-technical users.

FUTURE WORK

There is an opportunity to develop and test a prototype AI trading agent that addresses the limitations identified in this study. Such a system should be capable of operating across multiple asset classes, incorporate adaptive learning to refine its strategies over time, and prioritize transparency and interpretability in its decision-making. User-centered design should also be a core focus to ensure that both technical and non-technical users can meaningfully interact with and benefit from the system.

REFERENCES

1. @_CHINOSAUR. 2014. VENUE IS TOO COLD. #BINGO #CHI2016. Tweet. (1 May, 2014). Retrieved February 2, 2014 from https://twitter.com/_CHINOSAUR/status/461864317415989248
2. ACM. How to Classify Works Using ACM's Computing Classification System. 2014. Retrieved

August 22, 2014 from http://www.acm.org/class/how_to_use.html

3. Ronald E. Anderson. 1992. Social impacts of computing: Codes of professional ethics. *Soc Sci Comput Rev* 10, 2: 453-469.
4. Anna Cavender, Shari Trewin, Vicki Hanson. 2014. Accessible Writing Guide. Retrieved August 22, 2014 from http://www.sigaccess.org/welcome-to-sigaccess/resources/accessible-writing-guide/
5. Morton L. Heilig. 1962. Sensorama Simulator, U.S. Patent 3,050,870, Filed January 10, 1961, issued August 28, 1962.
6. Jofish Kaye and Paul Dourish. 2014. Special issue on science fiction and ubiquitous computing. *Personal Ubiquitous Comput*. 18, 4 (April 2014), 765-766. http://dx.doi.org/10.1007/s00779-014-0773-4
7. Scott R. Klemmer, Michael Thomsen, Ethan Phelps-Goodman, Robert Lee, and James A. Landay. 2002. Where do web sites come from?: capturing and interacting with design history. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI '02), 1-8. http://doi.acm.org/10.1145/503376.503378
8. Psy. 2012. Gangnam Style. Video. (15 July 2012.). Retrieved August 22, 2014 from https://www.youtube.com/watch?v=9bZkp7q19f0
9. Marilyn Schwartz. 1995. *Guidelines for Bias-Free Writing.* Indiana University Press.
10. Ivan E. Sutherland. 1963. *Sketchpad, a Man-Machine Graphical Communication System*. Ph.D Dissertation. Massachusetts Institute of Technology, Cambridge, MA.
11. Langdon Winner. 1999. Do artifacts have politics? In *The Social Shaping of Technology* (2nd. ed.), Donald MacKenzie and Judy Wajcman (eds.). Open University Press, Buckingham, UK, 28-40.

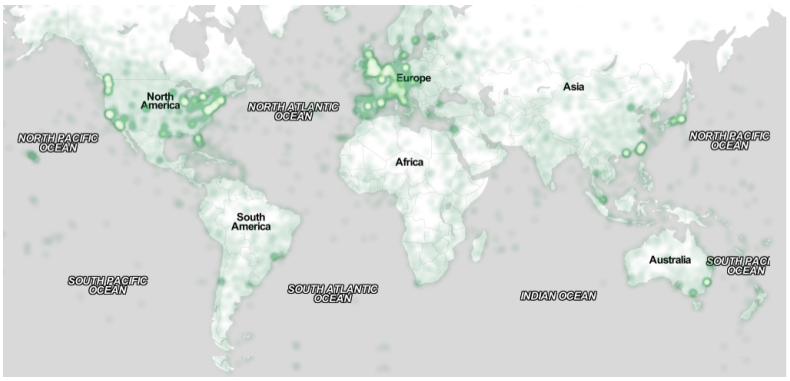

Figure 1. Sample of a wide figure. Be sure to place at the top or bottom of the page. Ensure that important information is legible in both black-and-white and color printing. Image: CC-BY-ND ayman on Flickr.