

# ***Influence of Artificial Intelligence on Retail Investors’ Decision to Buy Stocks***

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**Abstract.** The recent significant development of Artificial Intelligence (AI), such as the advancement in machine learning and natural language processing, has revolutionized the investment industry by providing individual investors with a powerful tool to conduct research and choose stocks to invest in. AI functions as an extremely powerful tool, providing individual investors with a potent tool that was previously exclusive to institutional investors. The paper puts emphasis on the influences of AI on individual investors’ stock selection, discussing the benefits, risks, and challenges. AI, empowered by an extensive database, could analyze massive amounts of data in minutes and make decisions without emotion, transforming investing into a data-based process. Robo-advisory platforms and AI-driven stock-picking algorithms are examples of that. However, “black-box” problems, data privacy concerns, and misleading suggestions from AI pose significant challenges. Additionally, as the idea of “AI” only started a decade ago, market regulators did not fully incorporate AI into the current regulatory system, which could exacerbate market inequalities. This study focuses on the necessity of robust regulatory frameworks for AI use, responsible AI development, and investor education to ensure sustainable development in investments. The findings suggest that AI can significantly improve retail investment outcomes if complemented by appropriate governance, education, and ethical considerations.

**Keywords:** Artificial intelligence, retail investors, Stock.

## **1. Introduction**

In the past decade, as the concept of AI has become more popular, using AI as a guide for investment has grown in popularity. This impacted retail investors, specifically, people who invest their own money around the world and make decisions. They make their own decisions and buy and sell bonds and stocks for profit. However, they would face multiple problems that made it hard for them to compete with institutional investors who had advanced analysts and the most up-to-date data. For example, they do not have enough information, professional knowledge, or analytical tools [1] AI is becoming increasingly widespread, and new tools for machine learning, natural language processing, and big data analytics have provided these investors with new ways to look at data. Their expertise has helped them choose equities, figure out hazards, and improve their portfolios when money is growing difficult to handle.

The convergence of AI and financial technology (FinTech) has sped up the world's progress toward smart, automated techniques to select how to invest. Some of the new technologies that modify how investors think about risk and logic are robo-advisors, quantitative algorithms, and generative AI models. These tools not only speed up and improve the processing of information, but they also change how investors think about risk and logic [2]. In the past, only big companies could use modeling and data analytics tools. Now, anyone can utilize them. This transformation makes AI the most accessible analysis tool for retail investors who previously would have been unable to conduct data analysis or effective risk control.

There had been a lot of research conducted on evaluating the claim that AI could improve predictive accuracy; however, its impact on retail investors should still be viewed rationally. Its utility remains controversial. Some claimed that AI would be able to reduce losses in a bear market and make more money in a bull market. Others, however, believe that relying too much on AI could lead to new prejudices and risky behavior [3,4]. AI-driven investing is wrong and not trustworthy because there is not enough good data, clear algorithms, or government control.

The structure of this document is as follows: Section II talks about the key benefits of AI in investing; Section III talks about how typical investors utilize it; Section IV talks about the biggest challenges and hazards; and Section V closes with conclusions, future prospects, and legislative ideas.

## 2. The primary reasons to utilize AI to invest

AI makes investing decisions better in three primary ways: it analyzes data more accurately, it employs logical analytical frameworks, and it incorporates everyone. Each of them tells investors why they are significant for people who buy stocks.

AI is good at gathering, combining, and modeling data. This makes it easy for it to swiftly examine large amounts of financial data, such as statements, market patterns, news stories, and social media posts. This gives regular investors the same information as institutions, which makes the difference between them much less. Machine-learning algorithms are better at discovering patterns and connections in old data than traditional analytical methods. This makes them better at predicting pricing and spotting trends. For example, convolutional neural networks (CNNs) and long short-term memory (LSTM) models are better at predicting stock values and are widely employed in AI-driven systems to choose equities.

Second, AI has a lot of favorable effects on behavior because it helps investors make better choices by getting rid of emotional biases. Regular retail investors often make bad trading choices because they are too sure of themselves and follow the crowd. AI models employ logic and probability to produce recommendations that make sense and are not based on feelings. These ideas help retail investors follow through on their financial intentions. AI also delivers investors specific risk alerts, tells investors how to get the most out of their portfolio, and suggests stop-loss tactics. All of these things assist investors to avoid mistakes when they make decisions based on what they think.

Third, it is important to make investment easier and get more individuals involved in the financial system. AI investment tools have made it far less expensive to get aid with investing. Most robo-advisory platforms use automation and charge less than regular advisors [5]. AI is easy to use, which makes it easier for small and medium-sized investors to get in. Betterment and Wealthfront are two U.S. robo-advisors that currently have millions of users, for example. AI has helped manage assets that are worth more than a trillion dollars. AI has made "professional investment for the public"

conceivable. This allows ordinary investors affordable, easy solutions to keep track of their investments.

### 3. How AI tools can help people put money into retail

AI can help with retail investing in four keyways: robo-advisory, AI-driven stock selection and ETFs, AI-enhanced trading tools, and research assistants that use large language models (LLMs).

Using algorithms, robo-advisors automatically create investing portfolios for investors. They modify the weights of the assets depending on how much risk investors want to accept, and they do this every so often. These systems utilize natural language processing and predictive modeling to give investors individualized information and assist them in dealing with their risks. They let investors make decisions faster and with less human delay. They give investors ways to analyze risk. They lower service costs and encourage investment that includes everyone.

One of the busiest sections of FinTech is the worldwide robo-advisory market. It should rise by more than 20% each year for the next five years.

AI-based stock-picking algorithms leverage information about a company's fundamentals, technicals, and mood to undertake dynamic screening and weighing. The AI Powered Equity ETF (AIEQ) is the first ETF in the world to use AI to handle its assets. It uses machine learning and natural language processing to look at thousands of stocks in real time. Sometimes it has done better than standard index funds [6]. These kinds of tools let everyday investors adopt AI-based techniques without having to be good at modeling them. This makes it easier for average investors and institutional investors to work together. AI is also becoming a key feature of the most popular trading platforms. Some brokers now utilize AI-powered algorithms to give out buy and sell signals in real time and make predictions about the market. While investors asked investment-related questions, AI would quickly analyze the market and provide an answer.

Additionally, stock prices are strongly associated with the attitude of people toward companies. Therefore, currently, more AI has implemented algorithms that could analyze people's feelings toward specific companies by analyzing people's posts on social media. The hunt for "market-heat" signals and making decisions holistically. When the market is heating up, it is usually a sign for an increase in stock prices, and AI would use its analysis of social media posts and comments to advise investors.

Large Language models are also great tools for investors to conduct research. Utilizing their implemented research algorithm would be able to glance through hundreds of articles to extract the most relevant and appropriate information to display. They could explain abstract concepts in simpler terms, provide the most up-to-date information, and analyze financial patterns. With LLMs, researchers can access knowledge in unprecedented efficiency. If someone put in "Compare the financial structures of Apple and Tesla," the AI would instantly generate a short report that compared the two.

In the future, LLMs will be much more valuable when they are utilized with financial databases. They will be able to make personalized investment reports and automatic summaries of their work. But it is still vital to make sure that what AI says is truthful and can be checked.

### 4. New issues

AI has a lot of promises for investing in retail, but its rapid rise also comes with a lot of huge difficulties and hazards.

Retail investors should know about the hazards that come with models and technology. AI algorithms learn from data that has already been collected. Biased data may prevent the models they construct from making accurate predictions. Also, many AI models are hard to understand and do not show how they make decisions. People called this dilemma the “black-box problem” [8]. In some cases, especially during the bear market, bad algorithms or odd inputs gained from the internet will give false advice and result in severe money loss [7,8].

Another aspect worth noting is that, because using AI to make decisions is so convenient and fast, some investors would rely on AI so much that they made investment decisions only based on AI advice. This over-reliance on AI would significantly increase their financial loss rate, as AI often makes mistakes, making them helpless to cope with them. Also, there are many limitations currently for AI, such as the investors' perception of the market that AI cannot fully evaluate, and it is necessary to educate investors about using AI wisely.

Similarly, AI needs a vast amount of data to improve its algorithms. This puts investors' transaction data at risk, as AI may breach privacy protection rules if data protection and law enforcement are inadequate. Some AI platforms may even use investors' transaction data solely for marketing purposes, which would violate investors' privacy.

These problems documented above may be even worse as described due to a lack of law enforcement. A common new scam comes with the term “AI stock-pricing” that even regulators all over the world are trying to educate investors on methods to identify accountable platforms to invest and avoid scams, but there are still many areas that need improvements that make it hard to protect investors from being scammed.

From an ethical standpoint, AI may further intensify market biases. When making investment decisions, AI may be naturally inclined toward large corporations rather than smaller enterprises, distorting market structures. Furthermore, the validity and accountability of investment advice generated by AI have not been discussed.

Beyond creating destabilizing elements at the individual level, AI-driven retail investments could detrimentally affect the market on a much bigger scale. If a large number of investors and financial institutions rely on similar AI models that are trained on comparable datasets, their trading strategies may become highly correlated. When many algorithms react to the same signal at the same time—for example, a sudden drop in sentiment on social media—this can amplify price swings rather than stabilize them. Flash-crash-style events and rapid cascades of selling or buying could therefore become more frequent in an AI-dominated market. Retail investors would still face financial losses due to crowding risk created by similar algorithms operating in parallel, even if they diversified their portfolios.

At the same time, while the advent of AI may reduce the resource access gap between investment institutions and retail investors, the gap between different retail investors may be intensified. For example, investors who have higher digital literacy, more access to the internet, and who are new are likely to benefit more than those who lack a solid understanding of AI. This rises a new concern that AI would intensify the gap between different retail investors, creating a new inequality [9].

Regulatory response to AI also diverges in multiple directions. The European Union had started to create new acts such as the AI Act and implement stricter rules in automated decision-making financial services. The SEC in the United States has issued guidelines for misleading AI-powered products. In China, regulators emphasize both innovation and risk controls, on one hand promoting innovations in Fintech while tightening rules on robot advisory platforms. These discrepancies could lead to regular abuse, so retail investors need to study these rules holistically to best protect their rights and prevent financial loss.

Given these challenges, the intended purposes for making these AI tools should not only focus on predictive accuracy or short-term performance. Rather, a more sustainable approach should be considered. For example, a responsible AI tool should provide users with a clear explanation of the decision, the model's limitations, and the option to make final decisions based on all available resources. The interfaces of the app should stimulate users to long-term planning rather than frequent trading. In this sense, AI tools would act more like a tutor rather than profit-maximizing tools that help users gradually build knowledge and discipline in the long term.

Finally, an updated version to educate investors should be implemented. Based on teaching basic investment concepts such as compound interest, diversification, and risk-return trade-offs, investors should also learn the basics of AI tools. Understanding how these tools make decisions is essential for successful investments. Asking questions such as “how did the model come up with this suggestion?” and “can this suggestion be wrong?” can strengthen their ability to collaborate with AI tools rather than over-reliance on them. Only when human investors are wisely collaborating with AI and taking their responsibilities and risks can they become successful investors, as AI always works as an assistant, not a decision maker [10].

## 5. Conclusion

This study discussed the mechanisms, principal applications, and potential risks of AI tools in the stock selection process for retail investors. This result suggests that AI has an advantage in information gathering, processing, prediction, and rational decision-making but still needs to improve on models' clarity and prevent overreliance of investors. Future studies should follow three paths: first, examine AI's performance on different markets with different regular measures and different cultures; second, examine how AI could better function as a tutor for humans in making wise investment decisions; third, examine potential ways that humans and AI could collaborate to achieve the best outcomes. Regulators should focus on implementing strict and clear rules for AI-based financial products to produce clear and understandable advice. Schools should educate investors on methods to better utilize AI-based financial products, in addition to teaching regular investing classes. Developers should also focus on ensuring these products are fair and safe to use and develop a healthy AI environment. Lastly, AI is more than just a tool; it would fundamentally reshape an economy. AI could provide numerous investments promises but could only achieve its maximum under smart governance, favorable regulation, and wise decision-making. This will help the world's capital market remain stable and continue to flourish.

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