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Artificial Intelligence Create Value to Investors

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Artificial Intelligence Creates Value for Investors

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Imagine a personal assistant who efficiently deals with tedious and complicated problems, never asks for a promotion, and helps you make more money. Artificial intelligence (AI) can do those tasks and help investors to avoid risks and to increase value in their portfolios. The detailed idea of AI may be complicated, but AI both directly and indirectly benefits all investors regardless of their level of investment knowledge.

In the past, people have collected both organized and unorganized data in multiple formats and stored it in different locations. These data sets are now collectively referred to as "big data." AI can take advantage of this big data by processing it to generate useful information, helping human beings to make accurate decisions. It can also use its own logical algorithm to improve itself without humans' help.

This means that as investment AI is being set up and improved by way of deep learning methods, it can start to learn new investment strategies itself and to search for investments to create more value for investors. (In addition, AI does not take any breaks. Unlike human beings, AI can help investors make decisions at any time in a day, even during the middle of the night.) This article will further summarize the nature and the necessity of AI usage for financial investors in four different categories:

1. Introduction to the history and functions of AI
2. AI creates optimized portfolio strategies
3. AI provides flexibility and detail-oriented deliverables
4. AI manages risks

These four sections will provide some basic knowledge about how AI helps investors to make better investment decisions than they would have made without aid from AI, and will explore a vision of what AI will become in the future.

Introduction to the history and functions of AI

The idea of artificial intelligence has been under development since 1950, but due to the limitation of technology during that time, the usage of AI has not prevailed until recently. Now, with strong algorithms and a fast processing speed, AI is back again.

Ever since the technology improved, both the speed and the storage of computers have increased. Now AI has gradually become a normal part of human life in recent years, and some people may not even notice it. For example, AI is currently used in search engines that can predict what people are trying to find, cell phone personal assistants that provide user-friendly aids, and investment portfolio assistants that offer options for investors.

AI is used quite extensively, but it has its limits. A big part of current AI is machine learning: this process requires humans to put a lot of coding into algorithms to help a machine to recognize an item and put it into its category. With this machine learning method, humans have to both create the scope of the task and complete its coding, meaning it takes a lot of time and effort for humans to finish even one project. In order to address this, programmers have created the idea of "deep learning," which can reduce that time usage. In the area of deep learning, AI does not require a lot of human involvement in the process of recognizing specific items. Instead, when the AI is set up, it will automatically process itself, and search for appropriate information to help itself to recognize the items.

This more powerful calculation and automation process may benefit investors, helping them to learn new knowledge from AI, but it is still in its developing stages. The "deep learning" function of AI demands big data. Without big data, AI cannot generate enough algorithms to adequately predict the future financial market outcomes. Thus, in the recent stage of financial services, AI does not have enough data to make sophisticated predictions for investors. Nonetheless, even without the full support of big data, AI can still contribute to higher returns in investment portfolios, and can help managers to create optimized portfolios.

AI creates optimized portfolio strategies

Merriam-Webster defines *optimization* as "an act, process, or methodology of making something (such as a design, system, or decision) as fully perfect, functional, or effective as possible."[1] When an investment portfolio is

optimized, the expected return is maximized with the tolerant systematic risk that the investors requested. Systematic risk is the risk associated with the market. If investors enter the market, they are automatically exposed to this risk, and the method to mitigate it is to use an extra cost to hedge the risk.

To measure systematic risk, financial analysts have to collect and analyze data from different sources. For example, analysts find companies' financial statements from either the SEC website or professional databases such as Bloomberg. They also research profitability and volatility in industries by comparing past performance and current situations. Analysts search for companies' management teams to determine the stability of such companies as well. Many of these calculations are repetitive and time-consuming, when done manually. However, Mary Childs, an experienced financial reporter, indicated that the purpose of AI is to screen through the database and sort out the useful information to be used when asset managers try to add value to their portfolios.[2] With the help of AI, managers can easily and quickly recommend investment strategies and create portfolios for investors.

Additionally, in some cases, advisors may unintentionally suggest their own preferred investments, or investments that follow popular opinions. According to a survey done by the CFA Institute Financial NewsBrief, out of 724 subjects, 34% felt that "herding" (being influenced by peers to follow trends) had the biggest influence on investment advisors' decisions. Additionally, 20% chose "confirmation bias" as the biggest decision-making factor, and 17% thought that "overconfidence" had the biggest affected investors the most.[3] However, since AI is driven by data, it will not be affected by those biases and will therefore be able to provide objective recommendations to investors.

Thus, by using AI, advisors can eliminate their own biases. Jean-Francois L'Her, a researcher and portfolio manager from Canada, suggested that the strength of AI is the "knowledge learning" by itself. It does not depend solely on the concrete knowledge that humans give to the machine. Therefore, it can help people to identify new knowledge.[4] In this way, the initial programming only defines the scope of the project; AI will explore and program itself to achieve the objectives specified in the initial programming. With the help of this technology, investors can be objective to their financial decisions and further create optimized portfolio to gain maximized returns.

AI provides flexibility and detail-oriented deliverables

AI not only creates value through identifying strategies but also helps to collect information quickly. In traditional investment methods, investors converse with professional managers at physical appointments. During these in-person appointments, investors discuss their risk preferences and investment goals, and managers provide recommendations for the investors according to their needs. These meetings provide important information for investors, but the in-person method usually creates problems for people with disabilities or people who have tight schedules. However, by implementing AI into their financial consultations, investors can be more flexible with their time and location.

With this method, investors can simply answer questions with an Internet connection and a web browser, and the AI tool will then create the portfolio for them. Thus, AI can do a lot of tasks that human beings normally have to do. According to Emily Zulz, a professional journalist covering financial topics, "Artificial intelligence allows computer systems to perform tasks that would normally require human intelligence, such as visual perception, speech recognition, decision-making and translation between languages."[5] At this stage of AI development, AI can gather information such as risk tolerance and expected returns, and it can make investment decisions based on the information provided and create personalized portfolios.

In addition to performing daily tasks, AI can also be detail oriented. Crystal Kim, a reporter specializing in asset management, indicated that AI could soon perform deep analysis. For example, it could screen through the traffic in New York's Fifth Avenue and collect information that would be useful to make investing decisions.[6] The collected information would include unnecessary data such as the names of roads; nonetheless, AI would filter out that data and only produce useful data to make rational decisions. As a result, AI can generate reports with fewer flaws than the reports created by humans.

AI manages risks

In addition to making reports with fewer flaws, AI can assist with assessing portfolios and associated risks. As time passes, investment portfolios face different levels of systematic risks due to market price changes. When the market prices of investments change significantly, portfolios may stay at the same risk level, but they could also become too aggressive (taking on greater risks for greater returns) or become too defensive (focusing on low-risk, low beta stocks) for the investors' liking. As a result, investors would need to rebalance their portfolios to fit their

risk tolerance; in turn, managers will need to buy or sell certain investments so that the portfolios will be at the risk level that their investors desire. To do this, portfolio managers must actively monitor fluctuation in the market by checking multiple economic indicators.

Poul Kristensen, a portfolio manager for New York Life Investment Management, stated that when considering the risks and prospects in portfolios, AI identifies signals that help managers to concentrate on the most essential indicators.[7] With this help from AI, managers can more quickly identify the opportunities and risks in the economy by watching the change in indicators. When these important indicators suggest the downturn of the economy, managers can hedge those risks and prevent excess loss in portfolios. Without AI, managers would need extra analysts to support them in order to spot the important indicators.

Take-Away

In conclusion, through AI, managers can make objective decisions and increase the speed with which they search for information. In addition, AI can immediately manage the portfolio's risk. Although AI is still developing, the basic investing AI function can still be of use to investors when they are investing.

AI can also be a powerful tool for investors to use. Regardless of the investing knowledge that an investor has, they can benefit from an extensive use of AI. If investors have a broad knowledge about investing, they can directly use AI to assist their investment decisions. If investors do not have enough investing skills, they can always refer to their portfolio managers who can use AI to help them, or even consult AI financial advisors. Moving forward, AI will indeed become the main tool for making investing decisions, and will thus prove invaluable to investors.

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