Application of artificial intelligence in blockchain technology: A perspective of financial decision making

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ABSTRACT

Blockchain technology has brought a reform in the data industry all over the world. The packet data synchronization within networks is doing wonders these days. Artificial Intelligence on another end has its technological advancement. The latest application of Blockchain and Artificial Intelligence together can help NBFCs and FinTech for better modeling and Financial Decision Making. This research paper throws light on the application of AI & Blockchain in the Finance Industry.

KEYWORDS: Fintech, Blockchain, Artificial Intelligence, Decision Making.

1. INTRODUCTION

Today, we are going to study artificial intelligence in Blockchain Technology. Nowadays, everything starting from transport vehicles to medical devices, financial transactions, and electricity systems are relying on computer software. While digitization has made things easier for humankind, it has also made technology harder to control. When human-to-human contact is minimized with disruptive trends, it provides a space for machines to entertain bias and dominance.

1.1 Artificial Intelligence: The Concept

Artificial Intelligence (AI) is a concept to grow artificial which can further be linked with the v self-deciding program of various devices. The devices or gadgets or such machines will be programmed further so that the best of the best conditional decisions without considering any emotional interference can be taken. In today's scenario, scientists can develop such software to the best of their capacity. The era of software going to change. This will not only simplify the labours but, tends to provide ample new dimensions to mankind.

AI is not new to humans. At a Conference way back in 1956 held at Dartmouth College, the idea of Machines working as per their brain came to light. Soon that study took shape of a sci-fi story and the people kept waiting for something to come out of that mere

concept. Indeed, the AI finally emerged and took a beautiful shape. Although, after so much research and development, humans still do not depend upon AI. As they say, 'AI cannot replace the human brain.' (David De Cremer, 2021) Well-developed heavy calculation influence and the accessibility of incredible sums of data to computing, the AI brain is very progressive.

AI requires large datasets for effective learning and due to the availability of Big Data, this is no longer an issue. Worldwide data is expected to hit 175 zettabytes by 2025, representing a 61% CAGR. (Big Data Growth Statistics to Blow Your Mind, 2021) The data-driven AI can simply make life better by keeping track of all activities at once. So, one can envision its joint potential, compounded with blockchain. There are specifically 2 main types of AI systems that exist under technology:

Responsive Machines

Virtuously responsive machines area unit the leading elementary styles of AI. These machines do not retrieve data for the next actions. They simply rely on past data and actions. These machines solely target current possibilities and react on that as per possible best action. The deep Blue system is a good example of responsive machines. Google's AlphaGo is additionally an example of a responsive machine. (Javapoint, 2021a)

Limited Memory

Limited memory machines can save some past data and memory. They are also not highly programmed enough to handle capacitive responses. One can control all these machines for some time. Tesla's Self Driving Car measure one of the simplest samples of Limited Memory systems. These cars will store the recent speed of closed cars, the gap between different cars, ordinances, and different data to navigate the road. (Javapoint, 2021b)

1.2 Blockchain: The Concept

For beginners, Blockchain is known due to its applications in general. The blockchain mainly got famous due to Bitcoin or as they say due to Cryptos. But blockchain is much bigger than general people know about it. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. (Euromoney Learning, 2021). Blockchain is named due to its structure. In this, the data consists of small records, called Blocks. These data blocks are linked in a chain. It is, essentially, a public ledger shared and agreed on by a majority of users on a distributed network. (GAFFAR, 2020). Blocks confirm dealings during an accord to change a dealing on the chain needs assurance from all user bases. Therefore, blockchain is just about immutable or un-hackable. To fraudulently enter or alter one dealing would need possession of a majority of a network that will right away lose its price. (Gaffar, 2020a). Blockchain unveils the chance for immediate, less costly, automatic evidence of transactions globally. However, if we compare it with other ways, it is cheap and easy rather than sending currency or sending cash abroad on a large scale. Along with promising future blockchain technology has the potential to produce a much better various for each monetary platform living. (Gaffar, 2020b)

Many things have been modified since the start of the twenty-first century. At the core of these transformations, an easy idea referred to as 'technology' prevails. Yes, for the past 20 years, technology has affected the method we tend to live, work, learn, study, communicate, transport, and even suppose. As a result of trendy trends' intrusion, computers are getting quicker, a lot more transportable, and higher-powered than ever before. though the technical school evolution has each positive and negative impact, the great aspect of the transformation is heavily loved by folks.

It all started in 2000 once the dot-com bubble burst and gave birth to unquiet trends just like the web and also the smartphone. although the stocks of the many corporations tumbled for a moment, it sealed the method for technical school giants like 'Amazon' to urge a fastness on the market. more area units online nowadays than they were at the beginning of the millennium. One might argue that technology has continued to enhance our lives, keeping

the North American nation a lot connected to huge information and with one another. However, the wonderful transformation has additionally sealed the method for increasing complexities.

1.3 Requisites of Financial Decision Making

A financial decision is a very important decision as it involves many aspects. The investor, his ability to invest, his ability to bear the risk, the position of his assets, and many more. On the other hand, assets where an investor wants to invest need to understand the related parameters and judge the return potential. The information thus helps to find out good alternatives and easily calculate the returns in specified time duration. The financial indicators such as Demand and Supply, Profitability, Consistency, prospects, and other information allows an investor to bet money.

The key financial ratios allow you to analyze the condition of the business, liquidity of the business, the profit of the business, and ability to service short- and long debts, among others. (Yesseleva-Pionka, 2021)

1.4 Applications of Blockchain & AI in the Finance Industry
Maximum Security to a Payment Network:

While blockchains are quite difficult to hack, as mentioned before, some security concerns are prohibiting their global adoption.

Automatic, Safe Financial Transactions:

Full automation of financial activities could pose threats to the financial sector if some calculated restrictions aren't placed. So, to smoothly conduct a financial transaction while ensuring the protection of the fund being moved, a combination of blockchain and artificial intelligence is much needed.

Cost-Effective Systems:

It's undeniable that a blockchain network is relatively costlier than traditional banking and financial services to maintain, majorly because of the investment in mining equipment. This is another of the reasons why merging AI with blockchain-based solutions is ultimately beneficial for financial service providers, since artificial intelligence can help reduce the cost of upkeeping a blockchain.

Improved energy consumption:

By up the data mining system, computing for Blockchain will facilitate streamlining the total method. This further can eventually facilitate scaling down the number of labors and time capitalized on mining the data within the Blockchain sphere. Blockchain and computing have concerned increasing attention, thanks to the unique role that they play in technological innovation and industrial transformation. As a vital branch of computing, computing technology is devoted to the analysis and development of technical sciences accustomed simulate, extending, and expanding human intelligence. (Zhonghua Zhang, 2021)

In recent years, because of the tremendous breakthroughs created in machine learning and therefore the exponential growth of information, computing has ushered in Associate in Nursing explosive amount. thanks to its benefits in analysis, prediction, judgment, and decision-making, computing will empower industries like security, finance, retail, transportation, and education. (Zhonghua Zhang, 2021)

Blockchain technology started comparatively late, first beginning with Bitcoin projected by Satoshi Nakamoto in 2008. The blockchain is a distributed ledger. It will use a redistributed accord mechanism in the Associate in Nursing atmosphere wherever different entities participate, while not the intervention of a 3rd sure party. Blockchain additionally realizes the generation Associate in Nursing verification of transactions in an untrusted distributed system, building trust at a lower value. it's precisely attributable to this that a lot of and a lot of researchers have focused on blockchain technology. (Zhonghua Zhang, 2021).

2. REVIEW OF LITERATURE

In this they talk about blockchain is not only about cryptocurrency but much more than that. It helps us by increasing the efficiency of the work. Before people used to store data in a ledger book, same way here data is stored in a ledger but cannot be seen by others it requires a special key or the number which is only with the user or the buyer of that block or the ledger. By that, there are fewer chances of fraud, because there no third party is involved and because of every unique node people cannot see the records. (Polina Mamoshina 1 2, 2019)

In this, the author talks about the achievement of AI in the health sector and its long-term implications in the future to save time, effort, and entire machinery. The original deep learning and transfer learning methods are transforming any individual's data into scientific data changing straightforward makeover images and recordings into strong wellsprings of data for prescient examination. As of now, the patients don't have command over the entrance honours to their clinical records and stay ignorant about the genuine worth of the data they have. (Polina Mamoshina, 2019a)

AI and blockchain advance creative arrangements that might be utilized to speed up the biomedical examination and empower patients with new instruments to control and benefit from their data because of which they have energy and can go through consistent health checking. (Polina Mamoshina, 2019b). They additionally present a guide for a blockchain-empowered decentralized individual health data environment to decrease an extended work for drug disclosure, biomarker improvement, and protection of healthcare. They also talked about how they looked for the difficulties and how get determined by the controllers and return the command over private data including clinical records back to the people. (Komarraju, 2021). In this, corporate governance is a key site for the discussion and debate because it is very important for the people what companies are looking for and but also at the same time it creates confusion among the people. After all, there are a lot of emerging technologies. How things are getting digital and people and how people are adapting to it, in mid-September 2018 there was a campaign about "go digital". (Mark Fenwick, 2018).

In this, they talk about how blockchain innovation is becoming ordinarily and how it's feasible to incorporate it with numerous frameworks, in particular Robotics with AI administrations. They direct an outline of a wide range of strategies and stages that attempt to use the force of blockchain into mechanical frameworks, to further develop AI administrations or to take care of issues that are available in the major blockchains, which can prompt the capacity of making automated frameworks with expanded capacities and security. (Lopes, 2018).

In this, they talk about how cloud computing adopting, its characteristics and what challenges they are facing and how can they overcome the problem. The problem they are facing is an increase in the system energy consumption which causes CO2 emissions, waste heat requires cooling infrastructure for removal because of this they needed new policies to reduce the energy consumption without impacting their heterogeneous quality of services such as reliability, availability cost, security, and privacy. in this, they tell how blockchain helps them to store data and AI helps in geographical distribution It is an emerging on-demand that helps in driving technological innovation and geographically distributed application. (Sukhpal Singh Gill, 2019).

3. DISCUSSION AND ANALYSIS

In the last few years AI has developed as a Technology, but there are so many miles to go and much more to achieve in the industry. Almost a decade ago Blockchain has emerged as a tool for the Finance industry but, its further implementation is still under procession. but it is not widely adopted by technocrats. The factors are as follows-

3.1.High Data Security Concerns:

If, compared with any other data, the risk in Monetary Transactions is much more and the information flow also needs to be very accurate. A Bank, Dealer, Broker, or NBFCs, need to build trust with their accurate data only. The Customers also need confidence in their invested, deposited, or earned money. Nowadays, these firms offer great software and they consist of Dashboards. These dashboards not only show their current financial positions but also, future cash flow possibilities. Therefore, monetary establishments calculate measures too acutely aware regarding implementing technologies that have security issues. (Shirodkar, 2017)

3.2 Technological Limitations:

The MSMEs sector is the most unsafe sector during and after a pandemic because of its size concerning the number of employees, the scale of business in terms of monthly turnover, seasonality in the business, and resources. Experience is always the best teacher we ever had and a Pandemic had taught us many lessons and put forward many new challenges. MSME Manufacturing sector is quite unorganized and had a huge hit during the period. To overcome such a situation efficient utilization of resources is indeed required. It had given me a break and taught me to identify the most ignored waste from Muda-Human Skill.

3.3 Regulation Issues:

Each Process is driven by the Humans, for that they need to take a conscious call about the many tasks they perform at various levels. Even in a labour-intensive job, thinking ability is more important than that of doing a task. Interaction of people among teams also plays important role in performing any process function. A highly coordinated process led to the right results with this individual as well as teams' contributions.

4. CONCLUSION

The latest examples such as Len-Den, Money control, Zerodha's Coin, Money verse, etc are the greatest examples of using Blockchain and the AI at once for financial decision making. (Ninad Gawande, 2018). Therefore, a new development in such tech-driven financial solutions is leading the multiverse of financial decision-making. They are making it an automated easy and profitable business opportunity for Fintechs.

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