The Synergistic Relationship Between Blockchain and AI

Understanding how Blockchain and AI technology may transform entire industries

Blockchain and Artificial Intelligence (AI) have been dominating the headlines, and for good reason, AI adoption is reaching a tipping point. Global funding is accelerating, and AI providers are in an arms race to recruit and retain top talent. Sam Altman's dismissal from OpenAI and subsequent rehiring shook the AI world. This is happening because companies, media sources, and entire countries see the current value and exciting potential of AI monetarily, socially, and globally.

Everyone wants to make sure they are poised to capture a piece of the pie, and understandably so, the global AI market is expected to amount to almost two trillion dollars by 2030, a twentyfold growth from the prior market size of nearly 100 billion dollars.[1] Remarkably, PWC estimates the potential contribution to the global economy from AI to be 15.7 trillion USD by 2030.[2]

However, issues in safe implementation, data security, and data ownership have cast a dark shadow on all things AI. **Lack of transparency in understanding AI behavior, and risks with data integrity and data security ranked as the top two concerns in both the US and in the global markets.**[3]

The issue has become so pressing that the Whitehouse administration recently issued an executive order focused on "safe, secure, and trustworthy AI".[4] The need to protect data owners and audit data used by generative AI to make decisions is more pressing than ever.

This is where blockchain provides a strategic partnership with AI. Gartner predicts blockchain's economic impact to reach $176 billion by 2025 and $3.1 trillion by 2030.[5]

Blockchain is a decentralized, immutable, distributed, digital ledger that stores encrypted data. Essentially, "blockchain is a database system that maintains and records data in a way that allows multiple organizations and individuals to confidently share access to the same data in real time, while mitigating concerns around security, privacy and control."[6]

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These blockchain attributes facilitate trust, data safety, and increased adoption. Put simply, AI is a system which uses data, models, and algorithms to make decisions and generate new outcomes and content. AI is being used to improve targeting and personalization, deepen insights, lower customer turnover, decrease errors, optimize supply chains, and increase sales.

These two technologies combine in exciting ways, and many organizations are already seeing the benefits. Casper Labs research found that 71% of organizational decision-makers worldwide see blockchain and AI as complementary technologies that can strengthen the implementation of the other.[3]

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Is Blockchain the Security Guard for AI?

The use cases for blockchain technology are limitless and fit hand in hand with AI applications. The case for blockchain technology as part of this ecosystem is that blockchain provides a constant, tri-party ledger that is safer and more transparent than prior systems. These benefits, combined with AI's need for digitizing data record-keeping, trustworthy data storage, and trustworthy data transfer, make a compelling case.
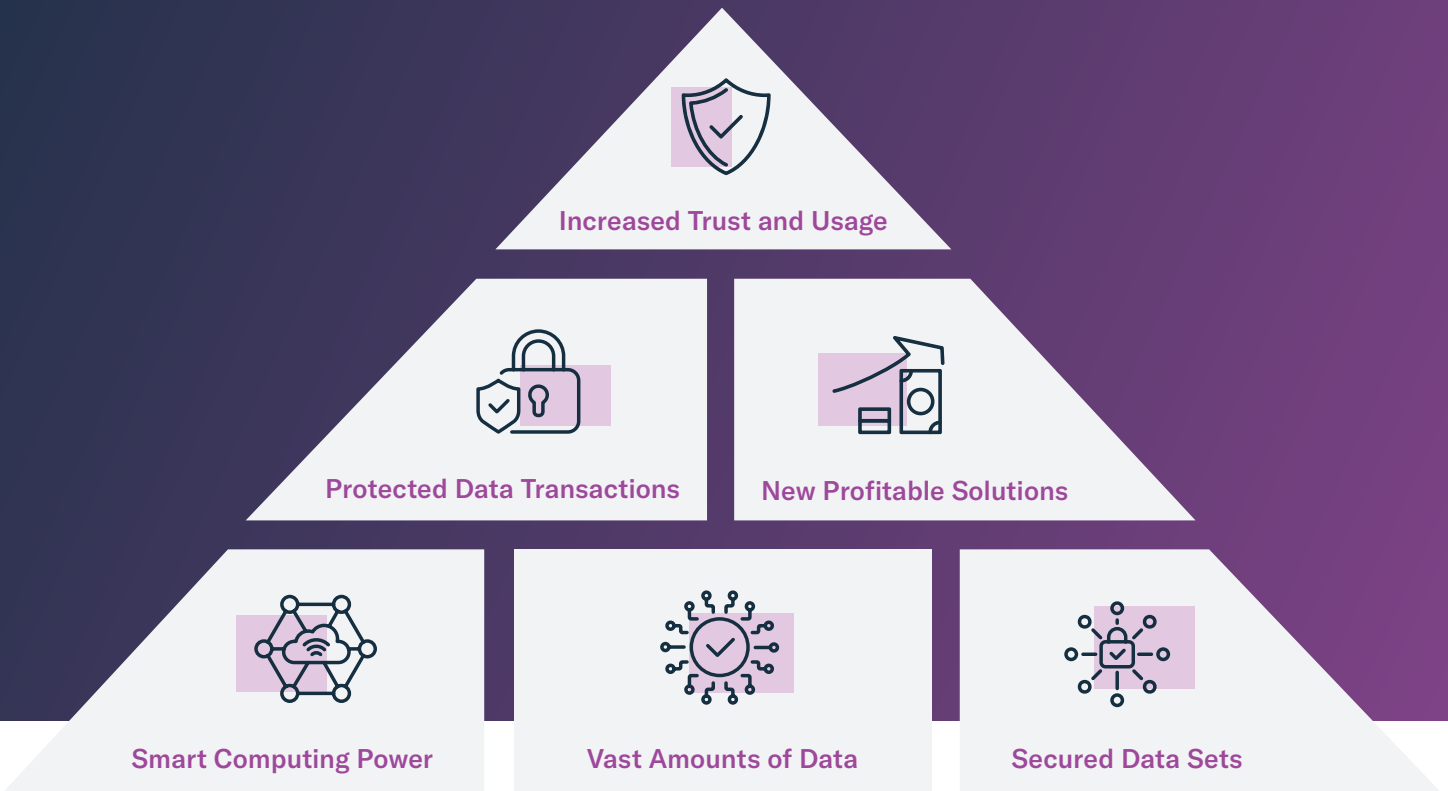
Harnessing Authentication and Auditability

600+ decision-makers surveyed from the U.S., China, and Europe reported that improving AI's effectiveness was the top use case identified for blockchain technology.[7] This is because of blockchain's capability to address the legitimate concerns around AI training, regulation, and auditability.

Training AI with existing material and directing it to create new content is a trending topic. Copyright, trademark law and AI usage precedent will continue to be set, but in the meantime many leaders are calling for increased legislation on AI to protect users and non-users alike.

AI can take tons of data and produce relevant outputs, but the inputs have not been tracked sufficiently. This can result in companies accidentally infringing on copyrights or, conversely, having their own data unfairly used by competitors. These types of issues are already permeating the AI landscape. For example, Stability AI, which makes an AI image generator, was sued by Getty Images for alleged copyright violations. Getty is seeking a hefty sum of $1.8 trillion in damages.[8]

The correct use of blockchain technology to AI applications may help prevent these types of problems, even allowing companies to label different types of data as proprietary, available to be licensed, or able to be used with attribution. The potential applications of this concept are extensive, encompassing various industries and corporate identities.

Increased Trust and Usage

Protected Data Transactions

New Profitable Solutions

Smart Computing Power

**Vast Amounts of Data**

Secured Data Sets

Blockchain technology
can give power and authentication to AI

Smart contracts: automatically execute and enforce predefined rules, reduce delays and errors, identify patterns, make predictions helping in inventory management, demand forecasting, and logistics.

Customer service relationship management: analyze customer data in real time, generate insights and responses, and increase transparency and auditability in CRM systems.

Supply chain: Demand forecasting, trusted data storage, real-time goods tracking, optimized inventory management, smart contracts utilization, and enhanced customer satisfaction.
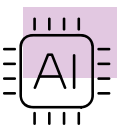
AI is already being used for demand forecasting and planning and it's predicted that 50% of G2000 (the world's largest 2000 companies) manufacturing companies will rely on AI before 2024.[9]

Challenges

Education, implementation, and cost are all concerns in widespread adoption of these two technologies. 94% of C-suite executives surveyed plan to increase their level of spending in technology and are prioritizing investments in data and AI.[10] Casper found that 76% of decision-makers surveyed globally and 79% U.S. decision-makers are actively planning to invest in blockchain solutions in 2024. Similarly, 89% of decision-makers globally and 91% of decision-makers in the U.S. plan to invest in AI in the next 12 months.[3]

Clearly, key organizational decision-makers see the benefits of these two technologies individually and as a connected pair.

Another valid concern is interoperability of the technologies, meaning that they need to be able to seamlessly work together using existing systems. This challenge is being addressed by many organizations such as Ocean Protocol, Oracle and Mircostrategy.[11] These organizations are utilizing distributed ledger technologies (DLTs) and other technologies to achieve cross-chain communication, trusted data sharing, and decentralized marketplaces. These solutions are saving organizations time, cost, and talent recruiting as they enable these ecosystems to integrate.

Conclusion

Some companies are already enjoying their slice of the pie and trying to capture more, and other organizations are actively planning to invest in this synergistic relationship. Based on the attributes of blockchain technology and the concerns around AI, blockchain may be the shining light that casts off the shadows around AI implementation and lights the way to future innovation.

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1 Artificial Intelligence market size 2030 | Statista. 2 PwC's Global Artificial Intelligence Study | PwC. 3 Casper-Labs-Exploring-Convergence-Between-Blockchain-AI-Report-PDF.pdf (casperlabs.io). 4 https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/30/fact-sheet-president-biden-issues-executive-or-der-on-safe-secure-and-trustworthy-artificial-intelligence/. 5 Digital Disruption Profile: Blockchain's Radical Promise Spans Business and Society (gartner.com). 6 https://www.accenture.com/us-en/insights/blockchain-index. 7 We Surveyed 600+ Enterprise Leaders on Ethical AI: Here's What We Found (casperlabs.io). 8 Getty Sues Stable Diffusion Parent for $1.8 Trillion (aibusiness.com). 9 How AI and Blockchain transforming supply chain management? (intuz.com). 10 Pulse of Change | Accenture. 11 Amplify ETF's BLOK Fund is comprised on 5.57% of MicroStrategy Inc. and 1.46% in Oracle Corp as of 11/27/2023.