

# 2020

## BLOCKCHAIN'S POTENTIAL IN ARTIFICIAL INTELLIGENCE

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# BRING YOUR NEW IDEA INTO THE WORLD OF BLOCKCHAIN

**Giovanni Casagrande,  
The Co - Founder**

“Passion is the key essential force that drives our success. It determines everything that we think”

# BRIDGING THE TRUST GAP

## ■ BLOCKCHAIN'S POTENTIAL TO RESTORE TRUST IN ARTIFICIAL INTELLIGENCE IN SUPPORT OF NEW BUSINESS MODELS

Artificial intelligence, blockchain technology & the Internet of Things have become potent technology with rapid increases in computing power and data generation. These technologies are rapidly gaining recognition in many areas of society and commerce, while encouraging economic growth and development. However, a quantified number of obstacles come while exploring these technologies - particularly in the case of AI - a general wariness of their potential implications for human society. Human trust in AI is low/lost due to various unfortunate events in the past leading to technological superstitions. Fortunately, we can restore human trust in AI & Blockchain with an integrated implementation of AI, DLT & IOT. This will result in new business models that deliver data security and privacy while also maintaining efficiency, and inclusion.

Artificial Intelligence, or AI, designates "the science and engineering of making machines intelligent, especially intelligent computer programs...enabling an entity to function appropriately and with foresight in its environment." While the technology has existed in some form for almost 60 years, it is the recent combination of deep learning algorithms, greater amounts of data, and enhanced computing power that have transformed it into a disruptive technology with enormous economic and business potential across multiple sectors. The imminent deployment of 5G networks, in combination with the widespread use of Internet of Things (IoT) devices, will provide the infrastructure for faster and more stable data generation, which in turn will enable the ever more rapid development of AI technologies and spawn new business models, and will radically alter the way entire industries operate.



+ \$15.7 Trillion

Global GDP by 2030

Global consulting firm PwC predicts that AI will increase global GDP by an additional \$15.7 trillion by 2030

According to a recent report by PwC, AI will be the most beneficial and will reap the greatest economic gains for two countries, namely China and North America. Impact from AI will be about \$10.7 trillion, almost 70% of the global economic impact of AI.

Economic gains from AI

+26%  
 CHINA

+14.5% N. AMERICA  


AI already plays a critical role in optimizing processes and influencing strategic decision-making, and is expected to have enormous economic and social implications in the years ahead. Global consulting firm PwC predicts that AI will increase global GDP by an additional \$15.7 trillion by 2030.4

# AI & DLT

*This distributed form of data sharing provides some novel attributes over centralized databases*

## AI REQUIRES DATA

AI is totally dependable on the data you provide, meaning more data you provide the more intelligent it becomes. And due to this ongoing demand for accumulation of data, it has become necessary to find better systems for data storage and processing. Apart from just cloud computing, the Distributed Ledger Technology is also seen as a contender that has the potential to store, manage and process data that is generated by AI. Blockchain is maintained by a peer-to-peer network and acts as a distributed database, managed without a central authority - to validate business processes and act on data.



\$5.5 billion in venture capital flow.

DLTs have been gaining momentum, collecting \$5.5 billion in venture capital flow through 2018 and showed equal pace in 2019.



\$3 trillion by 2030

Gartner forecasts that blockchain will generate an annual business value of more than \$3 trillion by 2030.

This distributed form of data sharing provides some novel attributes over centralized databases, and these can be essential to addressing some of the challenges of AI, including: (i) enhanced security since there is no central point of attack; (ii) transparency and auditability, as the data is available to all participants in real time; and (iii) immutability and traceability, since its consensus-based verification makes it virtually impossible to tamper with data or obfuscate its origin. If blockchain is able to deliver these advantages at scale, with speed and cost-efficiency, it could provide an efficient and transparent infrastructure for AI data generation and processing.

# THE AI TRUST DEFICIT & NEED FOR ADAPTING GOVERNANCE RULES



*The “new oil” of the modern generation is now data, as it promises massive potential to boost economy and also drive development in ones region.*

The “new oil” of the modern generation is now data, as it promises massive potential to boost economy and also drive development in ones region. There is one thing to note : data is not an exhaustible resource as oil and data can help Artificial Intelligence algos to constantly adapt and evolve organically with it's available. But one of the issues that is emerging with more businesses becoming aware of the potential of AI applications is complex government rules for emerging marketplaces. The concept of nonrivalry of data, and the fact that data can be used by many firms simultaneously, imply increasing returns and have important implications for market structure and property rights.

Consumer and general public are demanding greater control of their personal data and also requesting for monetization control, as people are now increasingly aware of the value of their personal data(the focus on privacy protection by policy-makers and the proliferation of privacy laws are evidence of this).

**The AI Trust Deficit:** The AI trust deficit needs to be resolved if the technology's promises of economic growth and innovation of data marketplaces are to be realized. Fortunately, blockchainenabled storage systems are a potential solution, one that may be able to build and maintain trust between human communities and artificial intelligence applications designed to benefit them.

IN  
THE UNITED  
STATES, FACEBOOK  
RECENTLY RECEIVED  
A RECORD \$5  
BILLION FINE  
AND AGREED TO  
NEW LAYERS OF  
OVERSIGHT TO  
SETTLE  
PRIVACY VIOLATIONS,  
IN ADDITION TO  
ACKNOWLEDGING IT  
WAS  
UNDER  
INVESTIGATION  
FROM THE FEDERAL  
TRADE COMMISSION  
FOR  
ANTITRUST  
CONCERNs.

## PERSONAL DATA MARKETPLACE: PROTECTION AND MONETIZATION

More than 10% of the data is created by people, this clearly represents that all the data created consists of the contributions made by humans too, rather than machines, this further represents that nearly a quarter of a trillion dollars in economic value each year for the companies able to use it. It has been posited that the recognition of data property rights in favor of the consumers who generate it can be an optimal market allocation mechanism, since consumers are likely to establish a balance between the value from the sale of their data and their privacy.

Humans should be aware that the data they are providing to AI for better use, is well handled, stored safely and used in a responsible way. This is particularly important in industries like healthcare or financial services, where a high percentage of personal data generated is private and/or sensitive. Through trade secret provisions, customer data is protected and profiling algorithms are already considered a business asset. Yet individuals do not seem to be fully aware of the present and future value of their data and so may be allowing the "appropriation" of their digital identity. Regulations such as the General Data Protection

Regulation (GDPR) in Europe provide some fundamental rights over personal data. A similar discourse is taking place in the United States at present with Senators Mark Warner and Josh Hawley sponsoring a bill that would require the big Internet companies to regularly inform users of the personal data they collect and disclose the value of that data.

## IOT DATA MARKETPLACE

\$3.6 Trillion and 4.8 zettabytes of yearly traded data is expected to be generated by the IoT data marketplace, by 2030. Although, «data-as-a-service» (DaaS) channels exist from companies to buy and sell data, the hackers can still easily get their hands on IoT data streams because they are less structured and come directly from devices that control critical processes and produce sensitive informations. The potential of these machine-to-machine (M2M) data marketplaces will not be fully leveraged without addressing the issues of trust and security, the two obstacles that impact organizations' willingness to sell and buy IoT data.

## SURVEY: BLOCKCHAIN: ADDRESSING AI'S TRUST PROBLEM?

A recent report by the IBM Institute of Business Value underlines this ambivalence of the business community:

- 82 percent of enterprises surveyed are considering AI adoption, attracted by the technology's value creation potential
- Yet 60 percent of those same companies fear liability issues

# BLOCKCHAIN FOR AI

Multiple AI and blockchain shortcomings could be addressed by integrating the two technologies. With the intrinsic capabilities of its inherent technology, blockchain can address concerns about AI and help unlock the potential of data marketplaces, by providing control over access to stakeholders, through providing greater security by introducing cryptographic encryption to secure data, and with realtime auditability of the ledger. Enabled by blockchain, these marketplaces can restore trust and facilitate the exchange of data between buyers and sellers, potentially unlocking more than \$3.6 trillion in value by 2030.

**Smart Contracts and Distributed Governance :** Blockchain's ability to truly transform economic and business ecosystems will require the continuous improvement and evolution of smart contracts, which are still limited in their capability and sophistication. Smart contracts are embedded in code and can receive information and take actions based on predefined rules. They can be used in numerous scenarios, from the transfer of property titles to settlement of financial derivatives, and even to empower the governance of Decentralized Autonomous organizations (DAOs). The use of deep machine learning techniques and AI agents can accelerate the evolutionary process of the algorithmic blockchain-hosted entity. By utilizing the big data acquired by everyday transactions, IoT devices, or stored information on a blockchain, and then feeding them back into the process, it can render smart contracts, encoded statutes, and the overall decision-making process more autonomous, resilient, and "intelligent."

## HOW CAN AI IMPROVE BLOCKCHAIN ECOSYSTEMS?



The Future Value of Data—Estimated Value of Data per Internet User in 2025 per month

Source: IDC's Global Data Sphere, November 2018; Facebook Annual Report 2017; Strategy & Analysis, "Tomorrow's Data Heroes", Strategy + Business. PwC. 2019. "Monetizing and Trusting Data: 2019 is the Year to Seize the Prize."

# KEY BENEFITS OF BLOCK-CHAIN INTEGRATION WITH AI

**Enhanced Data Security :** The quality of data generated through AI is therefore critical. In a blockchain decentralized storage system there is no central repository of data, “no single point of failure” and once data is “on chain”—data codified on a blockchain—it cannot be altered. Still, blockchain has its technical hurdles: It remains slow and somewhat unwieldy, forcing a trade-off between security and efficiency.

**Higher Efficiency and Distributed Governance :** AI can provide real-time analysis of data and decisionmaking on a large scale through a blockchain-enabled data registry. In a multi-stakeholder environment involving individual users, business firms, and governmental organizations, blockchain can provide a more efficient and transparent governance model for automatic and fast validation of data/value/asset transfers among different stakeholders, through the deployment of Distributed Autonomous Organizations (DAOs) and smart contracts that govern the interactions of participants.

**Ensure Data Integrity and Privacy :** One of the biggest challenges in data science today is the collection of a proper dataset that can be utilized for training a neural network. The pluralism of data over the Internet is enormous, and even Internet giants such as Facebook and Google often fail to separate “signal from noise”—the proliferation of fake news is evidence of this. Machine learning algorithms cannot reach their full potential using inaccessible, non-secure, and unreliable data.

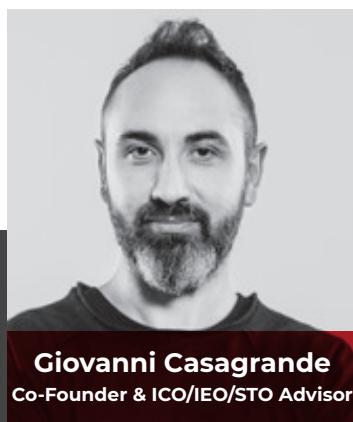
The de facto standard in use is a centralized clientserver architecture, in which data is collected from the client (the user) and owned by the server (the company). In an IoT environment with exponential growth in the number of devices, greater throughput for machine-to-machine communication and payment channels, and the need to protect increasingly personal data, this model is inefficient, as it increases data duplication and data transfers that congest network traffic. A blockchain data management system that avoids duplication and provides transparency and traceability can permit the structuring and qualification of data that in turn makes it actionable.

In addition, blockchain allows participants to have direct control over access of their data through their ID authentication and a public/private key infrastructure, thereby addressing concerns regarding potential abuse of personal data. different stakeholders, through the deployment of Distributed Autonomous Organizations (DAOs) and smart contracts that govern the interactions of participants.

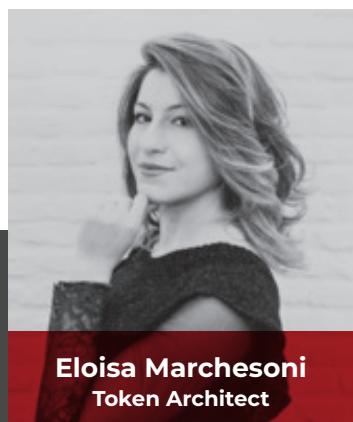
# MEET THE TEAM



**Giacomo Arcaro**  
Co-Founder & Growth Hacker



**Giovanni Casagrande**  
Co-Founder & ICO/IEO/STO Advisor



**Eloisa Marchesoni**  
Token Architect

He has 15 years' experience in growth hacking, digital strategy, startup and business development. He has advised over 150 startups and has 50 managed employees into a XII Century Church in Italy for the European biggest growth hacking company. He holds the title of 'Amazon Best Seller Author' and is been known to be one of the 'Most Influencial Blockchain Evangelist' with +200 conferences all over the world.

A known name in the world of cryptocurrency. He has been in the marketing industry for well over 20 years and have switched to the cryptocurrency industry in 2014. He's a writer, public speaker, investor and Marketing / Growth Hacking advisor in more than 100 successfully projects. His specialty was Economics in the University of Bologna and the knowledge, experience gathered from there has helped him to manage/help many businesses in the industry. 4 years ago he founded Black Marketing Guru, a successfully Growth Hacking startup in Italy.

Known as the youngest and most influential Blockchain expert in the field. She is an Italian-American who first started out as a startupper in the AI and IT business, while still finishing her Economics and Management studies in Bocconi. Eloisa is a renowned author, public speaker, and biz-dev, catering startups and companies wanting to innovate. Currently being the Chapter Director of Bocconi University Startup Grind Chapter, she made valuable connections and became a part of some of the main blockchain associations around the world, namely The Blockchain Council and The NYC Women in Blockchain. She will be featured in the Forbes Italy 30 Under 30 most influential entrepreneurs in 2020.



**BLACKCHAIN**  
CONSULTING

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