

Table of Content

Chapter-1: AI Blockchain – A Look inside Artificial Intelligence

Chapter-2: What's the Current Landscape of AI?

Chapter-3: Blockchains Role in AI Technology

Chapter-4: Notable Blockchain AI PAAS

Chapter-5: To Sum It Up

Chapter-1: AI Blockchain – A Look inside Artificial Intelligence

Artificial Intelligent is the simulation of human-like intelligence through computer systems. Usually, these computer systems are programmed in a way to mimic human-like actions. Apparently, the process is utterly complex as human activities are complicated to simulate.

But the primary ability of artificial intelligence would be too rationalize like humans and take actions based on intellectual thinking. They won't be only executing programs but would understand the concept behind it too.

AI reaches this level of intelligence through deep learning method. What is deep learning? Let's find out!

Deep Learning: Pathway to Human Intelligence

This new technique of learning is actually a form of machine learning. Here, the algorithm model is actually inspired by the human brain. So, here the machine will learn from a large amount of data. It's kind of similar to our learning method from experiences.

In this method, the AI would perform any task repeatedly and see the outcome. Each time it will change the task slightly to improve the performance. Developers actually prefer this method over any typical machine learning.

Deep learning can help AI's to learn how to think or perform tasks that require thinking beforehand. The process is actually very cool.

AI as a Service (AlaaS)

Artificial intelligence as a service refers to any AI services that come from a third party view. Usually, if you want to make anything as a service, then it would need the ability to get called from a network that uses the cloud.

That's why in many cases the software or technology will usually be available from a third party vendor. You will be able to make certain changes and then utilize the features after that. Sometimes these products can be totally customized for your needs.

This can be an excellent solution for those who can't afford to develop the AI technology on their own or don't want to waste their resources for it. Developing an AI would require a lot of funding and then testing them out does require a lot of time.

So, these companies then can utilize AI as a service to integrate the technology with theirs. Usually, this service offers:

- An option to continue utilizing resources for their core business technology and use the model for separate means.
- A transparent cost-cutting solution.
- Lowers the risk of investment in case things don't work out.
- Increases the benefits of utilizing massive amounts of data.
- Ensures flexibility of their business as AI as a service solution is always flexible.

Currently, in 2018, the market value for AIaaS is over \$1.52 Billion. However, experts believe the whole marketplace would grow to \$10.88 billion by 2023.

So, you see AIaaS would be one of the leading technology in the near future, so why not start investing in it? However, the development of AI still lacks in many ways. To deal with it, Blockchain can help out and together AI blockchain companies can be the fuel of the next generation technology.

Chapter-2: What's the Current Landscape of AI?

The problem is that any AI technology would grow when it can utilize a vast number of data. The more data it will get for learning, the better the output will be. However, this will require a lot of expensive resources, and clearly, small companies won't be able to keep up with it.

Large companies have the lead now. They have the budget or resources for developing any training procedures needed for their AI's. Besides, they can also hire top experts to further assist in making new technology.

As of today, big companies like Amazon, Google, Facebook holds the top positions. So, any new company that wants to play in the field need to at least top these powerful competitors. This situation is not that easy.

The model would require a huge database, and most importantly it has been cost-effective.

The second problem of today's AI technologies is that they are all centralized. All the companies hold of the information and protect their algorithms rather than making them open-source.

Are Centralized AI Trustable?

The use of a centralized database for teaching AI is highly questionable. Many experts are now assuming whether these technologies or entities can be trustable or not. Because AIs are supposed to be an unbiased source of information where it would be able to decide without a side.

However, many of today's AI seems to be a little biased toward their developers. For example, let's assume that a company "X" created a new AI technology. However, whenever the AI is expected to make decisions for the greater good, it seems to go for the one that benefits the "X" company most.

We already saw a lot of studies to prove this fact, and if this goes on then, we would never be able to achieve the ideal AI as we need.

In a centralized field, the leading companies don't give us access to see how they are training their AI's, so we can't totally trust them.

This is also raising a security threat. Algorithms are also being traded secretly, so one knows what exactly the AI is being trained for. You never know how an AI could affect the system and whether other competitions would pay for it or not.

That's why to get rid of these flaws and to prevail fairness in the market AI blockchain companies can be the only solution. So, a decentralized network can really change the scenario, and with AI blockchain companies many can invest in AI.

The Costs Are Too High

AI tech is super fascinating and can open up a lot of doors for us. But after some time every company or individual who wants to pursue this tech realizes they need a massive amount of computational power to do so.

And this is where the hardware specs come in. Building any technology with deep learning would require you to spend a lot of money. You'll have to deal with a lot of factors here. First comes the super-fast and powerful CPU, GPU, SSD, and powerful motherboard. It might not seem much at the start, but to build that much high tech you'd have to get your hands on the best of the best hardware on the market.

Needless to say, these aren't cheap. But AI tech isn't all about the hardware equipment. You'd also have to consider the enormous power supply, maintenance and air-conditioning bills that will come along with it.

Also, you'd have to consider damage to components because not every equipment can take that much power load for too long. But that's not the worse part.

Every technology keeps evolving as the time goes by. So, if you want to be on top of the competition, you'd have to stay updated with the latest hardware specs. That's why AI technology becomes a really cost consuming industry of all time.

In this regard, only high-end enterprises like Google or Facebook can think about continuing their AI project for a long time. But what will happen to small or medium-sized enterprises? Is there no way to cut the cost?

Well, this is where Blockchain comes into play.

Blockchain can optimize the GPU for Better AI Services

We all know AI's require a lot of computing powers. This is becoming an issue as computing powers are becoming a scarcity now. On the other hand, blockchain can utilize GPU usage differently. Outside of mining, these two does make a great coupling resource.

If any developer can leverage this computing power, then they can make supercomputers really easily. Some companies also offer GPU as a service, but they are mostly centralized, so it doesn't help in the end.

Google Cloud or Amazon does offer GPU services, but they are also centralized. So, in this case, many AI blockchain companies are trying to change the scene. They want to introduce the decentralized model and use blockchain together with AI. As blockchain already leverage the computing power of their users, this can really be cost efficient in the long run.

We will be covering these companies shortly.

As you can see, **blockchain technology** comes with a different nature of technology. The distributed ledger of this new tech can really help build a supercomputer at cheaper pricing. Introducing AI blockchain can cut costs up to 10 factors! With blockchain, you'll be able to solve all technical issues with great efficiency.

So first, let's see how the convergence of blockchain and AI can help each other to reach the AI blockchain spectrum.

Chapter-3: Blockchains Role in AI Technology

Now that you know how AI will influence the blockchain based AI tech, it's time to look into the blockchain role in this. Let's see how blockchain can improve AI and ensure a better AI blockchain solution for you.

- **Help Us Build a Distributed Supercomputer:**

The AI technology suffers from a massive amount of unexplained data values. Why? Well, it's because mostly we can't always understand every AI's communication with us. AI's communicate or give output in values or data streams.

Debugging those data streams takes up a lot of time, and many times the process becomes way too complex for us to understand and requires too much power. What AI blockchain can do here is to help you out to build a distributed supercomputer.

Users on the network can lend their computing power, and by connecting them, it can become a supercomputer in no time.

With the distributed nature you'll be able to track the machine learning process as every data in the blockchain gets added one after another. So, they would be able to come up with a clear route on how the AI is learning new information.

The AI and blockchain together as a model would be capable of increasing the overall experience of AI. You would be able to get better solutions, better actions, more creative results, and cleverer artificial intelligence. Overlooking the network would help the AI learn faster than before, and therefore the development of AI would be much more streamlined.

- **Connect Different Marketplaces:**

Not only **blockchain** would be able to connect all the marketplaces at once, but it will also give rise to new businesses. I mean, you can store all your information safely on the network, and I said before, you would be able to sell it too.

This will start a new marketplace for data. Storing information on the blockchain would also make the development of any AI decentralized. So, the secrecy of any AI operation would be removed, and anyone would be able to benefit from it.

It will also give rise to AI marketplace where you will be able to get AI development tools from other companies who are selling it.

This way the AI marketplace would be more fluid. So, the AI and blockchain together would be able to shine in every way.

- **Solve The Trust Issue:**

As you already know, centralized AI technologies can't be fully trusted. So, when everything would get stored in a **decentralized database**, you would get a clear trail of what the AI is doing and how it's communicating with other instances.

It will rebuild your trust in AI, and you would be able to depend on it safely. Machine to machine interactions will also get recorded, and you will better understand their ways of communication. Thus, combining blockchain and AI, it would be able to break the barriers easily.

- **Increase the Overall AI-User Experience:**

With the AI blockchain user will be able to get the best AI experience of their lifetime. Blockchain already focuses on user experience and security more than anything. But when the blockchain fuels the AI, the possibilities of newer applications are huge.

This new AI Blockchain technology can be used to build innovative smart applications that focuses mainly on users. Not only this but with blockchain on the mix, it will finally be a possibility to solve the silos of data issue.

Chapter-4: Notable Blockchain AI PAAS Vendors

- **ATOZ**

This company is unifying and building the supreme AI platform of all time. ATOZ is a distributed ledger technology that utilizes the power of AI. The primary target of ATOZ is to revolutionize the cloud computing industry and ensure a better technological output for the AI.

For your power-hungry deep learning project, ATOZ offers a systematic framework where they will connect business level data centers and provide you with the power you want. To help you develop better AI technology ATOZ is offering you the most used equipment in the AI industry with frameworks such as Keras, Tournch, Caffe, and Tensorflow.

It takes zero setup time to kick off your new project on the ATOZ's workplace. Launching any GPU-based Virtual Machine would take mere seconds, and you'll be able to work in parallel on different machines.

The best part about ATOZ is that this company dedicates all their resources towards a cost-efficient solution. They know how the ecosystem of AI requires cost consuming hardware specs. For this many small to medium companies can't compete with the already established enterprises. With ATOZ you will be able to reduce the overall cost of deep learning by x5 factors!

So, for your AI development needs, ATOZ can bring the whole package in one place.

- **DeepBrain Chain**

This is another organization who brought AI and Blockchain together in the same platform. They offer a **DeepToken Exchange** solution for developing any decentralized AI blockchain neural network applications. The main purpose of DeepBrain Chain is to provide a marketplace for the developers. Here, anyone would be able to access computing power needed for AIs.

However, here everyone will get divided into categories based on their computing power. Miners will form the large nodes and can rent their computing power to companies. Much simpler computing hardware will be medium to small nodes.

Any company then will be able to access it as they need. All the individuals renting the computational power will get DBC token as a payment. This token will be traded via the smart contract of NEO. Other than this, the network maintains all integrity using Delegated Proof of Stake and Proof of Importance.

At present, DeepBrain chain wants to provide developers with cheap, low-cost computational power. But they want to expand it to more options such as a trading platform for AI algorithms, models, data, etc.

- **SingularityNET**

Another decentralized marketplace for AI-based projects is SingularityNET. They are mostly for AI algorithms. Here vendors would be able to offer software and hardware services to the customers in exchange for cryptocurrency or any AI service. I think you already know how hard it can be to find relevant AI services on the market, not to mention their pricing.

With SingularityNET you'll be able to utilize the decentralized platform and get your AI service as needed.

Any developer who would add an AI service on the network would get paid via smart contracts and get paid in tokens. The matchmaking process of buying and selling facilities for **smart contracts**. It's a relatively simple marketplace where they wish to bring buyer and sellers in one place.

At present, this company offers an AGI token, which is an ERC20 token. Everyone on the network mainly agents use this token to pay for the AI services. But these tokens also give agent voting rights on the network.

- **Golem**

This is a rather unique decentralized AI blockchain neural network platform. They are a decentralized network where they provide a computing power service. Anyone can be a part of the network whether they are an organization or an individual entity.

The system is similar to Uber. If you have the computational power to spare you can sell it here to other organizations. The network is worldwide available, meaning anyone can use them and earn extra cash.

Companies who are working with AI or blockchain would need a vast amount of computational power, which they can rent from here.

Golem offers a wide range of processing power from the users; you'll be able to utilize the power from a personal computer to big data centers. That's why this platform can be the best example of AI blockchain as a whole.

But how will the users renting their computational power get paid? It's simple. The blockchain network is based on Ethereum so that they can help settle any kind of payment along with providing computing resources.

The network's token GNT is used for any kind of payment. If you want to buy some computational power, you'll need to request for it, and then you'll automatically set a smart contract. The smart contract will process the payment once you are done renting or buying the computational power.

So, it's super easy.

- **Cortex**

Cortex is a decentralized platform with Artificial Intelligence powers the network. Any AI developer would be able to upload their model, and other people can access those paying Cortex native tokens.

They are open sourced and offer only AI models for now. Unlike other companies, they don't provide any kind of computational power for developing or training their AI. Any company that buys the model will get a machine learning AI application and would need to develop it further to their needs. Cortex is more suited for Artificial Intelligence decentralized applications.

Another plus point is that this company will allow users to upload their decentralized AI applications and sell them on the network.

- **SONM**

This is another blockchain based platform that offers decentralized fog computing. Using SONM, you will be able to utilize computational power as a fog-like nature. Fog computing is actually different from cloud computing.

The main difference is the decentralized nature. In typical cloud services, you'll get computational power from a centralized source or data centers. But in fog computing, you'll be able to get the same benefits but not only from one source. Instead, you'll be utilizing individual devices to get the service.

This structure truly solves the scalability issue and makes the system distributed. Fog computing offers greater efficiency and performance compared to traditional cloud architecture.

So, the main purpose of SONM is to create an open marketplace for computational resources. SONM uses ERC20 token – an Ethereum based token to settle the payments. The token SNM fuels the SONM network.

In the marketplace, individuals are divided into groups – suppliers and customers. Suppliers will provide the computational power, and the customers will buy them.

SONM uses Ethereum smart contract features to establish a contract between these two groups.

- **Tatau**

This is another distributed computing network, but their main focus is on the enterprises. Tatau is blockchain based platform and uses AI to get ahold of the underutilized computational resources from the globe.

The developers of Tatau think that the modern day CPU based data centers are not enough to promote innovative inventions of the future. These centers can't provide the needed backup for artificial intelligence, streaming analytics, and video rendering. That's why Tatau wants to resolve the issue by focusing on computational power that can take on the modern-day complex architecture.

You'll be able to process services through their blockchain based network. Tatau designed their platform in a different way – process artificial intelligence, video rendering and leverage the GPU power. They also want to combine the GPU with sustainable energy sources for a wide range of industrial backup.

So, large enterprises can use their platform to back up their higher computational technologies without any issues.

To get a hold of the computational power, the buyer would have to buy TATAU token and then use that to pay the suppliers.

- **iExec**

Another great example of AI blockchain is iExec – a blockchain platform with a marketplace for computational power. iExec wants to create a new architecture for cloud computing. To work on the network, this company provides their own cryptocurrency called “RLC.” RLC stands for “Runs on Lots of Computers” which practically defines their whole scheme.

The token is ERC20 token, so it's based on Ethereum's blockchain platform. In the network, any user will get divided up into three major types – developer, provider, and token holder. Here, developers are the customers and will rent out computational power from the providers. The developers would have to pay the provider with the RLC token.

On the other hand, the providers would be able to lease out their computational power to the developers and get paid in exchange. Token holders on the network would be able to use iExec's payment channel to send or receive money.

But there's a bit of difference with other AI blockchain marketplaces. Here, the provider can become three types of different power renter – application, data, and server. On top of this, the developers will also be able to develop CLI and JS on the network. But to make sure that the system doesn't have any scalability issues every development is done off-chain on the decentralized cloud.

Another fun fact is that developers can add their decentralized application to iExec's store to market their new inventions. So, you see this platform provides many opportunities for both developers and non-developers.

Chapter-5: To Sum It Up,

Artificial Intelligence and blockchain is two of the leading technologies so far. And so, AI Blockchain is simply the combination of Blockchain and AI.

With this many hurdles on the pathway of AI evolution blockchain can definitely improve the scenario to a great extent. With blockchain, developers would be able to perform deep learning mechanism without worrying about the costing.

AI blockchain can accelerate the development of supercomputers. With blockchain in the mix, innovations are surely on the way.

AI blockchain can be the next generation pioneer in the tech world. It's hard to say, how they would actually turn out, but for now, let's hope for the best.

**Disclaimer: The article should not be taken as, and is not intended to provide any investment advice. Claims made in this article do not constitute investment advice and should not be taken as such. Do your own research!*