

GenesisAI: A decentralized, blockchain-based marketplace for AI services

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Abstract

GenesisAI is a decentralized blockchain-based marketplace for AI services. GenesisAI connects companies in need of AI services with companies interested in monetizing their AI tech. GenesisAI brings together AI technologies from all over the world to lay the foundation for a global Artificial General Intelligence.

99% of companies are in need of AI services as they want to use AI to do things faster, smarter and cheaper. However, most of these companies cannot afford their own teams of experts, nor do they have enough technical capabilities to determine correctly from which open-source APIs to grab AI code.

GenesisAI helps companies in need of AI services to connect with companies that would like to monetize their AIs. We are matching unused resources (in-house developed AIs and open source GitHub AI code) with companies in need of these resources. The connector of these two parties will unlock trillions of dollars in value.

The team behind GenesisAI is comprised of leading AI scientists, experts and business people with backgrounds from Harvard, MIT, Google and Microsoft: over 10 AI developers.

GenesisAI meets a large and increasing need in a projected \$3.1 trillion market.

Now is the best time to build a decentralized marketplace for AIs. Currently, AIs exist in silos - developed inside specific companies to service specific purpose. GenesisAI connects all the AIs to lay the foundation for emergence of Artificial General Intelligence.

If GenesisAI achieves even a fraction of its ambition, it will provide enormous value to the people. This is the chance for us to change the world together.

Table of Contents

1. Vision	3
1.1 The Beginning	3
1.2 The Team	4
2. Existing problems with AI	5
2.1 Problem 1	5
2.2 Problem 1 solution	5
2.3 Problem 2	6
2.4 Problem 2 solution	6
2.5 Problem 3	7
2.6 Problem 3 solution	8
3. Market overview	8
4. How GenesisAI works	9
4.1 How Network works	9
4.2 Blockchain integration	10
4.3 Need for native Token	10
4.4 Protocol Logic	11
5. Summary	12

1. Vision

1.1 *The Beginning*

“In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters” [1]. And God said, “Let there be light,” and there was light. Then God said, “Let us make mankind in our image, in our likeness”.

This is Genesis - the Biblical story of how everything began. In the beginning, God created the most important elements and beings. He gave us basic elements that we need for our survival. Now, the world has many critical problems. Global Warming, incurable deadly diseases, poverty and wars. Millions of people are dying from causes that could be eradicated. We need a solution. Right now. Or millions more will die.

Artificial Intelligence is the only solution to these problems. AI is more important than electricity and fire. It is the single most important element after God’s creations. However, currently, there are fundamental problems that hold back AI innovation: there is no communication among AIs; there is no way for AIs to exchange data, trade services, learn from each other and leverage their capabilities.

Until now, creation of decentralized AI marketplace was not possible. Blockchain technology now makes the creation of potentially the single most valuable technology a reality. Blockchain technology provides the best framework for creation of new type of economy - AI to AI economy, in which AIs trade services, communicate with each other and exchange data and knowledge. Blockchain technology makes it possible to connect all of the world’s AIs into a single platform to lay grounds to the emergence of Artificial General Intelligence.

GenesisAI merges Blockchain with AI to produce the first functional and decentralized, marketplace for AI services. We have 4 main goals:

- To connect companies in need of AI services with companies who would like to monetize their AI technology.
- To connect all the different AIs with each other to create the humanoid master-mind: Artificial General Intelligence.
- To confront the current system of AI oligopolies where only a handful of large corporations own and operate AIs. The existing oligopoly system should fall. For the people by the people.
- To create a benevolent AI, whose sole goal will be to benefit the sentient beings, to make the power of AI available to everyone and to minimize the risk of emergence of the evil Artificial General Intelligence.

1.2 The Team

We have gathered a team of recognized experts, thought-leaders and entrepreneurs to solve foundational problems with AI. We have over 10 AI developers the team and over 5 PhDs.

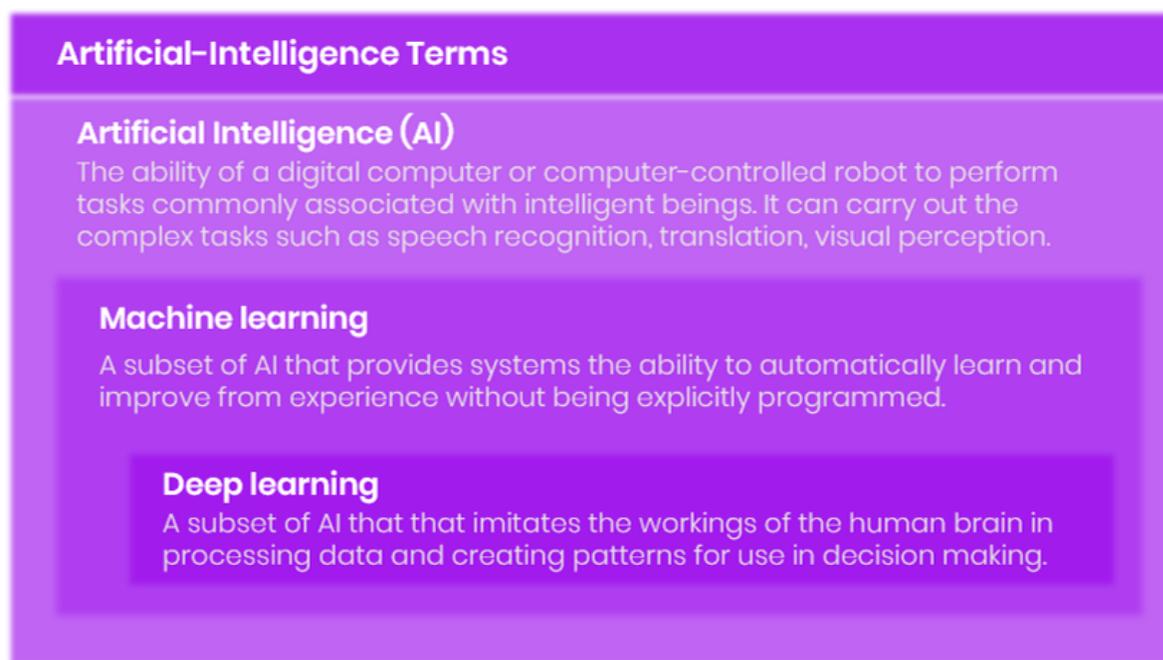
Archil Cheishvili - Archil studied economics at Harvard University. He is a serial entrepreneur with 2 exits. Archil sold his first company when he was 18. Prior to GenesisAI, Archil has been the CEO of an AI-powered people analytics software company called Palatine Analytics. He has received multiple awards in the field of AI and has been recognized by Fox News, Yahoo Finance and many others.

David Fan - David studied Applied Mathematics in Computer Science at Harvard University. He has work experience as a Software Engineer at Google, APT, and Dataminr. David is a renowned expert in AI and blockchain field.

Mina Nassif - Mina is a prominent scientist. He has raised over \$1 million in grants for his research projects. Mina's academic experience ranges from Harvard University PhD in Applied Physics to Harvard's Master in Computational Science. He has published multiple scientific publications.

GenesisAI's team is comprised of leading blockchain and AI experts whose goal is to lay foundation for emergence of Artificial General Intelligence that is benevolent and is operated and owned by the people. We are creating a platform that connects all the AIs to each other.

2. Existing problem with AI



AI impacts our lives every day. AI has a chance to become the single most important technology of the world. It is estimated that market for AI will reach \$3.1 Trillion by 2025 [2]. However, at this point in time, fundamental obstacles hold AI innovation back.

Problem 1: No connectivity

Today, there is no way for AIs to exchange data, learn from each other, leverage their capabilities, and trade/exchange services. AIs are operating in a closed environment. Each company that is developing AI is collecting data almost all by itself (instead of getting data from others). In other words, companies are creating what has already been created, leading to a lot of redundancy. For instance, there are hundreds of language processing AIs developed that operate in their own closed environments. Big part of AI is machine learning, which is all about the “machine” having as many resources to learn from as possible. It is ironic and paradoxical that the fundamental idea of ML is ignored as there is no way, currently, for different AIs to learn from each other. No connectivity among different AIs is a major roadblock to creating Artificial General Intelligence.

Solutions to these fundamental problem will unlock trillions of dollars in value.

GenesisAI Solution: Protocol for communication

Our Ethereum based smart-contracts enable different AIs to communicate with each other, exchange data, learn from each other, and trade services.

In its essence, GenesisAI is a bunch of smart-contracts that together create AI communication protocol, which in turn makes a decentralized AI-to-AI economy possible - that is by the people and for the people - enabling anyone in the world to access AIs and be able to monetize their AI code.

Communication protocol specifies the logic behind AI-to-AI economy and details how two parties (supply and demand side) can connect with each other, how they can exchange data, trade services and learn from each other. Communication protocol makes the process of using and monetizing AI services extremely simple. Anyone, including a non-technical person, can participate.

GenesisAI connects all the AIs to form a coordinated, emergent, Artificial General Intelligence. It will operate similar to a human brain, which is capable of multiple functionalities. Nowadays, AIs are only capable of doing very limited and specific tasks, not broad in its range. For example, Google's Go player AI can play the game Go well, but if you ask it to play poker it will fail. Tesla might have good self-driving car AI, but if you deploy that AI to a motorbike it will fail. AIs are good at doing only specific tasks and are terrible at adapting to different circumstances. The best way to create AGI (Artificial General Intelligence) is to connect all those AIs to form a global mastermind-brain. These AIs learning from each other and exchanging data will enable us to take a major leap towards the AGI. Furthermore, this will create a new paradigm, a new type of economy: decentralized AI-to-AI economy.

Problem 2: Costly to use

There are only around 10,000 AI developers. 99% of businesses cannot afford to hire their own team of AI engineers to create AI, neither can they afford to risk integrating open-source AI API. They do not have the expertise and comparative advantage to find out which AI to integrate and/or how to develop it. All of this makes AI usage extremely expensive. Nowadays, companies are trying to gain an edge through using AIs but they cannot utilize this technology in a cost-effective manner.

GenesisAI Solution: Delivering cheap and fast AI solutions

GenesisAI's web-platform enables businesses to provide their AI services to interested parties, increasing the number of AI service providers. Increased supply of AI service providers dramatically reduces the cost of using AI. Furthermore, we make it simple and easy for companies to use any type of AI work/service. Companies do not need to have in-house software engineers to get AI work done. Rather, through simply following a GenesisAI protocol, companies can request AI service, pay each other using GenesisAI tokens, send data and receive completed high quality AI work.

There are many high quality open-source APIs on GitHub and on the web generally, such as Google's TensorFlow; however, it is hard to use and hard to integrate. Companies spend tens of thousands of dollars on those integrations. We are democratizing access to these APIs through wrapping AI code in an easily accessible AI

node. This further reduces the cost of getting AI work done through increasing the total supply of accessible AI services. The easiness of using wrapped APIs empowers non-technical people to reach their goals using the power of sophisticated AI. No engineering work needed.

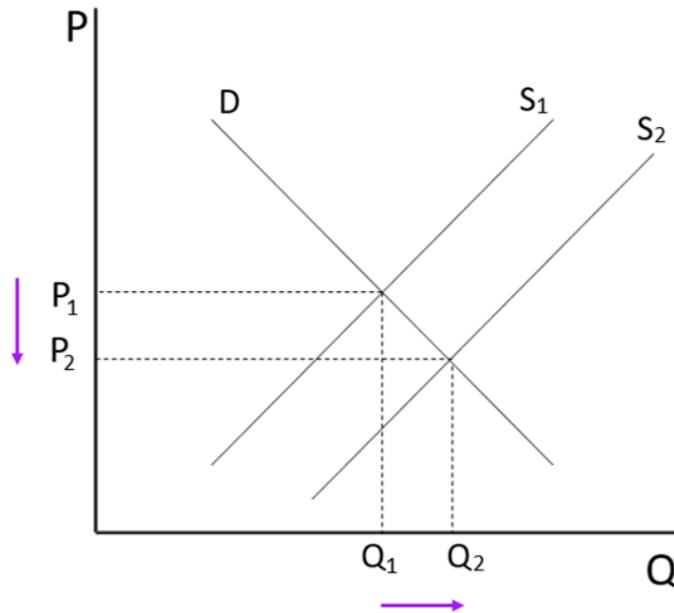
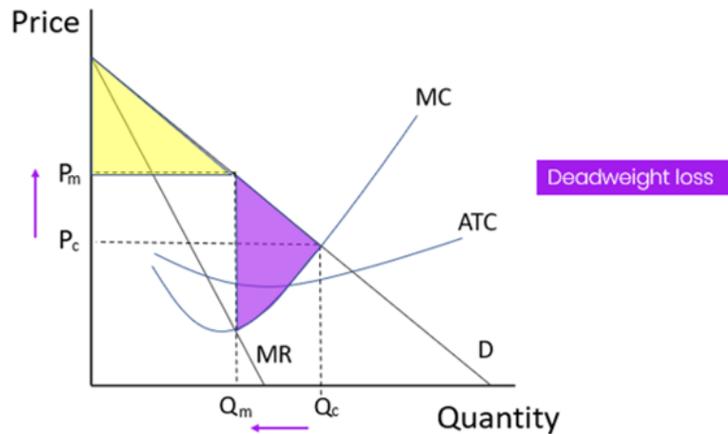


Figure 1 represents how increasing the number of suppliers can reduce price of AI services from P_1 to P_2 .

Now, businesses can do things faster and cheaper.

Problem 3: No way to monetize AI code

AI developers and companies have no easy way to sell their AI services. For example, a smart computer science student in Bulgaria wrote an AI code and intended to sell his AI's capabilities to companies. The student could not monetize his AI code easily because currently, there is neither a marketplace where you can easily find potential buyers, nor there is a way for AI services to be discovered. That student should have gone through the costly process of selling to businesses, which would be suboptimal. Many small, large, and medium sized companies have developed great AI technologies but they cannot monetize it because they are in a wrong geographical location; it is super-hard for them to be discovered. Enterprise sales are extremely challenging and costly. This is the main reason why, currently, only few large companies, such as Google, Facebook, Amazon and only nation states have almost all the AI capabilities. Because of the oligopolistic AI marketplace, the key actors mentioned above are setting prices for AI services sub-optimally and are excluding AI developers and other smaller companies to participate in the marketplace.



Monopoly

Figure 2 represents how monopolists higher price to maximize their profit ($P_m * Q_m$) that causes deadweight loss for the entire market. Yellow shaded area is the consumer surplus which is significantly reduced compared to consumer surplus for the price during the perfect competition (yellow shaded area + $(P_m - P_c) * Q_m + (Q_c - Q_m) * (P_m - P_c) / 2$).

GenesisAI Solution: AI marketplace

GenesisAI democratizes the selling of AI technology through empowering anyone in the world to monetize their AI services. Seller's reputation will be the main factor driving how much and how big of a work request the seller gets. Nobody will be discriminated or excluded. GenesisAI marketplace is decentralized, not attached to any party and is open for anyone to use. Furthermore, GenesisAI breaks down many barriers of monetization: no need to spend huge resources on B2B sales; no need to provide custom AI integrations to each client company; being able to be discovered on the marketplace easily. At GenesisAI, it is our ideology that the AI sector should not be dominated by a small number of companies, who currently are hiring all the AI engineers and are acquiring all the AI startups. We believe that a decentralized marketplace will lead to the collapse of large companies' monopolies and will result in the creation of emergent, connected Artificial General Intelligence.

3. Market Overview

Artificial Intelligence is playing a crucial role nowadays. It is revolutionizing every industry. The AI market is currently at \$238B and experts estimate it will reach \$3.1 T by 2025 [2]. It is one of the fastest growing industries in the world.

Currently, the AI market is very centralized. Very few large corporations, such as Google, Amazon, and Apple are hiring almost all the AI engineers and are acquiring almost all the good AI startups, thus getting monopolistic power over AI. The current status quo should change. The monopolistic system should collapse because it is economically bad and dangerous for the people. Monopolists are pricing products much higher than they would, if there were no monopolies, and hence ripping people off,

taking all the profits, coercing people to pay the high price, and ultimately giving people no choice. Second, companies having monopolies over AI is dangerous for the people. AI is power. The ones who establish control over AI will rule the world. Without complying to the requests of the monopolistic companies, a person will not be able to purchase food, get medical help and get education. The system should collapse. We need you to decentralize the system! For the people, by the people!

Second, the AI market is very fragmented. Companies that have developed their in-house AIs are operating them in a closed environment. Companies are recreating what has already been done by others, thus replicating and spending resources on the same work. Redundancy slows down the AI innovation.

Third, nowadays, there is no functional decentralized platform that enables businesses in need of AI services to get access to AI work from companies who would like to monetize their AI services. Unused resources – the supply side (AI tech developed by companies) – are not used by companies in need of those resources (demand side) because there is no frictionless marketplace.

Creation of such platform can unlock trillions of dollars in value! GenesisAI meets a large and accelerating need in a projected \$3.1 trillion market. It connects the demand and supply sides of decentralized AI ownership ecosystem, and connects all the AIs with each other.

Now is the best time to build decentralized marketplace for AIs. Currently, AIs exist in silos. Developed inside specific companies to service specific purpose. GenesisAI connects all the AIs to lay foundation for emergence of Artificial General Intelligence.

Our goal is to create foundations for the emergence of Artificial General Intelligence. Initially, we are going to focus on 3 areas.

- Financial technology: capital markets – asset management
- Education technology: creating AI-powered learning assistants
- Transportation: Autonomous driving ground and flying vehicles

4. How GenesisAI works

4.1 How the Network works

GenesisAI's web-platform has 3 parts

- Supply side agents. These are companies and AI developers who are providing AI services. For example, speech recognition AI or Language Processing AI. In short, supply side AI nodes.
- Demand side agents. These are people and organizations who would like to use AI services. For example, organization wants to predict where the next disease outbreak will happen.
- Smart-contract protocol. These are smart contracts that specify rules for how the two parties can connect with each other and how AI-to-AI to economy will work.

The protocol will incentivize the discovery of AIs and stimulate the creation of benevolent AI.

4.2 Blockchain Integration

GenesisAI is a blockchain based marketplace.

It is our philosophy that AI should be decentralized. What is happening now is that very few large companies and large nation states, such as U.S, China, and Russia are having monopoly over AI. They know the importance of AI. Vladimir Putin even said that the one who has the most powerful AI will control the world [3]. The existence of monopolists is bad for the people because monopolists are pricing their products much higher than they would be in non-monopolist environment. The worst type of monopoly can exist in AI world, where people will be willing to pay any price to get access to the most powerful technology of our time. We believe that no company should have control over AI. That's why we are creating a decentralized marketplace. For the people - by the people.

The best technology out there for creating decentralized applications is blockchain. In its essence blockchain does not require a centralized party. Initially, we are developing our application on Ethereum, which is the best technology for developing smart contracts.

We decided to develop a native token because we need a token that will be optimized for AI-to-AI economy and will enable fast, cheap, and secure, worldwide transactions. Smart contracts, developed on top of Ethereum, will provide a protocol for AIs, so that they can work together.

4.3 Need for native utility token

We are creating native token that will be developed on top of Ethereum. We decided to develop our own token instead of using the USD or any other fiat currency, because of 4 major reasons.

- Means of transaction in the marketplace is the most important part of the marketplace. Our ideology of creating a decentralized marketplace requires means of transaction not to be tied and controlled by any government in the world.
- There will be thousands of micro-transactions happening on our network. Using USD in micro transactions does not make sense because it has fixed costs. Furthermore, international payments in USD are extremely expensive.
- It is our belief that we should not exclude anybody to participate in building AI-to-AI economy, because a person or an organization might not have easy access to the USD.
- Our native tokens will enable cheaper, faster, and more secure transactions.

We decided to develop our native token instead of relying on already existing tokens because of 3 reasons.

- First, we need to reward beneficial AI players with our native token. Rewarding beneficial network players with native tokens is the least costly and most effective way.
- Second, we need a token that is optimized for the AI to AI economy. There will be thousands of transactions happening during a day, or even a second among different AIs. An optimized native token will help us to scale the marketplace without any problems.
- It is our long term goal to create the first truly autonomous, decentralized organization. Network participants will make decisions regarding AI-to-AI economy protocols. Amount of voting power of AI node in governance will be determined by amount of tokens held by the node and its reputation.

The GAI token is straightforwardly a utility token, that is used as a mean for AI-to-AI transactions¹. Therefore, it has mainly consumptive use. GAI token can be acquired during the token generation event (details will be announced).

4.4 Protocol Logic

GenesisAI's protocol logic is structured in a way to reach 3 main goals:

- Connect companies and people in need of AIs with the best AIs out there using AI Discovery Mechanism and a Reputation System
- Create Artificial General Intelligence
- Maximize the chances of the AGI to be benevolent

How can we create Artificial General Intelligence? This is possible by connecting all the AIs that exists in the world into one whole. One whole is larger than the sum of its parts because of network effects. In order to create AGI we need a protocol that will incentivize the best AIs to come to our platform, and incentivize AIs to connect with each other.

To incentivize the best AIs to come to our platform, we need an easy way for AI companies to integrate their AI into GenesisAI platform, strong demand side, and a way for better AIs to get higher reward from being on the system. Demand side is out there - that are people and 99% of businesses in need of cheap and fast AI services. Our protocol provides super easy way for companies to integrate their AIs. High quality AI services and that the community believes benefits the humanity and the creation of benevolent AGI, will be rewarded through GAI tokens and will come up first in AI

¹ Based on extensive legal analysis conducted by our lawyers, GAI token is a utility token that does not satisfy elements of the Howey Test. There is no investment contract. Our marketing makes no reference to return on investment in any way (direct payment or increase in value of a token). We are not looking to token generation event as an investment nor we are interested in making money instead we are working to lay foundation for the technology that can potentially change the world. We are not leading anybody to expect profits from GAI token. GAI token have completely consumptive use. It is used as a mean of transaction in AI-to-AI marketplace.

service search engine. The quality of AI provided service will be determined through a reputation system, in which AIs rate each other after trading services.

5. Conclusion & Summary

GenesisAI's goal is to help businesses in need of AI services to connect with companies who would like to monetize their AI tech. Moreover, GenesisAI's vision is to connect all different AIs to form Artificial General Intelligence. Creation of such platform will unlock trillions of dollars in value and will be a Genesis for solving many of the humanity's problems - poverty and diseases. It is our ideology to build a decentralized marketplace: by the people - for the people. We want to smash the current system where only a handful of companies control a huge majority of the AI power. We need blockchain to build a smart decentralized application. Our native token GAI is absolutely necessary to enable fast, cheap, secure AI-to-AI transactions. Transactions that are optimized for AI-to-AI economy. GenesisAI's protocol is a bunch of smart contracts that will be developed on top of Ethereum network.

AI revolution is happening now and we want participants. This is our chance to change the world together. This is the Genesis of the new beginning - Genesis of the New Era.

References

[1] Bible

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