OptNet AI

white paper

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Chapter 1: Project Overview

OptNet AI is a decentralized AI model collaboration and trading platform that creates a unique Web3 ecosystem.

We provide an open marketplace where developers can share, monetize, and acquire AI models using blockchain technology. Our mission is to democratize AI creation, ensure data privacy, and accelerate innovation. Join us in shaping the future of AI through our Web3-based platform, connecting creators and users in a vibrant decentralized community.

Market Background

The convergence of artificial intelligence (AI) and blockchain technology is ushering in a new era of decentralized, secure, and user-controllable AI experiences. Traditional AI models, while powerful, are often centralized and pose risks to data privacy. As we enter the Web3 era, there is a growing demand for AI solutions that prioritize user sovereignty and data protection.

The global AI market is growing rapidly, reaching $196.63 billion in 2023, with a CAGR of 36.6% expected between 2024 and 2030. Meanwhile, the blockchain technology market is valued at $17.57 billion in 2023 and is expected to reach $825.93 billion by 2032, with a CAGR of 52.8%.

Against this backdrop, the Autonomous AI and Agents market (valued at USD 4.8 billion in 2023) is expected to reach USD 28.5 billion by 2028, growing at a CAGR of 43.0%. This growth highlights the growing importance of AI agents and decentralized AI solutions in the broader technology ecosystem.
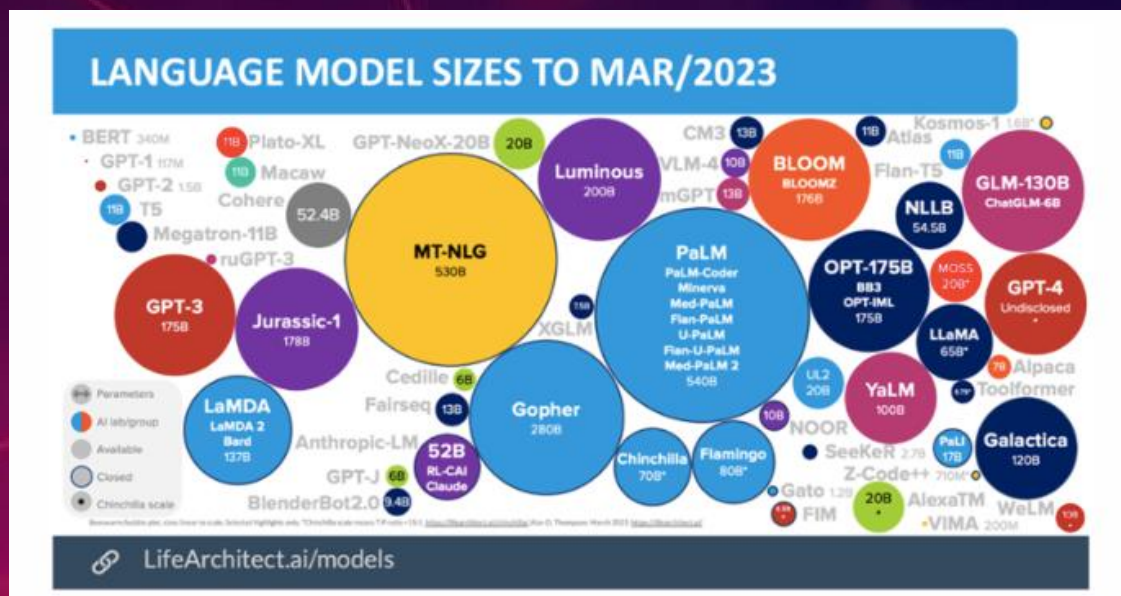
Market and Opportunities

The intersection of AI and blockchain presents numerous opportunities:

Decentralized AI Development: There is a growing demand for platforms that allow developers to create, share, and monetize AI models in a decentralized manner.

Data Privacy and Security: As concerns over data privacy grow, blockchain-based AI solutions offer enhanced security and user control over personal data.

AI Model Marketplace: There is an opportunity to create decentralized marketplaces where AI models can be traded, rented, or purchased, thereby democratizing AI technology.

AI-powered DAOs: Decentralized autonomous organizations (DAOs) focused on AI development can foster innovation and collaboration in the AI space.

Integration with the Web3 ecosystem: As Web3 technologies mature, there is a growing demand for AI solutions that can seamlessly integrate with decentralized applications and platforms.
Growth of the AI Virtual Sector: The rapid expansion of the AI virtual sector, including AI agents and virtual assistants, presents significant opportunities for platforms that facilitate the development and deployment of these technologies.

Project Introduction

OptNet AI is at the forefront of AI-Blockchain convergence. Our platform solves challenges faced by AI model creators and users:

- For creators: We provide a decentralized marketplace where developers can upload, share, and monetize their AI models. This solves the problem of limited exposure for high-quality AI models created by developers with limited marketing expertise.
- For users: We provide convenient access to various AI models, solving the problem that ordinary users cannot access AI models. Our platform supports various usage models, including subscription, rental, and one-time purchase.
- Ecological aspect: By creating an open and shared AI model ecosystem, we can improve the utilization rate of existing AI model resources and promote innovation in the field.

OptNet AI leverages blockchain technology to ensure data privacy, user sovereignty, and efficient AI model transactions. Our platform consists of

several key components:

- AI Model Collaboration and Trading Platform: A decentralized marketplace for sharing, acquiring, and trading AI models using the platform's native token.
- Mini Program Store: Encourage users to upload AI models and integrate multiple models into one mini program to promote the birth of valuable AI applications.
- DID Quest Platform: Creates rich interaction opportunities for users and project parties, and implements rewarded AI testing and model training tasks.
- AI-powered DAOs: Connect users in a decentralized governance structure where they can share AI models, communicate, and provide rewards for AI model development.

Chapter 2: Project Vision

OptNet AI 's vision is to accelerate the advancement of AI by connecting creators and users into a decentralized ecosystem with unlimited potential. Our goals are:

Democratizing AI creation and training: We are breaking down barriers in the AI space by providing a platform where anyone can contribute to and benefit from AI model development.

Ensuring data privacy and user sovereignty: Our blockchain-based infrastructure enhances data protection and gives users control over their data and AI interactions.

Democratizing AI model applications: Through our mini app store and user-friendly interface, we make AI models more accessible and applicable to everyday use cases.

Enabling efficient AI model transactions: Our token-based economy and flexible usage options create a vibrant market for AI models, benefiting both creators and users.

Fostering a collaborative AI community: Through our developer DAO and bounty program, we are creating a space where AI enthusiasts can collaborate, innovate, and shape the future of AI together.

Chapter 3: Project Advantages

OptNet AI stands out in the market with the following key advantages:

Strategically Expanding into the TON Ecosystem: Our integration with the Telegram Open Network (TON) gives us access to a massive user base with over 800 million monthly active users and advanced blockchain infrastructure. This integration allows us to leverage TON's support for JavaScript, integrate payment solutions, and focus on scalability and low transaction fees.

The first Web3.0 AI model collaboration and trading platform: We are the first to combine blockchain technology with AI model development and trading.

Advanced proprietary AI computing system: Our platform has powerful parallel processing capabilities, which enables efficient AI model training and deployment.

Expert Engineering Team: Our team consists of experienced professionals from leading technology companies and AI research institutes.

Seamless Integration of AI, Blockchain, and Social Interaction: We have created a unique ecosystem that combines the power of AI with the security of blockchain and the engagement of social platforms.

Decentralized Governance: Through our developer DAO, we ensure the platform evolves according to the needs and vision of the community.

Multiple Revenue Streams: Our diverse business model, including transaction fees, revenue sharing, and certification programs, ensures the sustainability and growth of the platform.
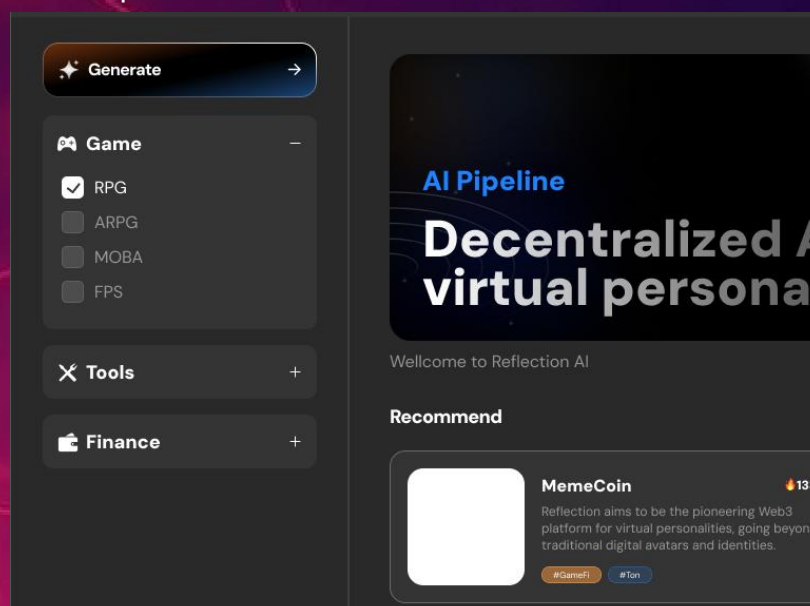
Chapter 4: Technical Architecture

OptNet AI's system design is divided into data layer, AI model layer, oracle layer, bidding layer, incentive layer, and application layer. This architecture is crucial for building transaction and incentive components on top of traditional AI computing power trading platforms.

4.1 Platform Data Architecture

AI Model Layer

Artificial intelligence (AI), as a popular technology in the current science and technology field, plays an important role in AI large-scale model scientific research projects. The AI model layer is a key component in the OptNet AI platform.

Artificial intelligence (AI) is a technology that enables computers and machines to simulate human intelligence and problem-solving abilities.

The Stargate program, initiated by the 47th President of the United States, Donald Trump, is one of the largest artificial intelligence (AI) infrastructure projects in the history of the United States. It aims to promote the development of high-tech fields such as artificial intelligence, quantum computing, and cloud computing. The total investment is huge, with an initial investment of US$100 billion and plans to expand to US$500 billion in the next four years. The goal is to make the United States a global technology leader in the field of artificial intelligence and promote the construction of infrastructure for AI technology, including high-performance computing centers and AI model training facilities, while creating more than 100,000 high-quality jobs and promoting US economic growth. Trump's Stargate program is not only a technical infrastructure project, but also a national strategy with AI technology as the core to promote the long-term development of the US economy and technology. By bringing together top technology, funds and talents, the program is expected to establish the United States' dominance in the field of AI while bringing huge opportunities to investors and companies.
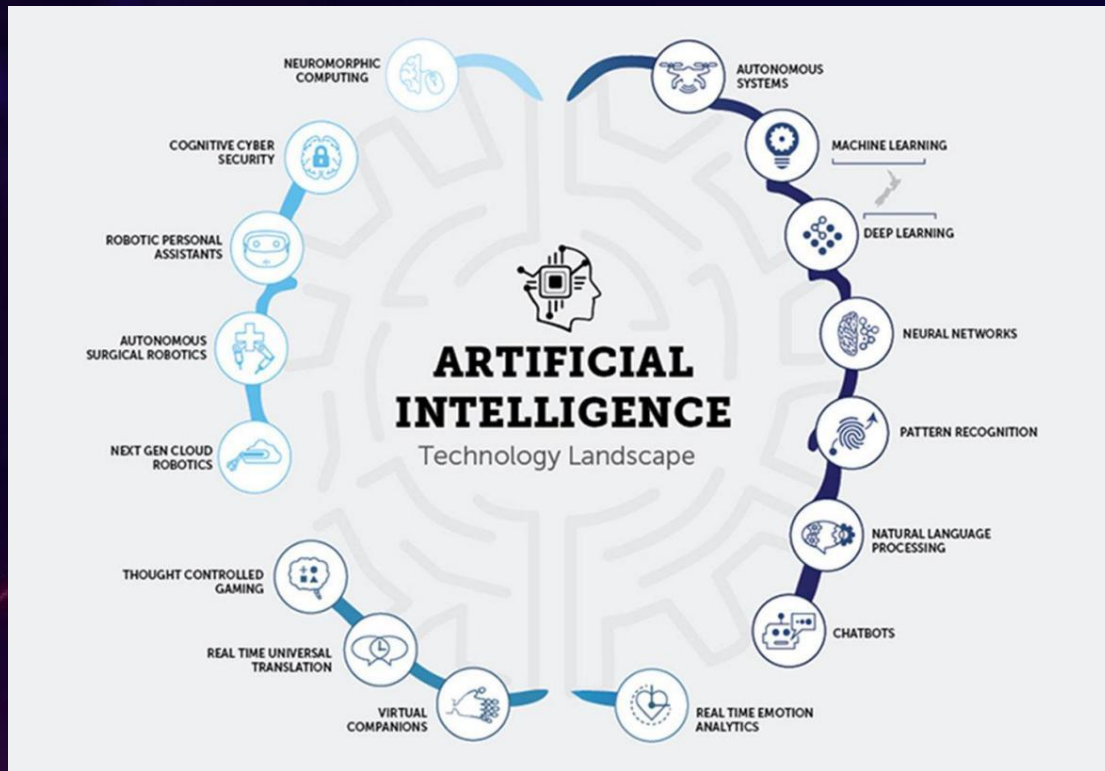
Data Layer

The OptNet AI data layer is an important component for storing and managing the data called by all computing power node providers and users. The information contained in the data layer is not limited to:

The types of services provided by computing power node providers, such as inference or rendering, cover different types of computing power services.

The graphics card and CPU types provided, including specific models, performance parameters and detailed information.

The algorithm models supported by computing power node providers ensure that users can choose the appropriate model for calculation according to their needs.

The availability of computing power, including information about whether there are currently idle computing resources and the estimated response time.

Geographic location information of computing power node providers, which may be critical for specific requirements such as data privacy and regulatory compliance.

Effective management and utilization of this data can better optimize and schedule computing resources, thereby improving overall service efficiency and quality and meeting users' diverse needs for computing services.
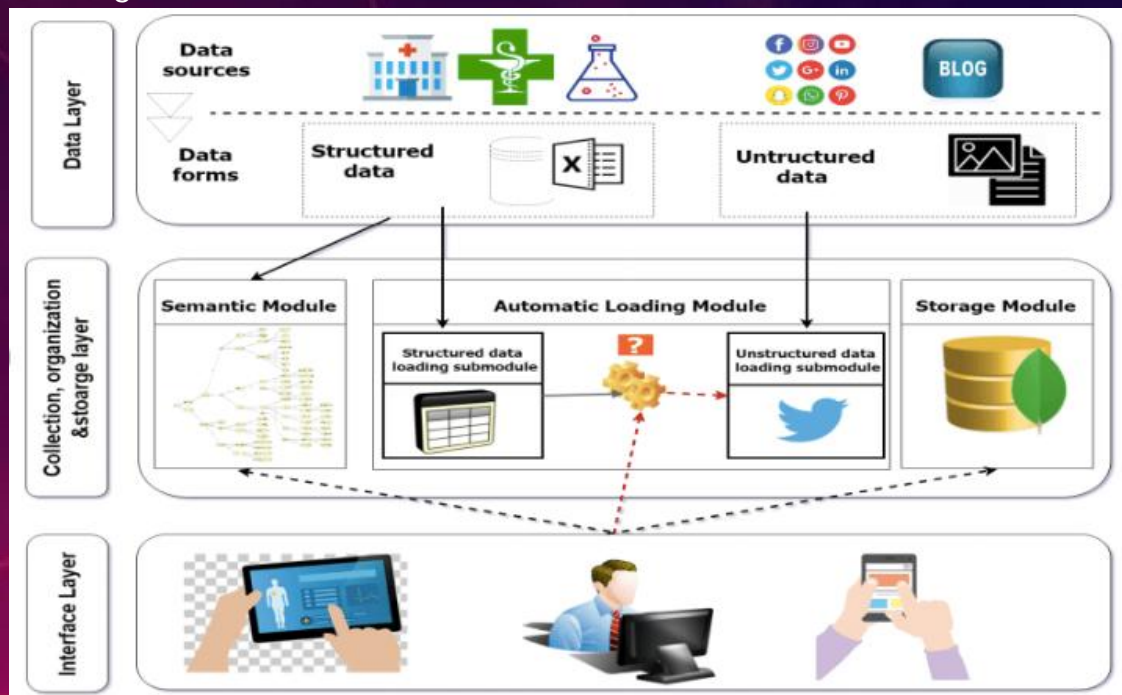
Model Layer

The model layer is the core part of the entire OptNet AI system and bears important functions and responsibilities. In the model layer, the AI algorithm conducts in-depth analysis and processing of information in various dimensions provided by the data layer to achieve the following goals:

Through comprehensive evaluation of the data of computing power node providers and user calls, the optimal computing power path is determined to ensure that users can obtain the required computing resources in the most efficient way.

Taking into account factors such as cost and service quality, we seek the lowest-priced and highest-quality computing path to provide users with more competitive choices.

Provide bidding and computing power scheduling suggestions and solutions for different scenarios to help users flexibly adjust the allocation and utilization of computing power resources according to their needs.

Real-time optimization and adjustment are carried out to adapt to the ever-changing computing power requirements and market environment, ensuring that

the system can fully utilize computing power resources and provide stable and reliable services.

Through precise calculation and intelligent analysis at the model layer, the

system can better cope with the complex challenges in computing power management, maximize resource utilization, and optimize service improvements, bringing more efficient and flexible computing power service experience to users and computing power node providers.

Oracle Layer

The oracle layer plays a vital role in the entire OptNet AI system architecture. Its mission is to ensure the reliability and legitimacy of external data to support various operations and decisions within the system. Specifically, the main responsibilities of the OptNet AI oracle layer include but are not limited to the following aspects:

Data filtering and optimization: The oracle layer strictly filters and optimizes external input data to ensure the accuracy, integrity and security of the data and prevent false information or malicious attacks from affecting the system.

Data approval and verification: Screen the approved and verified data to ensure the legitimacy and credibility of the data source, and ensure that each module of the system can make decisions and operate based on reliable data.

Data push on-chain: Verified data is pushed to the corresponding location of the blockchain so that other components such as the model layer and bidding layer can easily read and use it to achieve information sharing and transparency.

Maintain data security: The oracle layer implements security measures to ensure the security of data during external transmission and storage, prevent the risk of data leakage and tampering, and maintain the stability and reliability of the entire system.

Through the effective operation of the oracle layer, the entire blockchain system can better respond to the challenges brought by external data, establish trust and transparency, ensure the fairness and efficiency of computing services, and promote the development and active participation of users.

Bidding Layer

OptNet AI bidding layer realizes the automated and intelligent management of user bidding information and computing resource allocation through the smart contract model. At the bidding layer, the system provides a variety of bidding modes, including but not limited to the following:

Use AMM automatic bidding: Utilize the automated market maker (AMM) mechanism to dynamically adjust prices and resource allocation according to

market supply and demand to ensure efficient resource utilization and fair prices.

Order book bidding mode: Based on the order book method, intelligent matching and resource allocation are carried out according to the priority and conditions of the orders submitted by the users to achieve personalized computing power service response.

Dutch auction: Using the Dutch auction method, the price gradually decreases from high to low until a price is accepted by a node provider, making resource allocation more efficient and fair.

Through smart contract technology, the system automatically selects the most appropriate smart contract to execute the corresponding bidding model, thereby effectively aligning the user's bidding request with the node provider's bidding response and rationalizing the allocation of computing resources. Users can choose different bidding models according to their needs, and node providers bid through the corresponding models. Ultimately, transactions are executed through smart contracts to ensure fairness and transparency in the bidding process, providing users and node providers with an efficient and secure computing service trading ecosystem.

Incentive layer

The OptNet AI incentive layer aims to reduce the idle rate of platform transactions, increase the transaction rate, and promote win-win cooperation between node providers and users through token incentives. Specifically, the main functions of the OptNet AI incentive layer include:

Node provider incentives: Node providers are incentivized through token rewards to encourage them to participate in computing power transactions and provide high-quality services to meet user needs.

User incentives: Provide Token incentives to computing power demanders, encouraging them to choose computing power resources with lower prices and faster matching speeds, thereby improving the transaction activity and efficiency of the platform.

Win-win mechanism: Build a mutually supportive and cooperative ecosystem through incentives to maximize the benefits of node providers and users.

Through the design and implementation of the incentive layer, the computing power trading platform can effectively stimulate the enthusiasm and participation of participants, improve the overall trading activity, and promote the healthy development of the platform. At the same time, the incentive mechanism also helps to build trust and cooperation, promote the formation of

community consensus, and lay the foundation for the sustainable development of the platform.

Application Layer

the OptNet AI application layer is to provide a user-friendly and easy-to-use user interface (UI) for node providers and users to facilitate their operations and transactions. In addition, the OptNet AI application layer also provides APIs and SDKs for DePin devices and developers to easily develop and access the platform. Specifically, the functions of the application layer include:

UI Design: Design an intuitive and easy-to-use UI interface so that users can easily browse computing resources, submit bidding requests, view transaction records, etc., to improve user experience and transaction efficiency.

API and SDK support: Provides a rich set of API and SDK interfaces, allowing DePin devices and developers to use the tools and resources provided by the platform to develop customized applications or integrated services to achieve more diverse application scenarios.

Customized functions: Based on user needs and feedback, we continuously optimize and improve application layer functions to meet user personalized needs, increase user stickiness and platform activity.

Through the efforts of the application layer, the computing power trading platform can provide more convenient and flexible services, attract more node providers and users to participate, and promote the innovative development of DePin devices and developers. This diversified application layer design helps to expand the influence and coverage of the platform and drive the healthy development and growth of the entire ecosystem.

4.2 AI Data Model Architecture

OptNet AI utilizes the Vector blockchain library and RAG index enhancements to train our AI personality model.

Vector blockchain library

OptNet AI Vector Blockchain Library is an innovative technology that uses vectorization technology to convert various data on the blockchain into a form that can be easily understood and processed by machines. This conversion process enables the data to be efficiently stored and organized to form a vector blockchain library. The database has unique advantages in processing and analyzing large amounts of unstructured data, which is challenging in traditional database systems.

Vectorization is a method of converting data into vector representations, enabling machines to process and analyze more efficiently. In the Vector Blockchain Library, this technology is used to convert transaction records, smart contract information, and other blockchain data into numerical vectors. These vectors can be efficiently stored in a vector database, enabling fast data retrieval and analysis.

Vector database is a database system designed specifically for storing and retrieving vector data, which uses advanced index structures and algorithms to efficiently process vector data. Compared with traditional relational databases and key-value databases, vector databases have significant advantages in processing unstructured data and large-scale data sets.

The Vector Blockchain Library combines blockchain technology with vector databases, bringing new possibilities to the blockchain field. First, it enhances the availability and scalability of blockchain data, enabling blockchain systems to better support complex smart contracts and decentralized applications. Secondly, it enables blockchain data to be more widely used in fields such as machine learning and artificial intelligence, opening up new avenues for the innovation and application of blockchain technology. In summary, the Vector Blockchain Library is a technology with great potential, bringing more innovation and value to the blockchain field.

Working principle:

The system is based on vector space theory and stores blockchain data in three-dimensional vector space.

Data storage and query are performed through vector operations such as addition, subtraction, and multiplication.
Each vector represents a set of entity attributes and can include any on-chain data.
Utilize efficient vector space indexing and similarity calculation algorithms to achieve fast query and analysis of on-chain data.
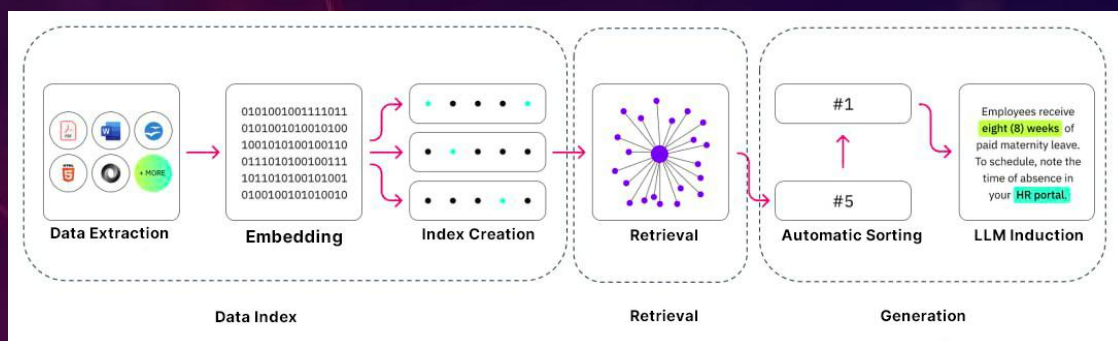
Blockchain Retrieval Enhanced RAG is an advanced tool that can provide a deeper understanding of blockchain data and convert the semantic and contextual information of user natural language data into a large model of blockchain index. The model mainly consists of the following key components:

Dealing with illusions:

The tamper-proof nature of blockchain is used to ensure the accuracy and transparency of the model output. To achieve real-time detection and correction of illusion phenomena, we have established a monitoring mechanism based on smart contracts.

Dynamic training data update:

The model parameters are stored on the blockchain, supporting dynamic data set updates and model retraining. At the same time, the decentralized storage

feature is used to achieve secure sharing and updating of training information.

Domain knowledge expansion:

We use blockchain cross-chain technology to introduce knowledge graphs from different fields and enrich the domain knowledge of the model. In order to improve the performance of the model in specific fields, we created smart contracts to automatically update and integrate domain knowledge.

Secure training data interaction:

Blockchain encryption algorithms are used to protect the privacy of sensitive training data, and access control mechanisms are established based on smart contracts to ensure the secure transmission and storage of training data.
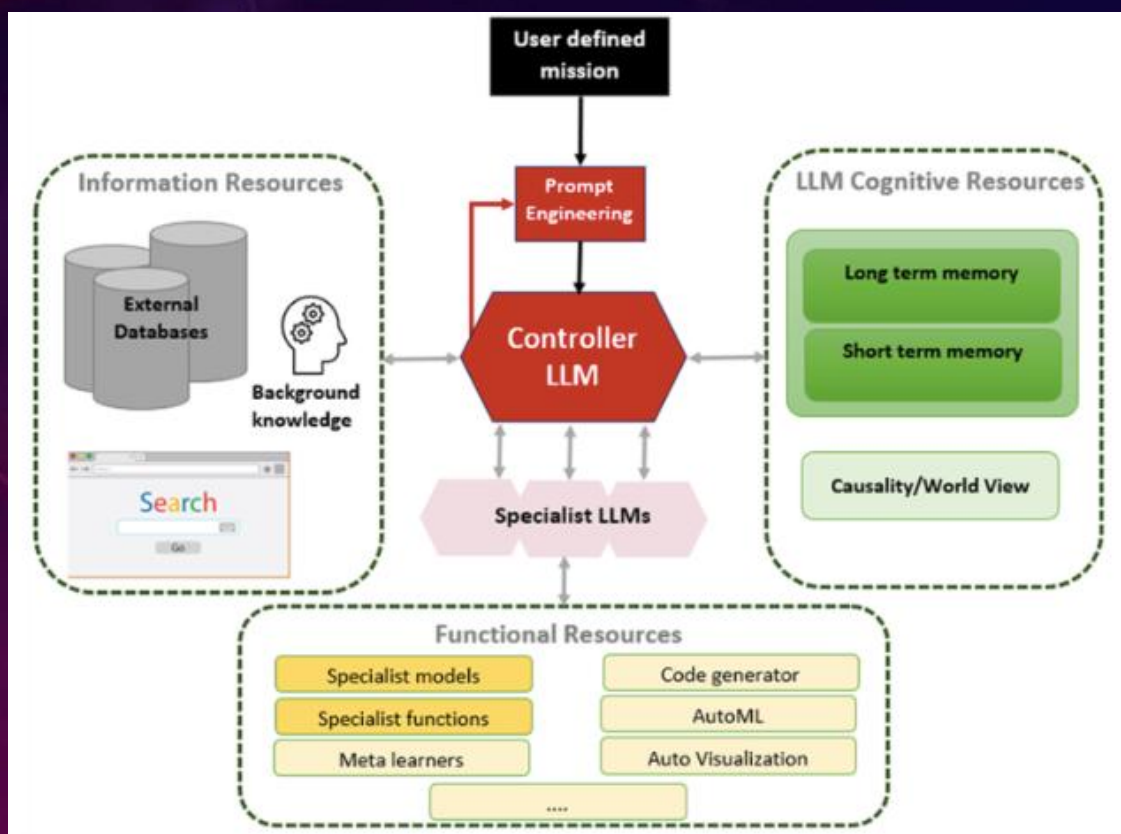
4.3 Incentive Model

OptNet AI has four different roles in the decentralized artificial intelligence blockchain indexing system, which together ensure the normal operation of the protocol and maintain the security of the entire computing network through appropriate incentive mechanisms. The following is a detailed description of these four roles:

Node incentives:

First, users need to purchase a specific node NFT. After purchasing and

holding it, it means that the user has the corresponding computing power. Secondly, users can use this computing power to participate in the platform's profit calculation and obtain corresponding rewards. In addition, users can also choose to pledge a certain number of tokens to obtain higher rewards. However, it should be noted that if the user provides false computing power information or has other violations, the pledged tokens will be deducted.

AI Model Validator Incentives:

the OptNet AI platform, whose main responsibility is to ensure the integrity and transparency of the network. These validators use advanced AI models to check and verify the computational outputs of other nodes, identify and punish nodes that may be involved in cheating or providing false information. Once misconduct is detected, the validator will implement punitive measures and impose sanctions on the offending nodes. As an incentive, the validator will receive a portion of the tokens from the stake of the penalized node as a reward. Through this decentralized "witch hunting" mechanism, OptNet AI ensures the authenticity and effectiveness of its computing network, while providing reasonable rewards to validators who perform tasks honestly and effectively.

User behavior incentives:

In order to encourage users to participate in and use the platform more actively, the platform has introduced a user behavior incentive system. When users create and actively use the virtual AI personality system on the platform, they will receive a certain number of tokens as rewards. This incentive mechanism is designed to encourage users to participate in the platform more actively, thereby increasing the activity and practicality of the platform.

User decentralized computing power incentives:

The platform also allows users to contribute idle computing power from personal computers, smartphones, etc. to the platform. In this way, users can not only use these idle resources to obtain Token rewards, but also provide more computing power for the operation of the platform. This decentralized computing power contribution method not only improves resource utilization, but also enhances the stability and scalability of the platform.

Chapter 5: Core Functions

OptNet AI provides a range of core features designed to create a comprehensive, user-friendly and innovative AI ecosystem:

1. Decentralized AI Market
    Blockchain-driven seamless AI model trading market
    Token-based economy with dynamic pricing and revenue sharing
    Advanced search and interactive preview for easy model discovery

2. Flexible use of models
    Multiple access options: subscription, rental, and one-time purchase
    Scalable computing resources for efficient model training and deployment
    Cross-platform integration to realize multiple model applications

3. AI Model Ecosystem Our platform supports a wide range of AI models in various fields, including:
    Text/Writing: Text summarization, language translation, sentiment analysis
    Entertainment: AI girlfriend/boyfriend, image generation, speech synthesis
    Social: Chatbot model, speech emotion recognition, social media analysis
    Learning: Educational content generation, personalized learning, knowledge graph model
    Finance: AI quantitative trading, financial data analysis, personal finance
    Creativity: graphics and visualization, art making, music composition

4. AI Mini Program Ecosystem
    A platform for creating and sharing AI micro-apps
    Revenue sharing model to incentivize developers
    A carefully curated marketplace ensures high-quality AI applications

5. DID Quest Platform
    Engagement platform for users and project partners
    Task-based AI testing and model training system
    Rewards for completing tasks

6. Developer DAO
    Decentralized governance structure for platform decision making
    A collaborative environment that fosters partnerships and innovation
    Reputation systems and knowledge sharing empower developers

7.Strong security and privacy
    Decentralized infrastructure enhances data protection and transparency
    Privacy-preserving computing using advanced cryptographic techniques
    Automating licensing and regulatory compliance through smart contracts

8. AI model certification (blue V)
   Quality Assurance Plan for AI Models
    Improve the credibility and visibility of your certification model

9. AI Model Bounty Program
    Customized AI solution development platform
    Matching market needs with developer expertise

By combining these features, OptNet AI has created a comprehensive ecosystem that meets the needs of AI developers, users, and enthusiasts. Our platform is expected to play an important role in shaping the future of decentralized AI development and applications.
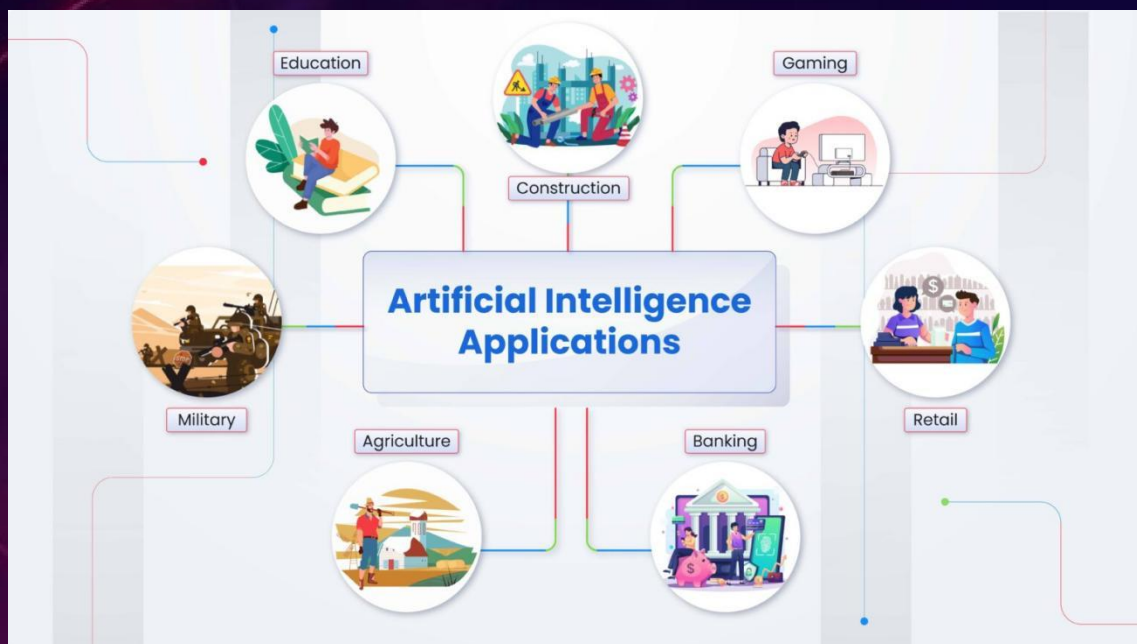
Chapter 6: Token Economy

The OptNet AI Token (ONA) is designed to drive and incentivize participation and contribution across the ecosystem. Here is an overview of the OptNet AI Token model:

Token issuance and distribution:
Total Supply: 500 million $ ONA

Distribution details:
I C O: 8%
Used for exchange listing liquidity release and listing activities.

AI model computing power mining: 20%
Used for global AI large model node staking and mining rewards.

OptNet AI Foundation: 20%
The TGE unlock rate is 0%, the cliff period is 2 months, and the daily vesting plan lasts for 48 months.
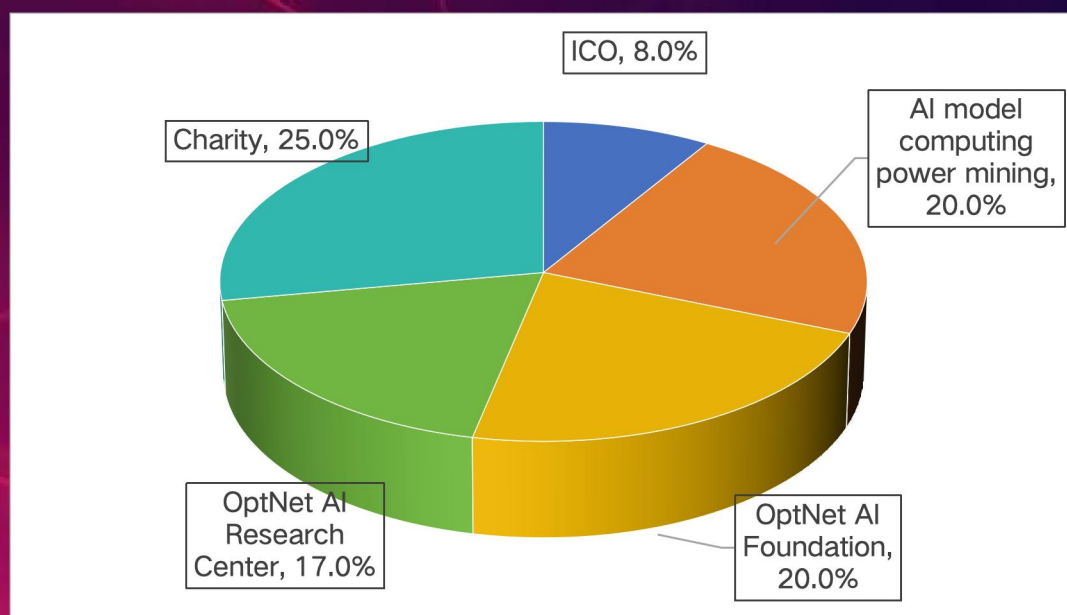
OptNet AI Research Center: 17%
The TGE unlock rate is 0%, the cliff period is 3 months, and the vesting plan is 48 months.

Charity: 25%
Incentives for global AI model research .

Market operation: 10%
Used for airdrops, ecosystem developer rewards, etc.

Chapter 7: Team Introduction

OptNet AI team members have diverse professional backgrounds and skills, and are committed to promoting the application and development of AI technology in projects.

Robert Nayo - Founder and Chief Executive Officer (CEO)
Robert holds a Ph.D. in Computer Science from Stanford University and has held senior technical positions at several top technology companies in Silicon Valley. He has extensive experience in artificial intelligence and entrepreneurship . As the founder and CEO of OptNet AI, Robert is committed to setting strategic direction and driving company development, leading the team to realize the company's vision.

Michael Roberts - Chief Technology Officer (CTO)
Michael graduated from MIT with a PhD in artificial intelligence and machine learning. He has served as CTO of an artificial intelligence startup, focusing on AI technology research and application. As CTO of OptNet AI, Michael is responsible for leading the technical team to develop innovative AI solutions and ensure the successful application of technology in projects.

David Thompson - Data Scientist
David graduated from Harvard University with a master's degree in statistics. He has extensive experience in data analysis and modeling, and is proficient in using machine learning algorithms and data visualization tools. As a data scientist at OptNet AI, David is responsible for analyzing project data, building predictive models, and providing data-driven decision support, providing key insights for project success.

Sarah Adams - Product Manager
Sarah graduated from Stanford University's Graduate School of Business and has extensive product management experience. She has worked as a product manager in several technology companies and is good at product planning and market strategy. As a product manager at OptNet AI, Sarah is responsible for developing product roadmaps, managing the product development process, and ensuring that products are aligned with market demand.

Jessica Lee - Marketing Manager
Jessica graduated from Columbia University with a degree in Marketing. She has extensive experience in digital marketing and branding and has worked as a marketing manager in a leading advertising company. As the Marketing Manager of OptNet AI, Jessica is responsible for developing marketing strategies, brand building, and digital marketing activities to expand the company's influence in the US market.

Chapter 8: Roadmap

OptNet AI combines cutting-edge AI with Web3 technology. We are building a decentralized marketplace for AI model collaboration and trading.

Second quarter of 2024
Early development and Telegram integration
◆ Launching Telegram Mini App using TON's blockchain infrastructure
◆ Develop the core technical architecture of the AI model market
◆ Conduct market research and refine project vision

Third quarter of 2024
Artificial Intelligence Model Market Development
◆ Develop and test a peer-to-peer AI model trading platform
◆ Create advanced search and filtering capabilities for efficient model discovery
◆ Recruit early adopters and beta testers from the AI developer community

Fourth quarter of 2024
AI MiniApp Ecosystem and Developer DAO Launched
◆ Develop an AI mini-program platform to encourage multi-model fusion
◆ Implement strict quality control and performance benchmarks for mini programs
◆ Launching a developer DAO to achieve decentralized platform governance

Q1 2025
Official Platform Release and Certification Program
◆ OptNet AI platform is officially launched and registration is open
◆ Introducing the DApp certification and listing process
◆ Expand marketing efforts to attract a wider user base

Second quarter of 2025
Ecosystem expansion and diversification of revenue sources
◆ Scaling AI models across domains (e.g., computer vision, NLP, predictive analytics)
◆ Implement multiple access options for AI models (subscription, rental, one-time purchase)
◆ Host hackathons and developer conferences to boost ecosystem development