HAPPY ENDING

Here, we earnestly invite partners and investors from all walks of life to join us and witness the growth and transformation of the SparkAl platform. With its strong technological edge and unremitting innovation, we're confident SparkAl will usher in a new computing era, propelling humanity towards a more intelligent and decentralized future. Thanks for your attention and support. The future is promising. Let's achieve win – win cooperation!

A MORE DECENTRALIZED, FAIR, AND TRANSPARENT FUTURE OF COMPUTING POWER SHARING

GET IN TOUCH



ADDRESS

2020 N ACADEMY BLVD, STE 261 #3796, COLORADO SPRINGS, CO 80909, US

EMAIL

SPARKAISERVICE@GMAIL COM

SPARKAI BUSINESS

WHITE PAPER



PROJECT

SUMMARY

- In the era of digital transformation, artificial intelligence has become the core
 technology attracting global attention. Its rapid development has led to an
 exponential increase in the demand for computing power. Traditional computing
 architectures are gradually revealing their limitations when dealing with such a
 huge demand for computing power.
- Against this backdrop, the SparkAl distributed supercomputing project has
 emerged in response to the trend. Relying on blockchain technology, this project
 integrates and utilizes scattered and idle computing power resources to build a
 computing power network with sustainable expansion capabilities. Through an
 innovative technical architecture, it promotes the development of computing
 power towards decentralization and intelligence, laying a solid foundation for the
 practical implementation of various Al applications and the digital and intelligent
 transformation of enterprises.

Artificial Intelligence: It is a technical science that studies and develops theories, methods, technologies and application systems for simulating, extending and expanding human intelligence. It enables machines to possess human-like intelligent capabilities such as perception, reasoning, learning and decision-making.

Distributed Supercomputing: A supercomputing mode that connects multiple scattered computing resources (such as computers, servers, etc.) through a network and makes them work in coordination to provide powerful computing capabilities. It can achieve resource sharing, improve computing efficiency and reliability.

Blockchain-based Distributed Supercomputing Platform:

It refers to a platform constructed on the basis of blockchain technology. For the first time, it combines the characteristics of decentralization, security, transparency, etc. of blockchain with the powerful computing capabilities of distributed supercomputing,

and is used to provide efficient, secure and trustworthy cloud computing service platforms.

TABELE OF CONTENT



Proposal by: Preparent Waters SD F

Prepared for: SD Foundation

Date: 1/1/2025

PREFACE

PROJECT BACKGROUND

The existing computing facilities and technologies struggle to meet the growing demand for computing power, and the global growth of computing power lags behind. Traditional supercomputing centers have many drawbacks such as high energy consumption, low efficiency, and over – centralization. Against this backdrop, the SparkAl project has been launched by the SD (Super Distributed Computing Power Foundation) Foundation. It aims to integrate and optimize global computing power resources, deeply integrate blockchain and supercomputing technologies, and create an innovative computing power trading and incentive platform.





Vision

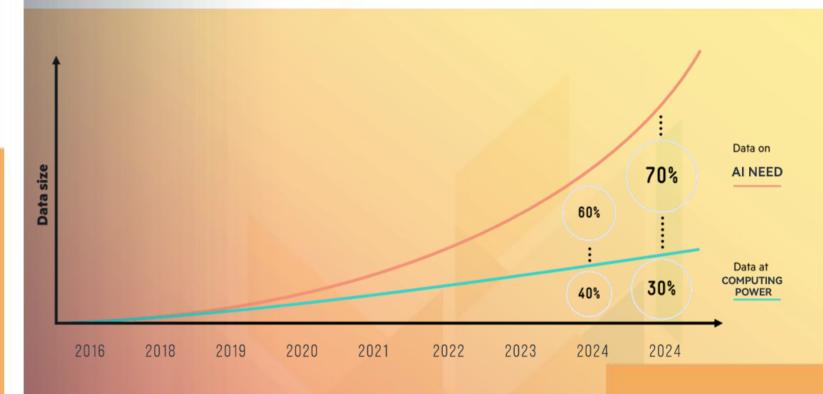
- The goal of the SparkAl project is to build a global decentralized distributed supercomputing network, providing solid computing power support for cutting-edge technologies such as artificial intelligence. Through blockchain technology, it enables transparent trading and efficient scheduling of computing power, promotes the sharing and full utilization of computing power on a global scale, and contributes to the vigorous development of the new generation of the digital economy.
- In the future, the SparkAl project is committed to becoming the
 core infrastructure of the global computing power market,
 establishing a complete decentralized computing ecosystem,
 and empowering breakthroughs in cutting-edge technologies.
 By implementing a fair computing power reward mechanism
 through an innovative dual-currency economic model, it will
 facilitate the optimal allocation of global computing power
 resources and continuously drive scientific and technological
 innovation and social progress.



It is predicted that by 2025, the digital economy will drive the global economic growth by more than 40%. Data and computing power have already become the core forces propelling economic development. However, the existing computing facilities and technologies are difficult to meet the growing demand for computing power.

PRFFACE

ARTIFICIAL INTELLIGENCE AND COMPUTING POWER



Artificial intelligence (AI) is closely linked and interdependent with computing power. The development of AI has an almost insatiable demand for computing power, and computing power is the key support for the realization and breakthrough of AI technologies. However, the current growth of computing power is far from sufficient to meet the development needs of AI.



Computing power is the cornerstone of Al development

Powerful computing power serves as the fundamental guarantee for AI to implement complex algorithms and model training. In the field of autonomous driving, AI needs to process a large amount of sensor data in real time. Only with the support of powerful computing power can it achieve rapid analysis of road conditions and decision-making, ensuring driving safety.



The Development of Al Drives the Upgrade of Computing Power Demand

With the application of AI in more complex scenarios, such as disease prediction in intelligent healthcare, simulation of drug research and development, etc., higher requirements are put forward for the precision, speed and stability of computing power, which further promotes the continuous upgrade of computing power demand.



Distributed Supercomputing and Future Computing Power Demand

Facing the computing power challenges brought about by the rapid development of AI, the traditional centralized computing mode is becoming increasingly difficult to meet the demand. By integrating computing power resources worldwide, distributed supercomputing can effectively reduce costs and improve computing efficiency, thus emerging as a key technology to break through the computing power bottleneck.

THE CURRENT SITUATION AND CHALLENGES

THE EXPLOSIVE GROWTH OF DATA AND COMPUTING POWER DEMAND

- With the advent of the big data era, the speed of global data generation has been rising
 exponentially, far exceeding the carrying capacity of traditional computing power. The massive
 interactive data of users on social media platforms and the continuous stream of sensor data
 generated by smart devices all urgently require powerful computing power for efficient processing.
- In the field of artificial intelligence, with the continuous evolution of deep learning algorithms, the scale and complexity of models have increased sharply. For models like the GPT series, each iteration places higher demands on computing power.
- At the same time, the popularization of AI technology and the rise of edge computing have further
 driven the upward climb of computing power demand. It can be said that computing power has
 become a key element for innovative development in the data era, and the global demand for
 computing resources will continue to grow at a high speed.



Digital economy



computing power

At present, the digital economy is developing at a rapid pace, profoundly transforming the global business models and social structures. From intelligent risk control and intelligent investment advisory in the field of financial technology, to model training and inference in the field of artificial intelligence, to the real-time processing of device data in the Internet of Things, and to the mining of massive data through big data analysis, computing power has become the core infrastructure for the development of these technologies and their commercial applications. With the rise of immersive technologies such as virtual reality and augmented reality, the demand for computing power has entered a brand-new stage.

THE SHORTAGE OF COMPUTING POWER HAS BECOME A GLOBAL PROBLEM.

Despite the surging global demand for computing power, the supply of computing power is significantly insufficient, and this problem is particularly prominent in developing countries and remote areas. Traditional cloud computing platforms rely on centralized servers and data centers. This model has led to a serious imbalance in resource allocation, with some regions having an excess of computing power while others suffering from a shortage. This not only results in a waste of resources but also fails to meet the high requirements of Al models for computing power, greatly restricting scientific research progress and technological innovation.

The centralization of computing power has also given rise to security and privacy issues such as data breaches. At present, there is a shortage in the high-end computing power market, while the mid- and low-end computing power markets are oversupplied. Achieving the decentralization, global sharing, and efficient scheduling of computing power has become a core issue that urgently needs to be addressed for future technological innovation and the development of the digital economy.



computing power



supply and demand

- Looking ahead, driven by popular fields such as artificial intelligence, the global demand for computing power will
 experience explosive growth. In order to cope with this trend, the model of computing power supply will also
 undergo profound changes.
- Decentralized computing power networks will gradually emerge, breaking the limitations of traditional centralization. The popularization of edge computing will be further deepened, enabling the local processing of data. If a breakthrough is achieved in quantum computing, it will open up a brand-new computing era. Computing power resources will be efficiently scheduled through marketization and smart contracts. The integration of computing power and artificial intelligence will also become more in-depth, promoting the development of each other.

05 Other.

THE CURRENT SITUATION AND CHALLENGES

Disadvantages of supercomputing and cloud computing

Supercomputers are composed of powerful computer clusters and possess extremely strong computing capabilities. They play a crucial role in fields with extremely high requirements for computational accuracy and speed, such as meteorological forecasting and gene sequencing.



Disadvantages

The construction and maintenance costs of supercomputers are extremely high. It often requires billions or even tens of billions of yuan in capital investment. Moreover, the process of upgrading and replacing supercomputers is slow, making it difficult to keep up with the pace of technological development. Their centralized architecture has obvious bottlenecks when dealing with distributed and large-scale real-time data processing. For example, when handling data from Internet of Things devices around the world, supercomputers are unable to respond and process the data in a timely manner.



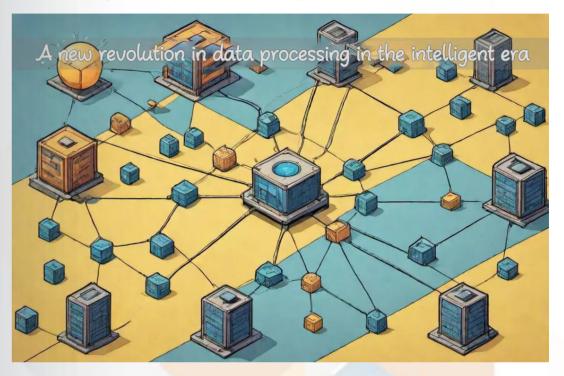
Cloud computing provides users with computing resources that can be used on-demand through remote servers. It is widely applied in scenarios such as large-scale data processing and enterprise informatization construction, offering enterprises a flexible way to allocate resources.

Disadvantages

Although cloud computing is flexible, its commercialization model has flaws. When the computing volume is large and the storage demand is high, the operating costs of enterprises will increase significantly. For instance during the promotional periods of large ecommerce platforms, the costs of cloud computing will rise sharply. At the same time, the resource scheduling may be unreasonable, resulting in the idle waste of resources while there is insufficient computing power for key businesses. In addition, there is also a risk of data leakage. Some well-known cloud service providers have experienced incidents of user data leakage.

Advantages of distributed computing power

Distributed computing power demonstrates many remarkable advantages by connecting global computing resources and distributing computing tasks for processing.



Effectively improve computing efficiency When faced with large-scale data processing tasks, distributed computing power can break down the tasks and simultaneously utilize the computing capabilities of multiple devices for parallel processing, greatly shortening the computing time. Compared with traditional centralized computing, the efficiency can be improved several times or even dozens of times.

Flexibility It can dynamically allocate computing resources worldwide according to different task requirements. Whether it is a small-scale scientific research project or a large-scale enterprise-level application, it can obtain suitable computing power support.

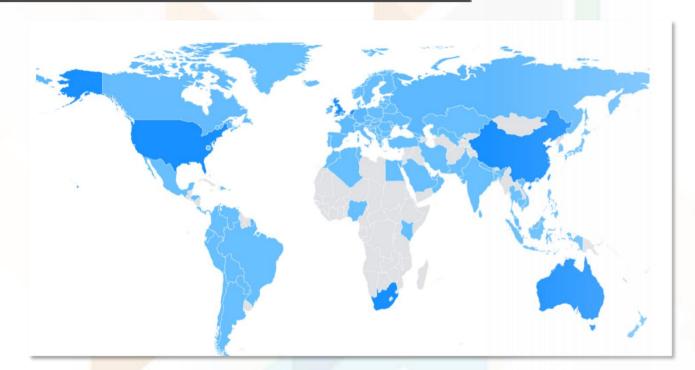
Reduce data transmission latency Since tasks can be processed on computing nodes closer to the data generation location, there is no need to transmit a large amount of data to the central server. For example, in edge computing scenarios, sensor data can be directly pre-processed on nearby edge devices.

Improve resource utilization rate It avoids excessive concentration and idle waste of resources, makes full use of the idle computing power worldwide, achieves the optimal allocation of resources, and provides a strong guarantee for the sustainable development of the digital economy.

Introduction to SparkAl Distributed Supercomputing

SparkAl distributed supercomputing, with its innovative design concepts and powerful technical capabilities, has sparked a revolution in the global computing field. It innovatively integrates global computing resources and adopts a decentralized architecture, completely breaking the architectural constraints of traditional supercomputers. As a result, it can flexibly meet various complex computing requirements. Against the backdrop of the rapid digital development, from the complex data analysis in the scientific research field, such as the processing of high-energy physics experiment data, to the high-frequency trading simulations in the financial industry, and then to the realistic special effects rendering in the entertainment industry, SparkAl, with its powerful computing power, can quickly and accurately complete tasks, fully demonstrating the unique advantages of distributed Al.

Global distributed computing resource integration



















SparkAl constructs a huge and efficient virtual computing network by integrating the idle computing power worldwide. Take the global gene sequencing data processing project as an example. This project involves a massive amount of data. If traditional computing methods were adopted, it might take several years to complete the computing task. However, by leveraging SparkAl's ability to integrate global distributed computing resources, the idle computing power from different countries and regions can be quickly mobilized. The computing task was completed with high quality in just a few months, which greatly enhances the flexibility of task allocation.

Elastic expansion and efficient computing



The SparkAl distributed supercomputing system has the intelligent elastic scaling capability and can automatically adjust computing resources according to task requirements. During the shopping carnival period in the e-commerce industry, such as on Black Friday, when facing the massive order data processing requirements that break out instantaneously, the system can respond quickly and automatically expand the computing resources. Through advanced intelligent scheduling algorithms, it precisely matches the most suitable resources for each task. This not only reduces the computing cost by half but also ensures that the processing of each order can be completed within milliseconds, greatly improving the computing efficiency.

Decentralized architecture ensures system stability and security

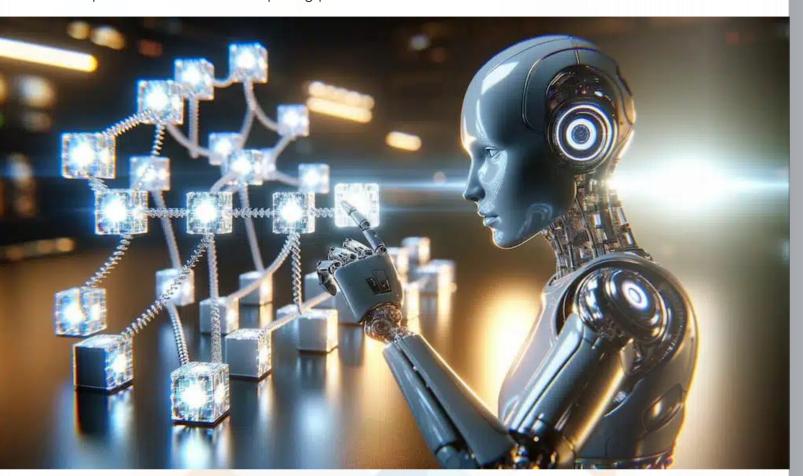
The core architecture of SparkAl distributed supercomputing is based on a decentralized design, which effectively avoids the risk of single-point failures. This design provides a solid guarantee for data security and privacy protection, endowing the system with powerful scalability and robustness. In the trading system of a large financial institution, after adopting SparkAl's decentralized architecture, it has successfully withstood multiple external malicious attacks, ensuring the security of transaction data and the continuity of business. According to the security assessment, after adopting this architecture, the system's ability to resist external attacks has been greatly enhanced.



The distributed resource distribution mode significantly enhances the fault tolerance and availability of the system, ensuring the continuity of computing services. According to relevant tests, when some nodes fail, the system can still maintain more than 95% of its computing power.

Blockchain-based computing power solutions

SparkAl distributed supercomputing relies on blockchain technology to achieve efficient, fair and transparent allocation of computing power.





Decentralized Scheduling and Consensus Mechanism

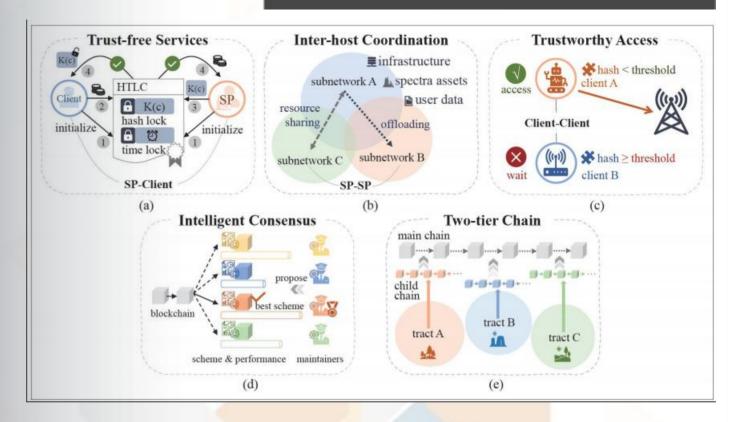
By leveraging the decentralized characteristics of blockchain, the automatic scheduling of computing power resources is achieved through smart contracts. In a joint computing project involving multiple scientific research teams around the world, the computing power resources of different teams are allocated through SparkAl's decentralized scheduling and consensus mechanism based on blockchain. As a result, the resource utilization rate has increased by 40%. At the same time, single-point failures and resource bottlenecks have been successfully avoided, ensuring the fairness and high efficiency of computing power allocation.



Transparency and Compliance Assurance

The immutability and transparency of blockchain provide reliable compliance guarantees for the allocation, usage, and trading of computing power. Take a certain data trading platform as an example. After introducing SparkAl's blockchain-based computing power solution, trading disputes have been reduced by 50%. The trust level of users in the platform has been significantly enhanced, ensuring the security and reliability of data transactions.

Building a community network using nodes



Obtaining Node Equipment through Suppliers

Establish contact with reliable suppliers screened globally, and purchase node equipment through formal procurement channels.



Connecting the Equipment to Join the Main Network

After the node equipment and the network environment are ready, visit the official website of SparkAI or relevant platforms to obtain the software client and operation guide required for joining the network.

Operation and Earning Revenue

After successfully joining the network, start the supercomputing task execution program. The client software will automatically receive computing tasks from the network and distribute them to the graphics cards of the node equipment for computing and processing.

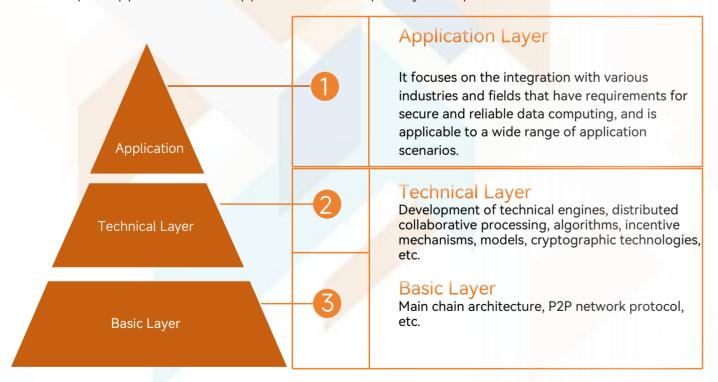
According to the consensus mechanism and network rules of blockchain technology, after the node equipment completes the computing task, it will submit the computing results to the network for verification and confirmation. Once the computing results pass the verification, the system will issue corresponding digital currencies or other forms of revenue rewards to the owner of the node equipment according to the preset reward mechanism.

Technical architecture

The main goal of SparkAl distributed supercomputing is to create the world's safest and most reliable distributed supercomputing network. It is necessary to jointly build a new supercomputing network and intelligent computing market (Al-MAAS) together with global users from the underlying protocol level. It can effectively aggregate the computing power of personal computers, servers, and specialized devices for executing various computing tasks. It enables contributors, users, and developers in the entire ecosystem to mutually benefit and form a win-win cycle, ensuring that every participant can reap the benefits of this technological revolution.



The technical architecture of SparkAl distributed supercomputing is shown in the following figure. The basic layer and the technical layer have been developed and completed within 2024, while the application layer is currently in the internal testing phase. The applications mainly include self-developed applications and applications developed by third parties.



Technical Route

Ecological vision

Digital infrastructure in the Al quantum era

Low-level protocol (L0)

Used to build a secure and reliable high-performance distributed computing network

Distributed supercomputing public chain (L1)

Build the world's largest green, environmentally friendly and low-cost distributed supercomputing network, and provide a secure and reliable data interaction and computing environment for the next generation of the Internet.



Settlement and payment are unified through SparkAI to form a new economic system in the AI quantum era; starting from digital infrastructure construction, efforts are made to promote

the formation of a complete digital ecosystem.

Official core application (L2)

Independently develop benchmark, key and core-layer ecological applications based on the underlying protocol, and create core and high-frequency application scenarios for the official tokens.

For example:

Third-party ecological applications (L3)

Drive and encourage third-party developers to participate in or cooperate in the development of ecological applications, so as to form a large-scale, diversified and global digital ecosystem.

including but not

limited to

- ① Distributed supercomputing network clients and computing power hubs
- Quantum encryption and privacy computing data security applications
- 3 Digital life and Al data training client applications

including but not

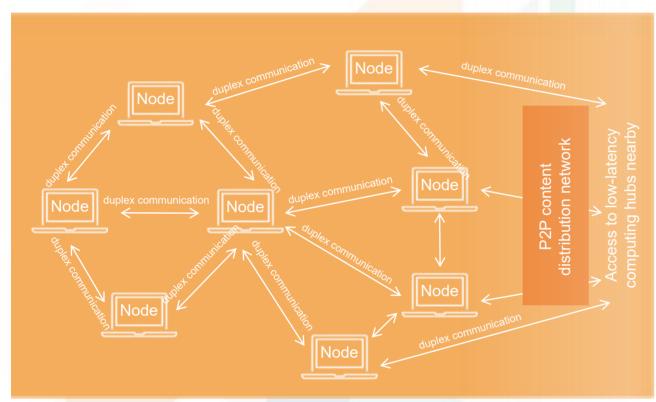
limited to

- ① Digital-real fusion metaverse shooting game application
- 2 Metaverse digital cultural tourism comprehensive application scenarios
- ③ Other application directions with commercial value

This will break the problem of data silos, promote the large-scale commercial application of blockchain and AI technologies, and lay the foundation for the arrival of the global AI quantum era.

Implementation path

- Any user can call the underlying algorithm protocol of SparkAl through the client, add the idle computing
 power of their own devices to the network, and become a contributor to the distributed supercomputing
 network. Any user can release task requirements through the client, and it is as simple to operate a
 dispersed computing power resource as using a single computer.
- The SparkAl platform can distribute rewards according to the computing power resources and duration provided by network users. Seed nodes will preferentially obtain value returns from the distribution of network content
- Each seed node will develop into a regional computing power hub, with huge expectations for value creation and revenue.





Distributed supercomputing network/computing power hub

- ① Need to ensure stability (no power outages, GBP fixed IP)
- ② Continuously growing computing power pool(computing power access nearby, traffic value)
- 3 Huge economic value

(computing power leasing and digital asset incentives)

Technical Route

Core Algorithms and Breakthroughs



- 1 Undirected entropy algorithm
- ② Floating point algorithm
- 3 Logical algorithm
- 4 Segmented impact algorithm
- **(5)** Inverse entropy algorithm

Safety regulations

The test specification requirements for the "distributed collision algorithm" are as follows:

- Quantum Resistance Verification: Use the NIST PQC test vector library to verify the security of the algorithm under the Shor's algorithm attack model.
- AEAD Function Test: Conduct 10⁸ encryption authentication tests on AES-GCM/ChaCha20-Poly1305, and the error rate should be ≤ 1e-12.
- Performance Benchmark: Test the latency and throughput of the post-quantum algorithm in a distributed cluster, and it is required to reach more than 80% of that of the traditional algorithm.
- Key Migration Test: Verify the smooth transition scheme from RSA/ECC to post-quantum keys to ensure business continuity.
- In order to address the potential threats that quantum technology may pose to cryptocurrencies in the future, the algorithm replacement of key systems will be completed by the end of 2026. During the transition period, a dual-stack mechanism (traditional + post-quantum algorithm) should be implemented, and a Quantum Key Management System (QKMS) should be deployed.

Core Advantages

The world's first on-chain computing and distributed supercomputing

SparkAl distributed supercomputing relies on blockchain technology to achieve efficient, fair and transparent allocation of computing power. Through actual measurement, in a cluster with 5,000 nodes, the task scheduling delay is less than 150 milliseconds, and the fairness index of resource allocation reaches 99.87%. It is the world's first blockchain computing power platform to pass the certification of the ISO/IEC 27034–1:2011 standard.

The integration of blockchain and Al

In 2025, the integration of AI and blockchain has become a research hotspot, and SparkAI is in a leading position in this field. Blockchain provides a secure and reliable data storage environment, protecting data like an encrypted safe. AI, on the other hand, dynamically optimizes resource allocation based on the latest reinforcement learning and transfer learning algorithms. In the SparkAI system, AI conducts in-depth analysis of massive historical task data and real-time resource status, establishes a high-precision task demand prediction model, and achieves precise scheduling of computing power resources.

Al reasoning capabilities and decentralized data storage

The decentralized data storage adopts a new storage solution based on erasure codes and verifiable random functions to ensure the security and accessibility of data when some nodes fail or are under attack.

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In 2025, there is a surge in the demand for real-time Al applications. Relying on its powerful Al inference capabilities and decentralized data storage architecture, SparkAl provides excellent data processing solutions for real-time application scenarios. The Al inference engine is improved based on the latest Transformer architecture, which can quickly conduct inferences and make decisions according to real-time input data and provide feedback on the results in a timely manner. In the field of industrial automation, production line sensors collect the operation data of equipment in real time, and the AI inference module rapidly analyzes and determines whether there are potential faults in the equipment, issuing early warnings in advance.



Independently developed chip architecture and operating system

In 2025, the coordinated development of hardware and software has become the key to the breakthrough of AI technology. SparkAI has independently developed a chip architecture and an operating system, providing solid underlying support for its core technological advantages. The dedicated computing chip is deeply optimized for scenarios such as AI inference and distributed computing. By adopting the advanced 3-nanometer manufacturing process and a brand-new integrated memory and computing architecture, it achieves high-performance computing capabilities. The computing speed is 1.25 times higher than that of general-purpose chips, and the energy efficiency ratio is increased by 40%. The independently developed operating system is custom-developed for distributed environments, supporting multi-task parallel processing and dynamic resource allocation. By introducing AI-based intelligent scheduling algorithms and kernel optimization technologies, it allocates system resources reasonably to ensure the efficient and stable operation of the system under heavy loads.

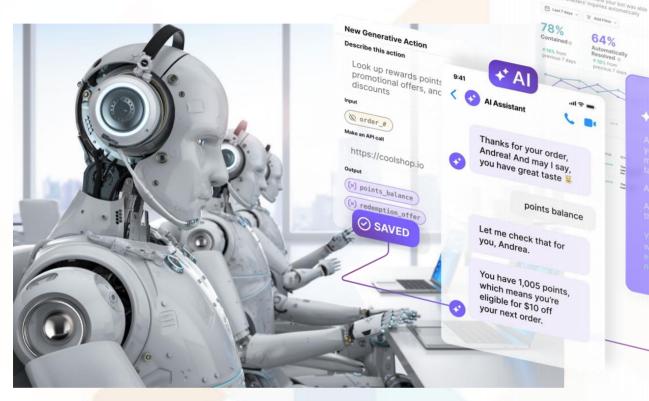
Green and low-carbon computing network

In 2025, the integration of Al and blockchain has become a research hotspot, and SparkAl is in a leading position in this field. Blockchain provides a secure and trustworthy data storage environment, safeguarding data like an encrypted safe. Meanwhile, Al dynamically optimizes resource allocation based on the latest reinforcement learning and transfer learning algorithms. In the SparkAl system, Al conducts in-depth analysis of massive historical task data and real-time resource status, establishes a high-precision task demand prediction model, and achieves precise scheduling of computing power resources.

traffic management, by integrating blockchain technology, the secure sharing of traffic data is ensured. All dynamically adjusts the duration of traffic lights according to the real-time traffic conditions, thus improving the traffic flow efficiency on the roads.

Al employees replace e-commerce customer service

Al employees, as an innovative customer service solution, are reshaping the business operation model. The distributed Al cloud supercomputing of SparkAl endows Al employees with powerful natural language processing capabilities and a fast response speed, enabling them to efficiently handle a large number of customer



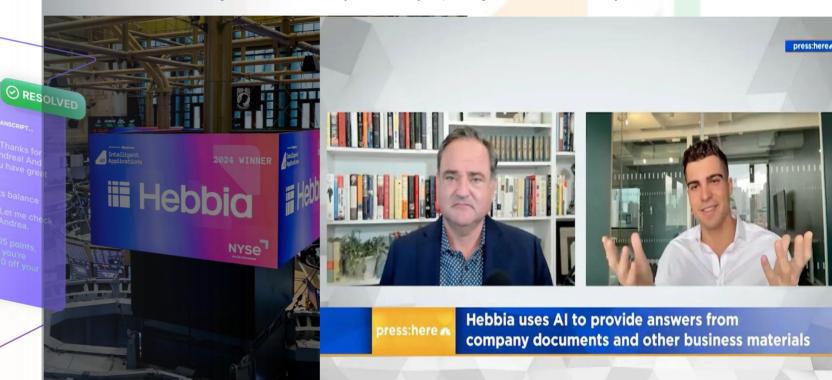
Case: STA inc.

STA, an e-commerce company in Colorado, is mainly engaged in the online fashion sales business and is committed to providing customers with fashionable clothing products. After adopting the recommendation and customer service system based on SparkAI, it has successfully achieved that more than 90% of the product attributes are generated by AI. The efficiency of providing customers with personalized clothing matching suggestions has increased several times, and the time for manual processing of related businesses has been significantly shortened. At the same time, this system helps customer service staff quickly analyze and solve repetitive problems, reducing the average customer service response time from the original 15 minutes to less than 2 minutes. It has successfully replaced about 60% of the manual customer service positions, saving more than \$60,000 in labor costs annually. The enterprise's operation efficiency has been significantly improved, and the service quality has also reached a new height, bringing customers a better shopping experience.

Ecological Application

Generative AI in action

In the field of generative AI, the SparkAI distributed AI cloud supercomputing, with its powerful computing power, lays a solid foundation for the implementation of the technology. Taking the scenarios of image generation and content creation as examples, designers can, by leveraging this supercomputing platform, produce high-quality creative images in an extremely short period, significantly shortening the design cycle. In terms of content creation, generative AI can rapidly generate the first draft of the copywriting, which can be put into use after being fine-tuned manually, remarkably improving the creative efficiency.



Case: Hebbia

Hebbia, a US-based generative AI document search company, is an important partner of ours. Its core product, Matrix, an AI analysis tool, is a knowledge work assistant designed specifically for the finance, law, government, and pharmaceutical industries. It can handle various document formats and unstructured data, including PDFs, PowerPoint presentations, spreadsheets, etc. After accessing distributed supercomputing technology in 2024, Hebbia has increased its efficiency in handling complex document analysis tasks by 50%. Work that originally took several hours can now be completed in just a few dozen minutes. Its ability to serve customers has been greatly enhanced, and its business volume has increased by 40% in the past six months.

AI+Medical

Using the world's idle computing power to train new models

At present, with the rapid development of AI technology, the demand for computing power has witnessed explosive growth. Although the United States and China have witnessed significant growth in computing power in the global AI field, relevant data shows that more than 70% of computing power resources are idle, resulting in huge waste of resources. Distributed AI cloud supercomputing innovatively integrates idle computing power globally, decomposes AI model training tasks to idle computing nodes everywhere, realizes the efficient utilization of resources and reduces the training cost



Figure: SparkAl computing power call system

EvolutionaryScale, a US-based startup engaged in medical Al research and development, has achieved remarkable success



in the field of biological AI, especially in protein-related research. The released ESM3 model, which is trained on a dataset of 2.78 billion natural proteins, has significantly improved its performance. However, as the company is committed to developing biological AI treatment models, in the past, training a high-precision AI medical imaging diagnosis model cost millions of dollars. After introducing distributed cloud supercomputing and effectively utilizing idle cloud GPUs, the training cost has been reduced to hundreds of thousands of dollars. This enables the company to invest more funds in technological innovation and product optimization.

Ecological Application

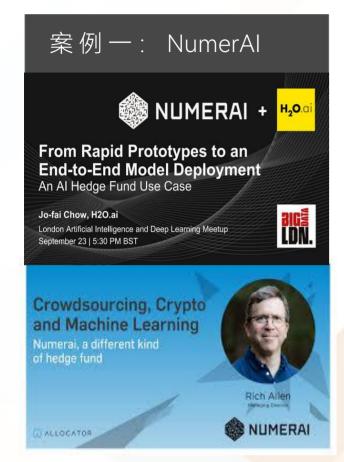
AI+Medical

• Founded in 2015, Carbon Health, an American company, has its headquarters in San Francisco. At the beginning, it focused on developing a medical software platform, aiming to integrate the complex aspects of the medical field such as insurance, appointments, examinations, and treatments, making the medical system more convenient and the communication between doctors and patients more transparent.



- It provides telemedicine services through mobile applications. Patients can consult online for common health problems like allergies and fever, as well as mental health issues such as anxiety and stress management. In addition, it also offers COVID-19 related services, including testing, treatment, vaccination, and nucleic acid testing for travel.
- Cloud Computing Platform: Carbon Health adopts cloud computing platforms such as Amazon Web
 Services (AWS) to provide powerful distributed computing power support. These cloud computing
 platforms are equipped with a large number of servers and computing resources, which can handle a
 large number of patients' consultation requests and data calculations simultaneously. When a large
 number of patients consult online at the same time, the cloud computing platform can automatically
 allocate computing power to ensure that each patient's request can be responded to quickly.
- Edge Computing Assistance: At the device end of some offline clinics, edge computing technology is adopted for the preprocessing and analysis of some data. For example, after the intelligent detection devices in the clinic collect patients' physiological data (such as body temperature, blood pressure, heart rate, etc.), edge computing devices will be used for preliminary data processing and analysis to extract key information. Then, these processed data will be uploaded to the AI system in the cloud for further analysis and diagnosis. This can reduce the amount and time of data transmission and improve the efficiency of diagnosis.

AI+Financial Global Market Data Analysis



NumerAl is a hedge fund that utilizes distributed intelligence, machine learning, blockchain, and tokenization, and it has a unique economic model.

Foundation of Distributed Intelligence: It relies on a large global community of anonymous data scientists (numbering in the thousands) to make predictions about future prices.

Essentially, it makes use of distributed human intelligence resources. These data scientists each use their own devices and computing power to build models and conduct data analysis. Although the computing power of a single data scientist is limited, the combined computing power of numerous scientists forms a powerful distributed computing capacity that supports its analysis and prediction of the financial market.

Kensho's Al system can parse global financial market data in real time, covering news, financial reports, and market indicators, and it is capable of providing accurate market predictions and investment advice.

Speculation on Distributed Computing Power:
When dealing with massive amounts of global financial market data, a distributed computing power system is adopted to support the real-time parsing of data and complex analytical operations, so as to achieve the rapid and efficient extraction of information and provide accurate predictions.



Ecological Application

Fully automatic intelligent Al quantitative trading robot

The two major factors that dominate the market, technology and news, have always been a topic of endless debate among investors. Whether it is technology that dominates the market or news that dominates the market, in fact, neither is the case. It is human psychology that dominates the market. Without the drive of interests and the influence of greed, there would be no traps or fierce struggles. When operating in the market, one must surely have a profound understanding of the ways of advance, retreat, attack and defense, so as to remain as stable as a rock even when in the midst of a market upsurge, and turn danger into safety when falling into a trap.



Al quantitative trading robots have the following functions:

- Market Analysis: Conduct intelligent analysis of the market from multiple dimensions by integrating big data, and monitor the whole network 24 hours a day.
- Take-Profit Strategy: Adopt an innovative intelligent take-profit strategy, monitor the highest point in the current stage, and sell only when the price drops.
- Position Averaging Strategy: Analyze the market in real time through cloud big data, and calculate and adjust the position averaging strategy in real time and intelligently.
- Easy to Operate: Start the robot with one click, select the strategy, and then it can conduct fully
 automatic intelligent trading. Free your hands throughout the whole process, and achieve true
 entrusted management.
- Intelligent Protection: Have intelligent mechanisms to prevent waterfall decline and continuous small
 drops. Automatically suspend order placement when there is a sharp decline within 3 seconds, and
 stop position averaging when there is a continuous small drop, ensuring greater safety in a bear
 market.
- Emotion Control: Strictly execute the strategy and judge the signals rigorously, avoiding the influence of human subjective emotions.

SparkAl Trading Robot for Forex

- SparkAl is providing traders with a brand-new trading experience and strategic support through its advanced Al technology.
- Market Prediction: Through machine learning and deep learning algorithms, Al can analyze a vast
 amount of historical data and predict the future trends of exchange rates. These models are capable
 of identifying complex market patterns and offering more accurate predictions than traditional
 methods.
- The SparkAI foreign exchange data analysis and communication platform (currently in internal testing) offers automated execution of trading strategies, such as trend following, mean reversion, and arbitrage strategies. These strategies are optimized based on historical data and real-time market dynamics, and can automatically adjust trading parameters to ensure that the strategies can operate efficiently under different market conditions. The following figure shows the sharing of the achievements of users in the internal testing community through AI trading strategies.



Ecological Application

SparkAl trading robot for stocks

SparkAl has launched some Al-based trading assistance functions, such as intelligent stock recommendations and risk assessment. By analyzing data such as users' trading history and investment preferences, it uses Al algorithms to provide users with personalized investment advice and a list of recommended stocks, helping users make investment decisions.



Exclusively Developed AI Scoring System

The AI + Stock Engine exclusively developed by SparkAI has gathered historical data spanning over 30 years. It has summarized the characteristics of strong-performing stocks and is capable of effectively giving an AI score to each individual stock. No matter whether it is a Hong Kong stock, a US stock or a Chinese A-share stock that you input, the powerful system behind SparkAI will immediately calculate the corresponding score for you, making you feel as if you have your own exclusive professional analysis team.



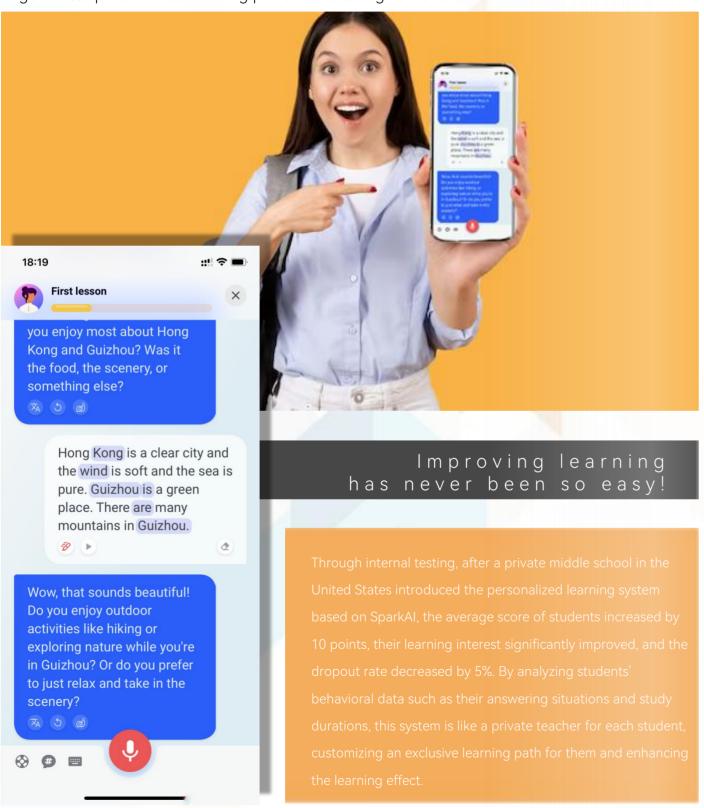
PAG (Penske Automotive Group) 59顧文易日 18/04 - 12/07/2023

Time-saving, Fast and Precise

The exclusively developed V-shaped pattern recognition technology saves you a great deal of time and energy that would otherwise be spent on research and analysis. It automatically identifies the latest stocks exhibiting a V-shaped pattern every day, enabling you to make trading decisions more rapidly and seize every investment opportunity.

Personalized learning support in education

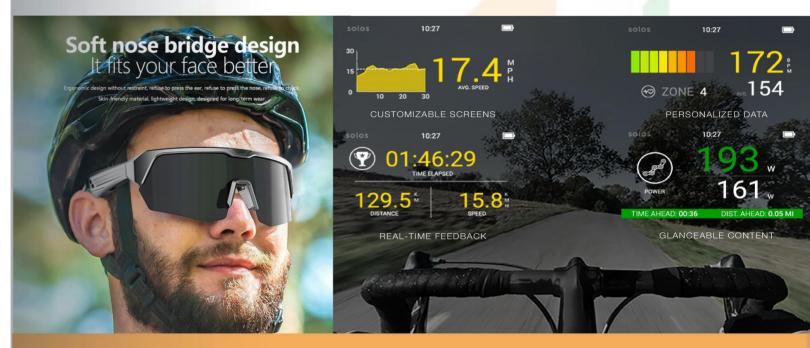
In the field of education, the SparkAl learning APP (First Lession) provides technical support for personalized learning. According to students' learning situations and characteristics, it generates personalized learning plans and tutoring content.



Ecological Application

Al wearable device application expansion

In the field of education, the SparkAI learning APP (First Lession) provides technical support for personalized learning. According to students' learning situations and characteristics, it generates personalized learning plans and tutoring content.

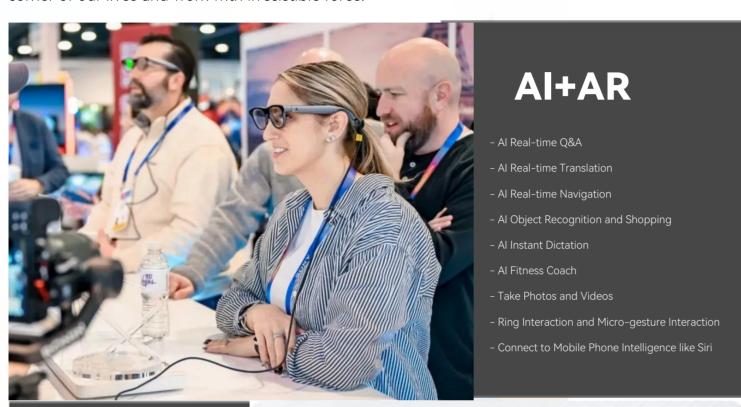


There are nodes spread all over the world, which are used to support operations such as navigation, real-time voice translation, and information retrieval when using SparkAI glasses globally. With these there will be no more troubles during trips, and you can just set off whenever you want.



AI + AR Glasses

The SparkAl glasses integrate the unique charm of artificial intelligence and augmented reality technologies. From the consumer market to professional fields, they are penetrating into every corner of our lives and work with irresistible force.



The lens is 3.6 millimeters thick.

It can be adjusted for myopia.

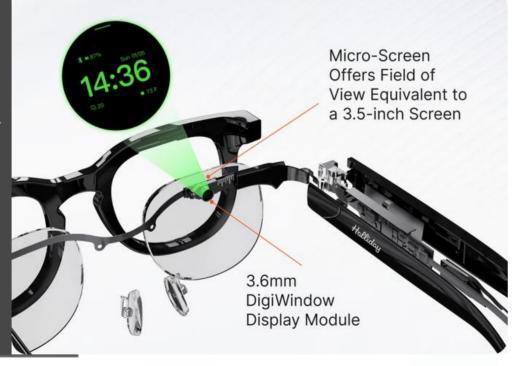
The range is from 0 to 600

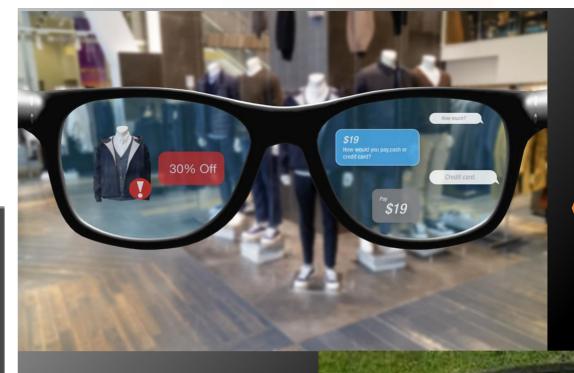
degrees.

It can also be replaced with

the lenses you are

accustomed to.





The Al fitness coach is guiding the golf movements.

Shot

The Al can recognize all kinds of things and provide their market prices.



It offers real-time dialogue translation.
When the other person speaks English, you will see the Chinese translation, just like watching movie subtitles.

Emerging Applications and Future Prospects

- SparkAl has always adhered to the concept of driving industry transformation through technological innovation.
 While consolidating the construction of the distributed Al supercomputing platform, it is actively laying out the
 establishment of a blockchain MaaS (Model as a Service) platform. As a key support for building a trust system,
 blockchain technology, with its characteristics of decentralization, immutability, and high security and reliability,
 builds a solid security line for the storage and transmission of data throughout its entire life cycle, significantly
 enhancing the security and credibility of data.
- At the same time, the platform has introduced the POY digital currency as a key link for value circulation. At the usage level, users can obtain the right to use various AI models on the platform by paying with POY digital currency. The payment process is simple, efficient, and secure, greatly improving the convenience and flexibility of model usage. In terms of the profit-sharing mechanism, when an AI model generates commercial value in practical applications, the blockchain-based smart contract will automatically distribute profits to model developers, data providers, and the platform operator in the form of POY digital currency according to the preset rules. For example, different industry entities such as financial institutions, medical enterprises, and manufacturing giants can all share their desensitized business data in a safe and compliant manner on the SparkAI blockchain MaaS platform, and jointly create AI models with stronger universality and better generalization ability. In this process, data providers will receive corresponding economic returns in the form of POY digital currency based on the usage frequency and value contribution of the data; model developers can also gain substantial profit-sharing benefits due to the wide application of their models, which motivates them to continue innovating.

AIエージェント	_	LLM(大規模言語モデル)		RAG開発	
ChatGPT導入支援		生成AI		AI開発/PoC	
画像認識		画像生成		音声生成	
デジタルヒューマン		外観検査	_	エッジAl	
データ分析		需要予測・分析		予知保全	
レコメンド		アノテーションサービス		アノテーションツール	
学習用データセット/データ収集		人材研修		異常検知	
最適化		チャットボット		文字認識(OCR)	
音声認識		マーケティング		自然言語処理	\
法務・知財		各種AIツール		プラットフォーム	



Explanation of the Term

MaaS (Model as a Service): That is, "Model as a Service". This is a method of deploying machine earning models to the enterprise side and providing them to users for use in the form of APIs GaaS, or open-source software, enabling users to obtain the required services by calling the models. In this way, developers and business personnel do not need to understand the complex algorithms and implementation details inside the models. They can simply call the models, which helps enterprises achieve efficient and intelligent data analysis and decision-making and reduces the threshold for model deployment.

Al-Maas Marketplace on Blockchain

- In the upcoming SparkAl-MaaS platform ecosystem, blockchain technology will play the role of a core engine. In terms of copyright protection, the unique timestamp and encryption technology of blockchain can accurately record every link of an Al model from its creation to iteration, forming an immutable copyright chain, making the copyright ownership of the Al model clearer and more transparent, fundamentally eliminating infringement behaviors, and safeguarding the intellectual property rights of Al developers.
- Based on the distributed ledger technology of blockchain, it realizes the efficient sharing and value exchange of data in a secure and trustworthy environment, breaks down the barriers to data circulation, and injects a continuous stream of rich data resources into the training and optimization of Al models. This innovative model not only breaks down industry data silos but also reshapes the Al industry ecosystem, stimulates the vitality of cross-disciplinary collaborative innovation, and propels Al technology to a higher stage of development.
- With the steady advancement and deep integration of the SparkAl distributed Al supercomputing platform and the blockchain MaaS platform, it is expected that by the end of 2025, innovative applications based on the SparkAl distributed supercomputing architecture will experience explosive growth, surpassing the threshold of 7,000, and fully penetrate into key areas of the national economy such as intelligent logistics, smart home, financial risk control, medical imaging diagnosis, and industrial manufacturing. These applications will, with powerful technological empowerment, be deeply integrated into the production and operation processes of various industries, drive the rapid development of the global digital economy, inject surging impetus into the innovative transformation of various industries, help enterprises reduce costs and increase efficiency, improve quality and upgrade, and jointly create a new paradigm of future business featuring intelligence, high efficiency, collaboration, and win-win results.

Economic Model

SparkAl Token Ecological Economic Model

Total quantity and issuance mechanism

Token Issuance: The total issuance of the Spark contract is 190 million tokens, and the issuance amount will be halved year by year. In the first year, 260,000 tokens will be produced per day, and eventually, the number of tokens in circulation will deflate to 1.9 million tokens. 70% of the produced tokens will be allocated to cloud mining machines, and 30% will be used as rewards for node evangelism. This can effectively control inflation. As time goes by, the tokens will become increasingly scarce, and ultimately (deflating to 1% of the original amount).

Destruction mechanism

Token Burning Mechanism: There is a multi-scenario token burning mechanism. The daily peak value of static and dynamic computing power is set at 50 million. When the contribution value fails to meet the standard, part of the tokens will be sent to a black hole for burning. Tokens will be burned during transactions (burning upon trading), and there will also be burning for the secondary rights and interests quota. Tokens are also burned in ecological applications and community governance. This helps to stabilize and increase the value of the tokens and safeguard the foundation of their value.

Diversified income model

- Static Income: Cloud mining machine investors can obtain income according to the rules based on the investment amount, with a clear expectation of getting the principal back, which reduces investors' concerns.
- Dynamic Income: Through referral relationships, users can receive direct and indirect referral rewards. There is a 100% distribution with infinite compression, which motivates users to expand the market and increase the scale of the community.
- Community Income: Depending on the node level and the computing power of the smaller area, users can receive evangelism rewards and node management awards, promoting the construction and maintenance of the community ecosystem.
- Trading Income: SparkAl charges a 15% handling fee for transactions. The fee is distributed proportionally into different pools and rewarded to community nodes, which helps to drive up the price of the cryptocurrency.

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POY Incentive Token Minting Economic Model

Basic information

POY is a derivative token of SparkAl. The total issuance of POY is 100 million tokens, and the only way to obtain it is by subscribing to cloud mining machines. This restrictive method increases its scarcity.

Acquisition and allocation rules

Subscribing to cloud mining machines can bring about incentives. 30% of the incentive amount is used to mint POY tokens which are then given to players, while 70% of it goes into the POY base pool to boost the token price. This issuance model helps to drive up the price of the tokens in a steady manner.

Rising logic

The part of the slippage generated from selling POY enters the base pool and the community for 100% redistribution. Whether it is token minting or selling, it can contribute to the increase in the token price, forming a "double helix perpetual motion machine" model, which gives token holders a continuous expectation of value appreciation.

Dual-token money-making effect

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For investors

Static investment in cloud mining machines can bring stable returns. Coupled with the increase in the token price, substantial profits can be obtained after the principal is recovered. Dynamic promotion enables users to receive referral rewards, and expanding the market can increase the income.

For node users

By managing the community and increasing the computing power, additional rewards can be obtained. There are multiple income channels that guarantee opportunities to make money.

About Us

SD Foundation



- In the digital era, there has been an explosive growth in the amount of data, and fields such as artificial intelligence and big data analysis have been developing at a rapid pace. As a result, the demand for computing power has skyrocketed. However, the existing computing facilities are lagging behind in technology, and the global growth of computing power is slow. Although traditional supercomputing centers possess powerful computing capabilities, they have numerous drawbacks and it is difficult for them to meet the diverse needs of different regions. Based on this situation, the SD (Super Distributed Computing Power Foundation) came into being, dedicated to solving the global computing power problem through innovative means.
- Since its establishment, the SD Foundation has received the support of top global institutions and investors. As a global non-profit organization committed to promoting the development of distributed supercomputing technology, the foundation has obtained financial and resource support from major investors around the world through multi-party cooperation and strategic investments. These investors include world-renowned foundations, investment institutions, technology giants, and academic institutions such as the Rockefeller Foundation, the Blackstone Group, Google, Meta (formerly Facebook), and others.













BlackRock

OFFICE OF THE SECRETARY OF STATE OF THE STATE OF COLORADO

CERTIFICATE OF DOCUMENT FILED

I, Jena Griswold , as the Secretary of State of the State of Colorado, hereby certify that, according to the records of this office, the attached document is a true and complete copy of the

Articles of Incorporation

with Document # 20251159061 of SUPER DISTRIBUTED COMPUTING POWER FOUNDATION

Colorado Nonprofit Corporation

(Entity ID # 20251159061)

consisting of 2 pages.

This certificate reflects facts established or disclosed by documents delivered to this office on paper through 02/06/2025 that have been posted, and by documents delivered to this office electronically through 02/07/2025@ 18:56:29.

I have affixed hereto the Great Seal of the State of Colorado and duly generated, executed, and issued this official certificate at Denver, Colorado on 02/07/2025 @ 18:56:29 in accordance with applicable law. This certificate is assigned Confirmation Number 16980134



na Muswall Secretary of State of the State of Colorado

Notice: A certificate issued electronically from the Colorado Secretary of State's website is fully and immediately valid and effective, However, as an option, the issuance and validity of a certificate obtained electronically may be established by visiting the Validate a Certificate page of the Secretary of State's website, https://www.coloradosos.gov/biz/CertificateSearchCriteria.do entering the certificate's confirmation number displayed on the certificate, and following the instructions displayed. Confirming the issuance of a certificate is merely optional and is not necessary to the valid and effective issuance of a certificate. For more information, visit our website, https://www.coloradosos.gov dick "Businesses, trademarks, trade names" and select "Frequently Asked Questions."

About Us

Our Team

About Us Organizational Structure



Theoretically feasible NTT Research Cryptography and Information Security (CIS) Lab SD Foundation Launching platform SparkAl Special Research Team Technical realization (Cryptography Geek League) SparkAl blockchain underlying technology SparkAl Distributed Supercomputing Network Ecosystem **Computing power** revolution Supercomputing Product matrix DAO System ecology public chain

The technical team of SparkAl is an elite force that integrates global wisdom. Team members come from all over the world. There are senior experts who have delved into artificial intelligence algorithms in Silicon Valley for many years, scholars who have focused on blockchain technology research in leading European scientific research institutions, and numerous technical backbones who have led large-scale projects in major Asian Internet companies. They are united by the spirit of geekdom.



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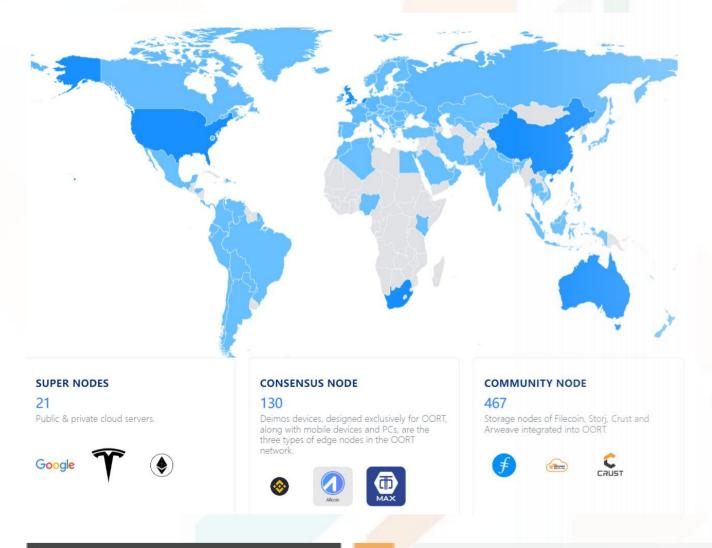
Dr. Brent is an American computer scientist, a professor of computer science at the University of Texas at Austin, and a leading figure in the fields of cryptography and computer security. In 2005 and 2011, Dr. Brent, together with Amit Sahai, a professor of computer science at the University of California, Los Angeles and the director of the Center for Encryptographic Functionalities, first proposed the concepts of attribute-based encryption and functional encryption. In July 2019, Dr. Brent joined the CIS laboratory of NTT Research, and in June 2022, he assumed the position of director of the CIS laboratory. The research fields of Professor Dr. Brent mainly focus on cryptography, in which he has profound attainments, abundant research achievements, remarkable accomplishments and extensive influence.

"Quantum hegemony" and "encryption hegemony" are likely to arrive before 2030. There is not much time left for countries around the world to develop post-quantum era encryption algorithms. As a global innovator, the Cryptography and Information Security (CIS) laboratory of NTT Research has always been at the forefront of the development of the cybersecurity industry. Dr. Brent leads the team to pioneer the proposal of attribute-based encryption-based quantum-resistant encryption technology (ABE), and has demonstrated the first anti-collusion, post-quantum, decentralized, multi-authority (MA-ABE) solution, and is committed to the commercialization of this technology

Future

Building a global computing power sharing ecosystem

The vision of SparkAI is to build a globally shared computing power ecosystem, enabling everyone to receive rewards by contributing computing power. It integrates and optimizes global computing resources through a decentralized network architecture, providing efficient and low-cost computing power services for various industries. Through measures such as openness and inclusiveness, global participation, intelligent scheduling and optimization, it aims to become a globally leading decentralized computing platform.



Al-Maas Marketplace on

Blockchain

Connect the idle computing power resources around the world through various global nodes to form a platform. Various Al applications are built on this platform. As long as users participate, they can "freely" use these resources through POY tokens. The builders and creators of the AI applications can also "benefit" from this.



