

Trend Analysis of Artificial Intelligence in the Future -Application Practices and Prospects of large language model in China's Artificial Intelligence Industry



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APRIL 2025



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I .Analysis of the Development Trends of AI Large Language Model

(i)Analysis and Judgment on the Development Trend of Large Language Model in the Global Artificial Intelligence Industry

Currently, the global artificial intelligence industry's large language model development is showing significant trends in multiple dimensions. Technically, multimodal integration is continuously deepening, evolving from early single-modal models to multi-modal large language model that integrate text, images, sounds, and other forms. In the future, more in-depth modal information integration and free interaction will be achieved. Relying on cutting-edge technologies such as reinforcement learning, the model's reasoning ability is gradually improving. Through hardware innovation and algorithmic innovation, training costs are reduced and efficiency is significantly enhanced, effectively promoting the popularization of large language model. Model miniaturization and edge deployment are becoming trends. Combined with edge computing and device intelligence, edge large language model and cloud models collaborate to form an edge-cloud integration architecture, playing a crucial role in areas such as intelligent driving. Additionally, the ability to handle long text context is constantly strengthening, capable of processing longer content and accurately grasping semantic logic, expanding the application space of large language model in fields such as knowledge management. At the same time, the application of intelligent agents is gradually emerging and is gradually becoming a key direction for future development.

At the level of industrial ecology, top enterprises lead the development of general models with advantages in technology, resources, etc., expanding diversified businesses by building ecosystems, while small and medium-sized enterprises seek breakthroughs in segmented tracks through innovation. The two jointly promote the vigorous development of the industry through competition and cooperation. The cooperation between industry, academia and research continues to deepen, with universities and research institutions providing theoretical and technical support, and enterprises responsible for the transformation of achievements, accelerating the process of technology marketization. At the same time, the upstream and downstream cooperation of the industrial chain is becoming increasingly close. The expansion of data center scale, the improvement of computing power, the open governance of data, and the development of algorithm open source platforms and development tools have lowered the threshold for large language model development, and all links are working together to enhance the overall competitiveness of the industry. In terms of the market, large language model technology promotes cross-border integration of industries, giving rise to new market entities and business models, and further enriching the market structure of the industrial ecosystem. At the same time, the large language model industry is also facing challenges such as rising energy consumption costs, data security and privacy, and model interpretability. In the future, it needs to be addressed through technological innovation, improving regulations and ethical norms, in order to achieve high-quality and sustainable development.

(ii)Analysis and Judgment on the Development Trend of Large Language Model in the Global Artificial Intelligence Industry

Foreign countries have achieved resource sharing and complementary advantages through multidimensional policy layouts such as massive investment, strict safety regulatory norms and technology cooperation policies, are fully committed to promoting the development of AI large language model. To achieve the vigorous development of AI large language model, foreign countries have actively laid out and introduced a large number of policies in multiple key dimensions. In terms of financial support, invest huge amounts of money to assist in model research and development and improve computing power. In terms of safety supervision, strict regulations should be established to ensure the safe and reliable application of technology. In the field of technological cooperation, we will promote all parties to work together to achieve resource sharing and complementary advantages, comprehensively promote the advancement of the AI large language model industry.

Table I Summary of a series of policies on the introduction of foreign artificial intelligence models

dimension	country	specific content
Safety supervision policy	America	On October 30, 2024, US President Biden signed an executive order to use the emergency powers of the Defense Production Act to cover various aspects of artificial intelligence technology.
		California, USA: The SB-1047 Act (Frontier Artificial Intelligence Model Security Innovation Act) proposed in February 2024 attempts to establish security standards for high-risk AI models. If the model causes multiple deaths or losses of over \$500 million, developers will be held accountable.
	Europe	On August 1, 2024, the European Artificial Intelligence Act (AI ACT) officially came into effect, classifying and managing AI systems, and implementing strict compliance requirements for high-risk AI systems before they are put on the market or put into use, including risk management, transparency, data quality, record keeping, and other aspects.
Gold and Resource Support Policy	Europe	On February 11, 2025, the European Union announced the launch of a € 20 billion Invest AI fund, which is partially funded by existing EU funding projects such as the Digital Europe program, Horizon Europe program, and Invest EU. Its goal is to leverage up to 200 billion euros in investment (possibly from EU governments and private sectors, and the European Investment Bank may also participate), aimed at providing computing power for training the largest and most complex AI models, ensuring that all enterprises can obtain the required computing power.
Technical Cooperation Policy	America	On August 29, 2024, OpenAI and Anthropic reached an agreement with the American Institute of Artificial Intelligence Security (affiliated to the American National Institute of Standards and Technology), agreeing that the U.S. government would obtain its new model for security testing.

Several countries around the world have issued temporary guidelines to standardize the use of generative AI in government agencies, emphasizing risk assessment and compliance. They have actively invested in research and development, introduced experts, and trained civil servants to enhance their AI application capabilities. Large scale model technology has been widely implemented in various fields such as government affairs to support development. On a global scale, many countries have taken action against the application of generative AI in government agencies, issuing temporary guidelines that focus on regulating usage behavior and placing risk assessment and compliance in an important position. Due to the potential privacy and data security risks associated with AI technology, countries remain highly vigilant and explicitly require a comprehensive security assessment before using generative AI. In order to enhance their AI application capabilities, many governments are actively investing in AI technology research and development, providing financial support for technological innovation, actively introducing AI experts to provide intellectual support for development. At the same time, they are conducting AI related training for civil servants to improve their level of technology application. At present, large language model technology has been widely implemented in many fields such as government consultation, intelligent customer service, judicial assistance, education, and healthcare, injecting new vitality into the development of various fields and promoting the improvement of work efficiency and service quality.

Table II Summary of Policy Support and Strategic Planning for Major Models in Various Countries

country	policy&strategy category	specific content
America	Administrative Orders and Guidelines	In October 2023, Biden signed the Executive Order on Secure, Reliable, and Trustworthy AI, proposing guidelines for institutions to use AI, improving AI procurement and deployment, accelerating the recruitment of AI professionals.
	Local government policies	Seattle, USA, is the first city to release the world's first temporary policy for generative AI applicable to the public sector, regulating the use of AIGC technology by government agencies.
	National Defense and Aerospace	The US Department of Defense will include generative AI technology on its annual technology watchlist to explore its applications in intelligence, operational planning, and administrative operations.
Britain	Central and local government regulations	The UK government has released guidelines for the use of generative AI, regulating the internal usage behavior of government agencies, clarifying software procurement, security testing, and prohibited usage scenarios.
	Civil servant training	The UK Cabinet Office plans to borrow data and AI experts from the private sector, while forming a team of civil servants to address the shortage of technical skills.

Canada	Federal Agency Guidelines	Canada has released guidelines for federal agencies to use generative AI, clarifying the risks that excessive reliance on AI may bring, such as interfering with administrative judgments and affecting procedural fairness.
Australia	Central and local government regulations	The Australian government has released guidelines for the use of generative AI, regulating the usage behavior of government agencies and clarifying software procurement and security testing requirements.
	Technology Application Summit	Hold a government generated AI summit and invite experts from all walks of life to explore the application of new technologies in government agencies.
Japan	Government investment and promotion	The Japan Digital Agency plans to invest approximately \$2.35 million annually to promote AI technologies such as ChatGPT, while introducing supercomputers to support the development of AI large language model.
	Local government applications	The Tokyo Metropolitan Government of Japan requires the use of ChatGPT through Azure OpenAI services and conducts effectiveness verification and risk assessment.
Singapore	Technology Application and Training	The Singapore Government Technology Agency has introduced AI technology into government aid application websites and provided AI skills training for civil servants.
Republic of Korea	Data openness and application	The South Korean government has opened up 1.5 billion pieces of data covering multiple fields for AI training.
New Zealand	Local government regulations	The local government of New Zealand has released guidelines for the use of generative AI to regulate the usage behavior of government agencies.

(i i i) Summary of Domestic Artificial Intelligence Large Language Model Policies

China has established a comprehensive policy network from national to local levels, covering key areas such as strategic planning, technical standards, ethical governance, and scenario innovation, to support the development of AI large language model at all levels. In terms of policy formulation to support the development of AI large language model, China has established a comprehensive and three-dimensional network that extends from national top-level design to local specific implementation. Its coverage is extremely broad, including macro guidance for strategic planning, fine definition of technical specifications, strict control of ethical governance, and active exploration of scenario innovation in multiple key areas. At the national level, through forward-looking strategic planning, clarify the important position of AI large language model in the national scientific and technological development blueprint, and guide resources to tilt towards key technology research and development, basic platform construction, and other aspects. In the field of technical specifications, detailed and strict standards are established to standardize the model development process, data usage guidelines, etc., ensuring the orderliness and security of technological development. At the level of ethical governance, starting from multiple dimensions such as morality and law, we will construct an ethical framework for the application of AI large language model, prevent technological abuse, safeguard public rights and interests. In terms of scenario innovation, we actively encourage various industries to explore the application possibilities of AI large language model, explore potential application scenarios, and promote the deep integration of technology and actual business.

Table III Summary of Policy Support for China National large language model

dimension	specific content
Strategic planning and objectives	In July 2017, the State Council issued the Development Plan for the New Generation of Artificial Intelligence, which defined the three-step strategic goal of China artificial intelligence development: by 2025, the basic theory of artificial intelligence will achieve a major breakthrough, the scale of core industries will exceed 400 billion yuan, and the scale of related industries will exceed 5 trillion yuan.
	In 2023, the government work report clearly stated that it will further increase investment in the field of artificial intelligence and promote breakthroughs in cutting-edge technologies such as integrated circuits and quantum technology.
Technical and Application Specifications	In July 2023, seven departments including the National Internet Information Office jointly issued the Interim Measures for the Management of Generative AI Services, aiming to promote the healthy development and standardized application of generative AI, and encourage its innovative applications in various industries and fields.
	In August 2022, the Ministry of Science and Technology and six other departments issued the "Guiding Opinions on Accelerating Scene Innovation and Promoting High quality Economic Development through High level Application of Artificial Intelligence", proposing to create major application scenarios around high-end and efficient intelligent economy, safe and convenient intelligent society, high-level scientific research activities, etc.

Ethics and Safety Supervision	In June 2019, the State Council issued the "Principles for the Governance of New Generation Artificial Intelligence- Developing Responsible Artificial Intelligence", emphasizing the principles of harmony, friendliness, fairness, respect for privacy, security and controllability, to ensure the safety, reliability and sustainable development of artificial intelligence technology.
	In December 2021, the National Cyberspace Office issued the Administrative Provisions on Algorithm Recommendation of Internet Information Services to standardize algorithm recommendation activities and protect users' rights and interests.
Standards and Intellectual Property System	In July 2020, the State Council issued the "Guidelines for the Construction of National New Generation Artificial Intelligence Standard System", proposing to establish a preliminary artificial intelligence standard system by 2023, covering basic common standards, key technical standards, industry application standards, etc.
	The policy emphasizes strengthening intellectual property protection in the field of artificial intelligence and encourages enterprises to participate in international standard setting.

Table IV Summary of Policy Support for large-scale models at the Local Level in China

dimension	specific content
Representing provincial and municipal development plans	Shanghai plans to surpass 450 billion yuan in the scale of the artificial intelligence industry by the end of 2025.
	Beijing and Guangdong are expected to surpass an industrial scale of 300 billion yuan by 2025.
	Hubei is expected to achieve an artificial intelligence industry scale of 150 billion yuan by 2025.
Application scenarios and innovation	Many local governments encourage in-depth exploration of artificial intelligence technology application scenarios in key industries such as manufacturing, agriculture, logistics, finance, commerce, and home furnishings, promoting the high-end and efficient development of the intelligent economy.
	Beijing has released the "Action Plan for Promoting 'Artificial Intelligence+' (2024-2025)", which plans to form 3-5 advanced, usable, and independently controllable basic large language model products by the end of 2025.
Talent and Ecological Construction	Policies support universities and enterprises to cultivate artificial intelligence talents, and encourage specialized, innovative, and innovative "little giants" to carry out scene innovation.

Talent and Ecological Construction	Various regions assist enterprises in achieving breakthroughs in scenario innovation by compiling recommended catalogs of scenario innovation achievements.
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II.Insight into the Comprehensive Development of the Large Language Model Market Environment

(i)Market size and growth trend of the Large Language Model industry

In recent years, the artificial intelligence large language model industry has developed rapidly. Global technological breakthroughs and application expansion have attracted a large amount of capital and talent, giving rise to diverse business models and application scenarios. The domestic market is experiencing explosive growth, and it is expected that the scale will exceed 70 billion yuan by 2026. The continuous iteration and innovation of large language model technology, from simply increasing the number of model parameters in the early days to now focusing on improving multimodal integration capabilities, developing self supervised learning, optimizing interpretability and fairness, and improving deployment strategies, proves that technological progress is one of the core driving forces for market growth. With the acceleration of digital transformation and strong market demand, the development of large-scale models is being vigorously promoted. Various industries urgently need intelligent solutions, and large-scale models are widely applied in fields such as finance, healthcare and industry. The diverse and deepening demands have prompted enterprises to increase investment, drive the development of the entire industry chain, expand the market scale. At the same time, price strategy adjustments actively promote the growth of the large language model market size. In order to seize market share, enterprises have lowered product prices and significantly lowered the threshold for use, allowing small and medium-sized enterprises and individual developers to participate, expand user groups, explore application scenarios, and drive market size growth.

The market for large language model applications is developing rapidly, with over 60% of users in the consumer market already using generative AI. The upgrade of smart hardware through large language model functions is stimulating users' purchasing desire. In the enterprise market, companies such as Baidu, Alibaba Cloud, SenseTime, and Inspur Cloud hold a leading position in the large language model application market, relying on customized solutions to help enterprises improve quality and efficiency, promote market expansion. The contribution of industry segmentation fields to the growth of the large language model market size varies. The industry large language model, due to its ability to accurately meet specific industry needs and its continuously increasing scale, has been widely applied in multiple fields, providing strong support for the growth of its market size.

(ii)Research Status and Progress of Large Language Model Technology

In recent years, the artificial intelligence large language model industry has made many breakthroughs in technology, which not only reshapes the industry landscape, but also provides strong impetus for the expansion of applications in various fields.

The continuous breakthroughs in large language model technology have injected strong impetus into the development of the industry. From improving model performance to optimizing training costs, from expanding application modes to innovating deployment methods, each breakthrough has laid the foundation for the in-depth application of large language model in more fields.

Since Google proposed the Transformer architecture in 2017, which laid the foundation for mainstream algorithms in the field of large language model, large language model technology has embarked on a rapid development process. In 2018, OpenAI released GPT-1 and Google launched BERT, making pre trained large language model the mainstream method for natural language processing. Since then, the capabilities of large language model have continued to iterate and upgrade. By 2024, the global large language model will show an explosive development trend, with technological breakthroughs expanding in multiple directions.

In terms of modal expansion, most of the previous large language model focused on single modal processing, such as text or image. Nowadays, the rise of multimodal technology is a significant breakthrough, and large language model are developing towards integrating various forms of information such as text, images, speech, and video, demonstrating enormous value in practical applications.

Early large language model performed poorly in handling complex logical reasoning tasks, but now the situation has significantly improved, and the improvement of reasoning ability is also a key breakthrough point. The o1 Pro View model released by OpenAI has significantly improved complex inference capabilities. The new generation of inference models, such as o1 Pro and o3, launched at the end of the year, further promote the development of general artificial intelligence in large language model, which can better solve complex tasks that require deep reasoning in scientific research, mathematical computing, programming, and other fields.

In terms of model deployment, traditional large language model deployment relies on powerful cloud computing power, which has limitations in some scenarios that require high real-time and low latency requirements. By deploying lightweight model versions on edge devices and relying on the local data processing capabilities of edge computing, large language model can achieve real-time data processing and rapid response. The combination of edge computing and large language model has become a new trend. At the same time, training large language model requires massive computing power and data, high costs were once a major obstacle to industry development. Currently, significant progress has been made in optimizing model training efficiency and cost. In addition, some enterprises and research institutions are exploring more efficient training algorithms, such as incremental pre training based industry model training technology, multi-source heterogeneous industry knowledge retrieval and other key technologies. By optimizing algorithm architecture and training processes, training time and resource consumption can be reduced, enabling more enterprises and research teams to participate in the development of large language model.

(i i i) Development of Ecological Construction in the Large Language Model Industry

At present, the industrial ecology of the artificial intelligence large language model industry is in a process of vigorous development and deep transformation, with closely intertwined links, jointly promoting the industry to move forward.

The improvement of industrial ecology cannot be separated from the strong support of infrastructure. In recent years, China has vigorously promoted the construction of computing infrastructure, and the "East Data West Computing" project has been carried out in an orderly manner. The scale of data centers continues to expand, and the level of computing power continues to improve. At the same time, enterprises and research institutions are exploring efficient computing solutions, governments and enterprises are working together to improve data quality, open source platforms and tools are lowering development barriers, and accelerating the development process of large-scale models.

From the perspective of market entities, there are diverse types of enterprises participating in the large language model industry. Taking China as an example, there are Internet technology giants such as Baidu, Alibaba, Tencent, ByteDance, etc., which, by virtue of their advantages in capital, technology, data and talent, play a leading role in the research, development and application of general large-scale models, actively build their own large language model ecosystem, and widely apply large language model technology to their diversified business segments. At the same time, there are also many AI start-ups focusing on subdivision areas, giving play to technological innovation and flexibility to create differentiated industrial large language model products and services. At the same time, traditional industry enterprises are also accelerating the adoption of large language model technology, hoping to enhance their competitiveness through digital and intelligent transformation. Different types of enterprises compete and cooperate with each other in the industrial ecosystem, promoting the sustained prosperity of the industrial ecosystem.

Industry university research cooperation plays a key role in the ecosystem of the large language model industry. Universities and research institutions are important forces in basic research and cutting-edge technological innovation, providing profound theoretical support and forward-looking technological exploration for the development of large language model technology. As the main body of technology application and market promotion, enterprises can quickly transform the research achievements of universities and research institutions into practical products or services, meeting market demand. Through collaborative innovation between industry, academia, and research, knowledge flow and technology transfer have been promoted, accelerating the process of large language model technology moving from the laboratory to the market, enhancing the innovation vitality and competitiveness of the entire industrial ecosystem.

(iv)The current situation of the implementation of Large Language Model industry applications

Nowadays, the application and landing of artificial intelligence large language model in various industries are showing a booming and multi-point flowering trend, widely used in fields such as healthcare, industrial manufacturing, energy, film and television production, terminal applications, and government affairs. The achievements are significant and the potential for further development is huge, becoming a key force in promoting industrial transformation and upgrading. Overall, the number of domestically produced large language model in China has exceeded 200, covering a wide range of industries and continuously expanding their application scenarios.

III .Analysis of Trends and Progress in the Field of Large Language Model

(i)Focus on the development trend of Large Language Model technology

Since the rise of large language model technology, it has always been on a rapidly evolving track. Currently, multimodal fusion has become mainstream, inference ability has been improved, training costs have been reduced, efficiency has been improved, model miniaturization has been deployed on the end side, and long context processing capability has been enhanced, which is becoming the development trend of large language model technology. It is continuously reshaping the pattern of the artificial intelligence field and bringing new opportunities for transformation to various industries.

Multimodal fusion is becoming the core development trend of large language model technology, from the early single mode to the current multi-modal large language model that fuses text, image and other forms. In the future, it will deeply integrate modal information and achieve free interaction. Early models had weak ability to handle complex reasoning tasks, so improving reasoning ability is the key to breakthroughs in large language model technology. Through reinforcement learning and other technologies, the reasoning ability of large language model will continue to improve in the future, playing a greater role in high demand fields such as finance and law. The high computing power and data consumption cost of large language model training have hindered the development of the industry. With the help of hardware innovation and algorithm innovation, training efficiency has been significantly improved and cost optimization has been achieved. Subsequent training will move towards low cost and high efficiency, helping to promote the popularization of large language model technology and the development of innovation ecology. Edge computing and device intelligence promote model miniaturization and end side deployment as a trend. The end side large language model cooperates with the cloud to form an end cloud fusion architecture, which plays a key role in intelligent driving and other fields. In the future, the ability to handle long context will be stronger, capable of handling longer content, accurately grasping semantic logic, expanding the application space of large language model, and exerting greater value in fields such as knowledge management.

(i i)The dynamic evolution of the ecosystem of the Large Language Model industry

The ecosystem of the large language model industry is undergoing continuous and profound changes, with significant evolutionary trends that profoundly affect the development direction of the artificial intelligence field and various industries, presenting a series of distinct and significant development trends.

Leading enterprises and medium-sized enterprises coexist in innovation, cross-border integration has given rise to new market entities and business models. In the large language model industry ecosystem, the market presents a situation of leading by the top and innovation by small and medium-sized enterprises. In the future, domestic giants will dominate the general large language model with multiple advantages, consolidate their advantages through economies of scale and technological strength, build an ecosystem for diversified businesses, at the same time, small and medium-sized enterprises will seek breakthroughs in segmented tracks through innovation, integrating competition and cooperation, demonstrating the coexistence of leading enterprises and innovation of small and medium-sized enterprises, promoting industrial prosperity. The trend of promoting cross-border integration of industries through large language model technology will become increasingly strong, giving rise to new market entities and business models, bringing more diversified market entities and innovative business models, further enriching the market structure of the large language model industry ecosystem.

Industry university research cooperation accelerates the transformation of technological achievements, upstream and downstream cooperation in the industrial chain builds a complete ecosystem. Universities and research institutions provide theoretical and technical support, while enterprises are responsible for the transformation of achievements. Through various collaborative methods, all parties accelerate the marketization of technology. Industry university research cooperation will continue to deepen and become closer in the large language model industry ecosystem, helping to overcome difficulties, cultivate talents, promote industrial innovation. The continuous expansion of data centers, the continuous improvement of computing power, the open governance of data, the development of algorithm open source platforms and development tools have lowered the threshold for large language model development. The collaboration between upstream and downstream of the industrial chain will become increasingly close, and each link will develop and deepen cooperation to enhance the overall competitiveness of the industry.

(i i i) Innovation and Practice of the UniAI

China Unicom, with its profound technological accumulation and keen insight into industry trends, has launched the UniAI and continues to make efforts in the research and upgrading of large language model technology. At the same time, it has formed benchmark applications in multiple industries, helping thousands of industries achieve intelligent upgrading.

The UniAI relies on excellent multimodal fusion technology and industry customization advantages to achieve deep embedding and efficient empowerment in many fields such as network, customer service, anti fraud, industrial manufacturing, ports, government affairs, emergency prevention and control. the UniAI with its strong intelligent efficiency, effectively promotes the significant improvement of work efficiency and service quality in various industries, laying a solid foundation for the deep integration of digital economy and real economy, providing solid and powerful support.

In the field of network and communication, the UniAI has demonstrated excellent performance. The efficiency of wireless network quality analysis has increased by 80%, the efficiency of troubleshooting work orders has increased by 20%, and the training efficiency of smart home engineers has also achieved a 33% increase. With the optimization of network management processes and the improvement of intelligence, the UniAI significantly improves the efficiency of network operation and maintenance in all aspects, ensuring that the quality of network operation and maintenance reaches new heights, providing solid support for the efficient and stable operation of the network and communication fields.

In the field of customer service, China Unicom has achieved remarkable results after introducing the UniAI. With the help of intelligent speech recognition and natural language processing technology, the UniAI can quickly understand customer needs and accurately match solutions. This measure has successfully shortened the average call duration by 28 seconds and increased the customer's first problem resolution rate by 1.6 percentage points, greatly improving customer satisfaction and creating a more high-quality and efficient customer service experience for China Unicom.

In the field of anti fraud and security, the UniAI has demonstrated strong capabilities. It relies on multimodal data fusion technology and deep learning algorithms to accurately identify and warn of various fraudulent activities, effectively safeguarding the safety of users' property. The UniAI can accurately label and identify up to 100 types of risky websites, with a success rate of up to 83% in face swapping recognition, providing solid and reliable technical support for anti fraud work.

In the field of industrial manufacturing, the application of the UniAI has shown diverse and significant results. For the clothing industry, the UniAI has excellent performance and can quickly generate design drawings in just 3 seconds, greatly improving the efficiency of designers and injecting strong power into clothing creative design. In the field of home appliance manufacturing, the UniAI Home Appliance Manufacturing large language model utilizes multi-modal large language model production compliance video detection technology to assist manual quality inspection processes, effectively reducing the installation defect rate and promoting a 50% improvement in product quality, effectively promoting the quality upgrade of the home appliance manufacturing industry. In the port industry, in the actual scenario of Nanjing Port, the UniAI deeply integrates 5G and AI technologies to build an intelligent safety production control platform. The platform comprehensively covers 14 production operations and has successfully developed 41 AI algorithms, achieving core functions such as personnel safety behavior recognition and port safety environment monitoring. The implementation of these functions has significantly improved the safety and efficiency of port operations, resulting in a sharp drop of nearly 90% in the incidence of violations, laying a solid foundation for intelligent port operations and leading various industries in the industrial manufacturing sector towards a new journey of efficient and intelligent development.

In the field of government affairs, the UniAI government hotline model has achieved excellent results. With the advanced functions of intelligent filling and dispatching provided by the UniAI, the processing flow of the government hotline has been optimized and upgraded. The time for filling out work orders has been significantly reduced, by 80% compared to the past. The completeness of work order records has been significantly improved, with a growth rate of 30%, and the accuracy of content recommendations has increased by 35%. These data fully demonstrate the powerful assistance of the UniAI in improving the efficiency and quality of government services, injecting new vitality into the efficient development of government hotline work.

In the field of emergency prevention and control, the UniAI relies on advanced AI intelligent identification technology to build a set of efficient emergency response system, and successfully realizes key functions such as fire alarm, rainstorm early warning, traffic accident disposal, etc. Taking a fire scene as an example, once signs of a fire are detected, the UniAI quickly activates the alarm mechanism. At the same time, with its accurate recognition ability, it effectively shields misjudged heat sources, greatly improving the efficiency of emergency response. It provides valuable time for timely firefighting and rescue operations and plays a crucial role in ensuring the safety of people's lives and property.

At the same time, by fully integrating with DeepSeek, China Unicom has demonstrated its firm determination and strong strength in promoting digital transformation and intelligent upgrading in various industries, deeply integrating applications in multiple fields. By partnering with the Second Affiliated Hospital of Shandong First Medical University and adopting full stack privatization deployment, the 32B parameter DeepSeek-R1 large language model is integrated into the hospital local system, ensuring that medical data does not leak out with the "one city, one pool" computing power of China Unicom Cloud. By utilizing the DeepSeek, China Unicom has improved its understanding of user intent, optimized dialogue effects, and assisted work in areas such as intelligent cockpit, digital operation, and urban traffic management, promoting business upgrades. In terms of expanding office scenarios, China Unicom Cloud Drive has integrated the full blooded version of DeepSeek-R1 open source large language model. Through private cluster deployment, it actively explores the integration of DeepSeek into office process optimization, solves the problem of access congestion, and is expected to bring new intelligent experiences to enterprise office work, improve office collaboration efficiency and quality.

Currently, the UniAI has passed the dual filing of the Cyberspace Administration of China and obtained the highest level certification for large language model security evaluation from the China Software Evaluation Center. It has also completed the localization adaptation of Ascend and reached the industry's top level in model security, data privacy protection, and other aspects. At the same time, the UniAI 2.0 innovates and practices in the field of AI security, leading the release of AI endogenous security industry white papers, open-source security testing datasets covering the most types of risks, and forming a leading end-to-end model service security toolchain in China.

IV.Outlook on the multidimensional development prospects of Large Language Model

(i)The improvement and promotion of policies and regulations for Large Language Model

China has established a preliminary governance system in terms of policies and regulations for large-scale models, actively responding to the trend of technological development. These policies and regulations focus on key issues such as data security, privacy protection, and content compliance, promoting the healthy development of the industry. The Government Work Report clearly proposes to support the widespread application of large-scale models, and will continue to promote the "AI+" action, promote the combination of digital technology with manufacturing and market advantages, and provide policy support for the application of large language model industries. In the future, China's large language model policies and regulations will continue to evolve towards greater perfection, synergy, and adaptation to technological development.

At the legislative level, the process of formulating comprehensive artificial intelligence laws will accelerate. During the National People's Congress, several representatives have put forward relevant proposals, and the State Council has also included AI legislation in its work plan, while accelerating the formulation of administrative regulations on generative AI.

At the regulatory level, we will further strengthen agile governance, establish a risk level testing and evaluation system, and implement classified and graded management. Develop differentiated regulatory strategies based on the risk level of large language model application scenarios, and implement stricter regulatory measures for high-risk applications such as healthcare, finance, autonomous driving, etc., to ensure the safe and reliable application of technology. At the same time, promote regulatory technological innovation, utilize artificial intelligence technology to enhance regulatory efficiency, and promptly detect and handle illegal and irregular behavior.

In terms of industrial promotion policies, the government will continue to increase its support for the large language model industry. Through policy guidance, establish industry data storage requirements and circulation rules, and build industry adaptation frameworks and tools. And state-owned enterprises will accelerate the opening up of more application scenarios, break the misconception that "large language model are only secure when deployed privately", and promote the adoption of the "public cloud+API" application model in more scenarios. By combining policy support with market driven approaches, we aim to promote the deep integration of large language model technology and industry, injecting new momentum into economic and social development.

(ii)Future breakthroughs in Large Language Model technology innovation

In the future, China's large language model technology innovation will continue to break through in multiple aspects.

From the perspective of technological development, with the continuous iteration and optimization of large language model technology, its performance will be further improved to better meet the complex business needs of various industries. The model will make breakthroughs in multimodal fusion, reasoning ability, training efficiency, and achieve more accurate industry applications.

In terms of technological optimization, we continuously improve model performance and security, quantify model capability boundaries, enhance security values, and adapt to more complex business scenarios.

In terms of technological innovation, we will support the sustainable development of key core technologies and innovative algorithms by increasing investment in the universal large language model base, establishing major technology projects for new generation AI algorithms and new generation AI storage. As the main body of technological innovation, enterprises, universities, and research institutions will also actively participate in it. Giant enterprises and numerous AI startups continue to invest in the research and application of large-scale models, while universities and research institutions provide basic theoretical research and cutting-edge technological exploration for the development of large language model technology. The cooperation between industry, academia, and research has achieved initial results, promoting the transformation of technological achievements into industrial applications.

(i i i) Outlook on the Process of Large Language Model Industry Ecology

The ecological system of China's large language model industry is currently in a critical stage of rapid development and active construction, and has achieved certain results.

From the perspective of industrial infrastructure, computing power and data are two important supports. In terms of computing power, China is vigorously promoting the "East Data West Computing" project, and the scale of data centers continues to expand. Enterprises such as China Unicom Cloud are actively laying out and building high-performance computing power resource pools in many parts of the country.

In terms of industrial ecological construction, industry university research cooperation will become closer, and the basic research achievements of universities and research institutions will accelerate their transformation into industry, promoting the transfer of large language model technology from laboratories to the market. The collaboration between upstream and downstream of the industrial chain will continue to strengthen, forming a more efficient collaborative system in areas such as computing power supply, data governance, algorithm innovation, and application development, building a more efficient and collaborative ecosystem, reducing the cost of enterprise application models, improving application effectiveness, and promoting the digital and intelligent transformation of various industries to new heights.

In terms of industrial application ecology, large language model have widely penetrated into multiple fields such as healthcare, industrial manufacturing, finance, government affairs, and education.

It is expected that by 2028, China's artificial intelligence is expected to exceed the industrial scale of 800 billion yuan. As a key technology, large language model will play an important role in promoting the digital and intelligent process of various industries and breeding a higher quality economic form.

(i v) The Expansion and Evolution of the Application of Large Language Model in the Industry

Currently, China's large-scale models have made significant progress in industry applications, showing a trend of multi domain penetration and rich application scenarios. The large language model has initially shown business value to enterprise users. Although its implementation is still in the exploratory incubation stage, it has been prioritized for application in knowledge intensive and high importance service target scenarios.

In the future, the application of large language model industry in China will usher in a broader development space. In terms of expanding application scenarios, big models will penetrate more deeply into various industries. In addition to existing fields, they will also explore applications in more areas such as agriculture, energy, and environmental protection to help industries transform and upgrade. Enterprises will pay more attention to scenario driven application innovation, develop more applications that meet practical needs around production, management, service and other aspects, and enhance their core competitiveness.