Research on the Impact of AI and Rig Data on the Trade Between China and other Countries along the Belt -Take the Application of Medical Economy as an example

Yue Hu, Changfeng Chen, Hongnan Liu and Kai Zhou

Changchun , China, 130000
253548378@qq.com
117120021@qq.com
1171933393@qq.com
zhoukaitongxun@163.com

Keywords: AI ;Big Data ;One Belt One Road; Trade;

Abstract: Along with the implementation of China's "one belt and one way" strategy, the countries along the route have gained dividends from China's continuously exported technology and infrastructure, and coincide with the fate of building a community of human destiny. At the same time, with the advent of the Internet plus era, artificial intelligence big data has become the productive force to promote social development. In the process of Global trade and "one belt and one road" development, the development of trade infrastructure has been changed, bringing the gospel to the trade facilitation of the countries along the line. Based on the current situation of artificial intelligence, this paper expounds the application of artificial intelligence big data in the cross-border trade infrastructure along the "one belt and one road" country on the basis of expounding the development status of the cross border trade infrastructure of the "one belt and one road" country, and takes the construction of the big data center for medical treatment as an example. Complete analysis scheme and improvement countermeasures.

Introduction

The world is undergoing a period of great change. In the past century, China is committed to safeguarding the openness of the world economy and complying with the trend of global economic development. It has put forward the "one belt and one way" initiative to build a broad platform for cooperation among the countries along the border, promote economic and trade cooperation among various countries, and add new development to the world economy. Engine. With the development of AI and digital trade, cross-border trade is also booming. Especially the "silk road e-commerce" has achieved rapid growth. According to the statistics of the Ministry of Industry and Information Technology, in 2018, the total retail import and export commodities through the cross-border e-commerce platform of China Customs reached 134.7 billion yuan, which increased year-on-year. It's 50% longer. It can be said that since the implementation of the "one belt and one road" initiative, China has persisted in the principle of co construction and sharing, and has built 34 cross-border cables and several international submarine cables to the countries along the route. Obvious results have been achieved in the construction of information and communication infrastructure interconnection. How to play the role of artificial intelligence big data in cross-border trade infrastructures along the "one belt and one road" will be the focus of this article.

Overview of the Development of Artificial Intelligence and Big Data in China

Overview of Artificial Intelligence and Big Data. Artificial Intelligence (AI) was first proposed by scientists such as McCarthy and Minsky in the summer of 1956. The concept of artificial intelligence symbolizes the birth of the discipline. [1] Artificial intelligence can be divided into four aspects: application scenarios, continuous and effective information feedback system, high-quality data including the promotion of information technology such as cloud platform, big data, Internet of Things, cloud computing technology and high-quality computing hardware, such as in-depth learning training, cloud computing. End-to-end reasoning, interrupt reasoning, etc. [2] The application fields of

big data in China can be divided into five categories: big data of government affairs, big data of finance, big data of industry, big data of marketing and big data of health care. Among them, there are four typical application scenarios of health care big data: clinical decision support, health management, medical Internet of things, medical insurance.

At present, artificial intelligence (AI) and big data have become the new trend of the development and evolution of the new generation of information and communication technology. In the international arena, the major enterprises are also increasing their investment and competition with the seizure of the market, especially in the capital market. China is also constantly introducing relevant plans and national development strategies, and has made some progress. It is estimated that by 2020, the scale of core industries will exceed 150 billion yuan, and the scale of related industries will exceed 1 trillion yuan. In July 2017, the State Council issued the "New Generation of Artificial Intelligence Development Plan" (hereinafter referred to as the "Plan"), which is the first national level of AI development plan. With the vigorous promotion of the state, the development of artificial intelligence in China has also achieved phased results. China New Generation of Artificial Intelligence Development Strategy Research Institute issued the "China New Generation of Artificial Intelligence Technology Industry Development Report (2019)", pointing out that the report detected 745 domestic AI enterprises, accounting for about 21.67% of the total number of AI enterprises in the world. China's AI enterprises mainly distribute in Beijing, Guangdong, Shanghai and Zhejiang, accounting for 43.2%, 16.9%, 14.9% and 8.3% respectively. From the core technology distribution of AI enterprises in China, big data and cloud computing accounted for the highest proportion, reaching 21.3%, followed by machine learning and recommendation, speech recognition and natural language processing, face and gait and expression recognition, accounting for 17.2%, 9.4% and 8.6% respectively. Among 113 AI enterprises with available R&D intensity data, the average R&D intensity is 9.14%, which is much higher than the average R&D intensity of domestic enterprises in 2018.
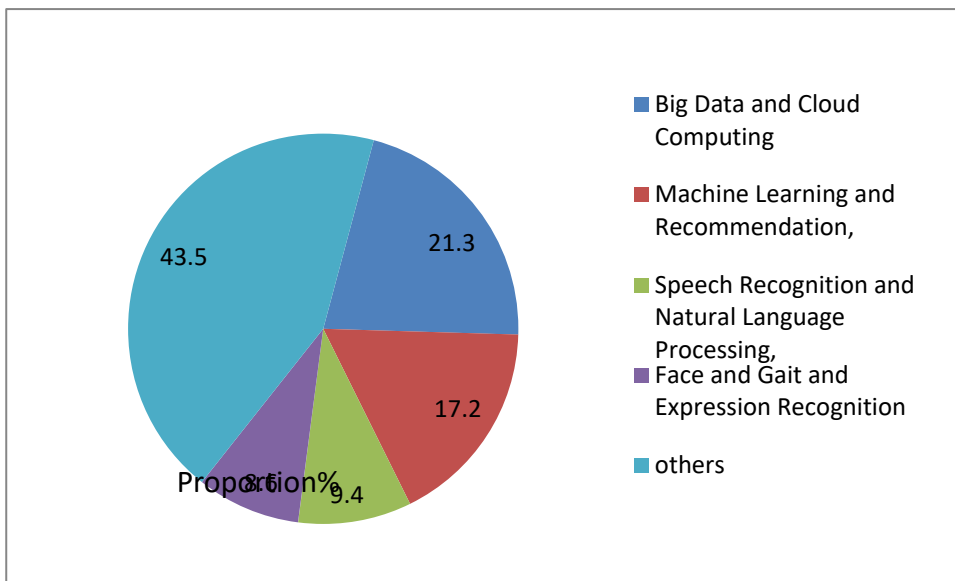

Fig1 Distribution of Core Technologies in Artificial Intelligence Enterprises in China

At the same time, AI has brought space for the innovation and upgrading of the strong data-oriented financial industry. Finance is also considered as one of the areas where AI landed faster. Intelligent finance is included in the national development plan. In addition, in 2011, ignoring science and technology was established, with in-depth learning and sensing technology as the core, based on the original deep learning algorithm engine Brain++, layout financial security, urban security, mobile phone AR, Commercial Association of things, industrial robots five core industries. In 2015, Yuncong Science and Technology focused on high-tech computer vision and artificial intelligence, becoming the only AI enterprise that formulates national, ministerial and line standards at the same time. In 2017, several major financial technology giants in China announced to be AI companies, leading the integration of AI and financial technology. In 2018, Jingdong launched Neuhub, an open platform for artificial intelligence. Its online service

module includes computer vision, voice interaction, natural language processing and machine learning. It will establish the links between algorithms, application scenarios and data chains, and build a complete value chain for the development of artificial intelligence.
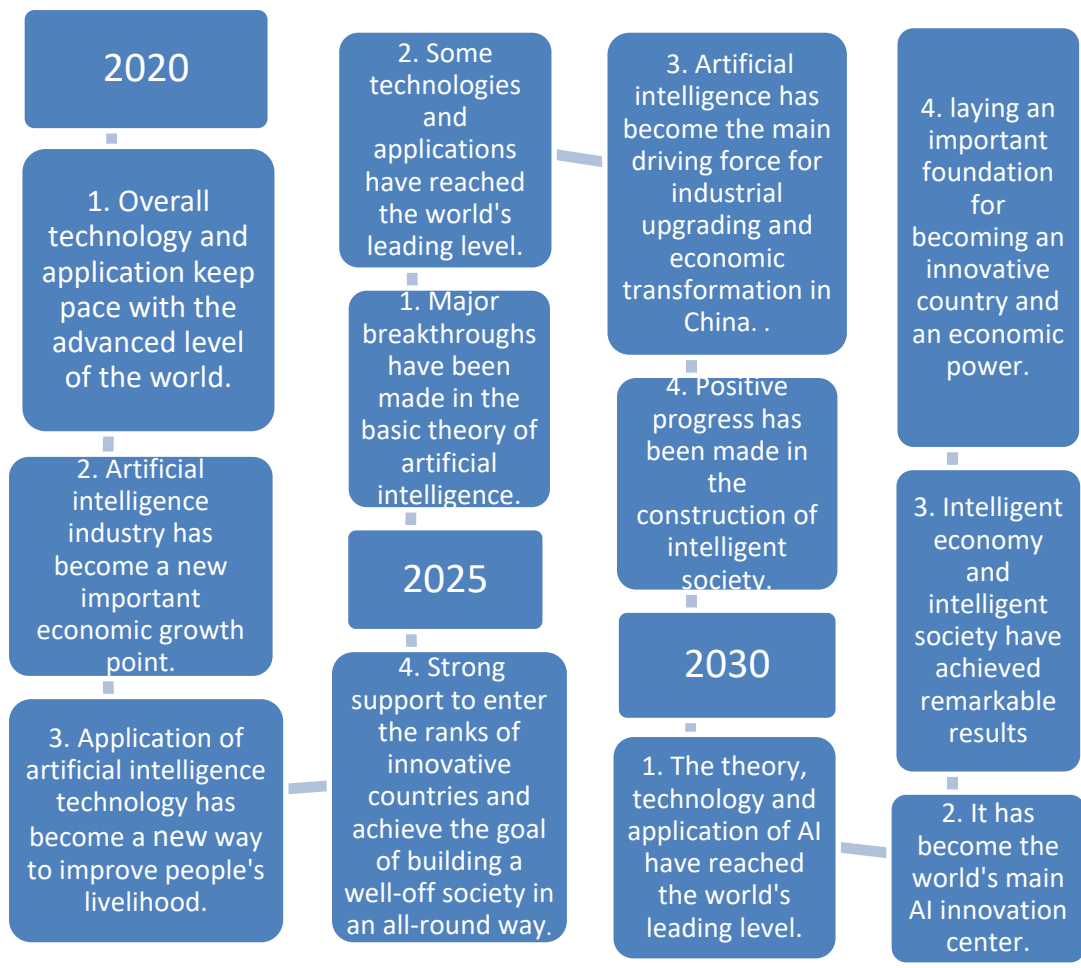

2020

1. Overall technology and application keep pace with the advanced level of the world.

2. Artificial intelligence industry has become a new important economic growth point.

3. Application of artificial intelligence technology has become a new way to improve people's livelihood.

2. Some technologies and applications have reached the world's leading level.

1. Major breakthroughs have been made in the basic theory of artificial intelligence.

2025

4. Strong support to enter the ranks of innovative countries and achieve the goal of building a well-off society in an all-round way.

3. Artificial intelligence has become the main driving force for industrial upgrading and economic transformation in China. .

4. Positive progress has been made in the construction of intelligent society.

2030

1. The theory, technology and application of AI have reached the world's leading level.

4. laying an important foundation for becoming an innovative country and an economic power.

3. Intelligent economy and intelligent society have achieved remarkable results

2. It has become the world's main AI innovation center.

Fig 2 Development Planning of New Generation Artificial Intelligence

Outline of the development of cross border trade infrastructures between China and the countries along the belt and road

President Xi Jinping put forward the initiative of "one belt and one road" in 2013. The "one belt road" construction includes a series of transportation infrastructure projects. It proposes to build a community of human destiny with the countries along the border, and has been actively correspondingly received by more than 100 countries and institutions around the world. Promoting the infrastructure development and cross-border trade cooperation of the countries along the border is an important cooperation content in the "one belt and one way" initiative. Since the implementation of the "one belt and one road" initiative, it has steadily promoted the economic and trade cooperation between the countries along the line, promoted the infrastructure development of the countries along the border, and facilitated and facilitated trade facilitation. Great achievements have been made. According to statistics from the Ministry of commerce website of China, "in 2018, Chinese enterprises invested 15 billion 640 million dollars in non-financial direct investment in 56 countries along the" one belt and one road ", an increase of 8.9% over the previous year, accounting for 13% of the total in the same period, and mainly invested in Singapore, Laos, Vietnam, Indonesia, Pakistan, Malaysia, Russia and Cambodia. Countries such as Zhai, Thailand and the United Arab Emirates. In terms of foreign contracted projects, Chinese enterprises have signed 7721 new contracts for foreign contracted projects along the "one belt and one road" area, and the newly signed contracts amount to US $125 billion 780 million, accounting for 52% of the new contracts

signed by foreign contractors in the same period last year, down 12.8% compared to the same period last year. The total turnover was 89 billion 330 million US dollars, accounting for 52.8% of the total period of the same period, an increase of 4 over the same period. 4%."

The application of artificial intelligence and big data in China's cross border trade infrastructures along the "one belt and one way" country -- Taking the medical economy as an example

Application of artificial intelligence in countries along the belt and road. Infrastructure interconnection is the priority direction of building a "one belt and one road". Interconnection of information and communication infrastructure is also one of the important areas. With the rapid development of network information technology, it also promotes the rapid development of new infrastructure such as artificial intelligence and industrial Internet. Since the implementation of the "one belt and one road" system, the cooperation between China and other countries and regions along the way has been deepened. It has signed a cooperation agreement with the communications authorities of more than 20 countries and international organizations, and signed 16 agreements with the other countries to strengthen the construction of digital silk road. China's AI high-tech companies take the strategy of "going global" and cooperate with the "along the way" countries along the way, so that the countries along the route can share China's wisdom and scientific and technological achievements. For example, in the first large-scale hydropower investment and construction project in the "one belt and one road" and "China Pakistan Economic Corridor", the introduction of AI technology in Pakistan, the Callot hydropower project in China, carried out multi-directional, all-weather intelligent management and protection for the park of Callot hydropower station, and adopted many kinds of faces in management. Recognition, image recognition technology, and intelligent video cloud, intelligent sensor products to build a security system, access personnel, vehicles management, effectively reduce the potential risks of the project may occur.

Application of AI Big Data in Medical Economy. This paper will take the medical economy as an example to discuss the application of AI big data. The author suggests that in the construction of AI data in the medical industry, large data centers should be the main body to form a complete data system. To be fully responsible for the construction of hospital informatization, collect and analyze clinical samples and data of multiple diseases, multiple cases, long-term and full-cycle to form a unique academic value of scientific research. Establish a medical big data experiment center with cooperation between China and countries along the line, dig deep data value, and provide strong support for treatment decision-making, development decision-making and public administration decision-making.

Construction Scheme of Large Data Center. Big medical data has important practical significance for scientific and technological innovation, economic development, the improvement of people's sense of access, and the development of medical and life sciences, health and industry. In order to fully explore the value of big medical data, in the process of hospital construction, relying on the data resources of rehabilitation treatment center and rehabilitation medicine research and development center, the large data center was built, and the complete chain of data acquisition, management, analysis and use of rehabilitation medicine was explored to form a data integration platform.

Data acquisition: Based on the data resources of the hospital treatment center, supported by the production, teaching and research capabilities of the medical research and development center, supported by the enterprises in the upstream and downstream industrial chain of the project, integrating the relevant data resources and building an integrated platform.

Data Management: Purchase storage equipment, establish service base stations, and seek joint deployment of data management centers by well-known cloud service companies such as Aliyun. At the same time, we employ professional operation and maintenance team to manage the data center to ensure the security of data and the stable operation of database. On this basis, we can further establish the Hospital Big Data Intelligent Cloud Management Co., Ltd. to strengthen data management in an industrialized way on the company platform and promote follow-up applications.

Data analysis: Data analysis is the link of real output value. Large data center and rehabilitation treatment center, rehabilitation medicine research and development center, as well as relevant scientific research units and enterprises, make use of data for business analysis and data collection within the scope of legal compliance, build the large data center into the first large data experimental center of rehabilitation medicine in China, and promote the digitalization of

rehabilitation medicine field. Intelligent, open platform and ecosphere for big data of rehabilitation medicine should be built to lead the development of rehabilitation industry in China.

Data usage: In data usage, we not only pay attention to assisting scientific research, but also to feeding back the industry. On the one hand, the big data center will focus on training cross-border talents, innovating and promoting the standardization of big data, and attaching importance to basic research and scientific and technological development. It is not only the basic research of big data and its application, but also other frontier technologies such as clinical medicine, rehabilitation medicine, even life science and artificial intelligence technology. Fusion and innovation, inclusive and common, win-win. On the other hand, the data center will drive forward technology, subversive technology and cross border integration and innovation, and promote the integration of Internet + big data, cloud computing, artificial intelligence and real economy with the concept of clinical medicine, big data, artificial intelligence and industrialization. To promote the vigorous development of Internet + medical services. Big data centers should not only do a good job of think tanks to help build healthy China and digital China, but also pay attention to practice and serve the innovative development of companies, industries and clinical medicine.

Technical Guidelines and Paths for the Construction of Large Data Center in Artificial Intelligence. Technical Guidelines for the Construction of Big Data Center: Adhere to the principle of "how fast, how good and how economical" in data acquisition, management, analysis and use.

More: not only includes multi-disease and multi-case data, but also has large data throughput, huge storage capacity and complete data dimensions. For example, hand-ring monitoring instrument can be used to record patients'pulse blood pressure, dynamic and static signs, 0.5-10KB data can be uploaded per second, then 40-800MB data can be uploaded day and night, only this one, 200 patients need to throughput 2TB-40TB a year. Adding other devices, cases, high-definition CT and MRI images, the throughput will be even greater. We will also save the user's all-round equipment monitoring and treatment data.

Quick: Quick query, fast export, fast analysis. The future is the era of data, and data is the most important asset. For heavenly data, impala+spark+hive three-tier query engine can be used, such as fast lane, slow lane, pedestrian, can be parallel, make full use of road area, make full use of hardware potential, schedule the priorities of tasks, and achieve the best query efficiency.

Good: Stable and recoverable, convenient analysis and algorithm interface. Achieve 99.99% high availability. One year down time is less than 30 minutes. In addition, disaster preparedness in different places ensures that the data will not be lost. At the same time, layering the data, from the original data layer, to the data detail layer, to the data service layer, can support the extraction of various analysis tools and the invocation of AI algorithm.

Savings: Save equipment space and computing resources, and make full use of servers. All raw data will be compressed and archived, the most important part of which is abstracted into multi-level reports, which can analyze the results and assist physicians in decision-making.

Construction Path of Big Data Center. Technical path of large data center construction: According to the "Overall Plan of Big Data Research and Development", we can complete the collection of cases, collect the whole course information data, and explore the long-term management of patients and disease early warning using big data technology.

Full-link data acquisition and storage scheme. Using the latest and most reliable open source Hadoop eco-components, we will collect the following information: all kinds of users wear IoT devices; browsing and clicking records and transaction records of app/wechat applet for hospital users; course cases recorded by medical terminals and patients'rehabilitation status. The whole link is stored in HDFS through ETL tool. Flnk, a real-time big data stream computing tool, is used to store, clean and count all data in real time. Two storage solutions of T+0 and T+1 are provided. The goal is: accurate storage, fast query, efficient use.

Case large data analysis tool. Based on Flink technology, build OLAP tools based on apche open doris. To achieve multi-dimensional data magic cube for different patients, different physicians, different diseases, different treatment methods, provide data drilling and data statistics of various directions and granularity. And with the help of tabluea's

tooling, the visualized large data analysis and interface configuration platform are realized. It enables doctors, nurses and even patients themselves to analyze and observe the rehabilitation status, progress and shortcomings, improvement and deterioration indicators of patients from different perspectives.

Artificial intelligence big data in improving China and "along the road" cross-border trade infrastructure in the country's Countermeasures

First, we need to strengthen intelligent security cooperation. We should jointly maintain data security, technology security and application security in cross-border trade infrastructures along the "one belt and one road". We should actively respond to the challenges posed by the development of intelligence to personal privacy and national security, so as to enable the countries along the route to enjoy the convenience brought by intelligent development more safely in cooperation. Second, we should strengthen intelligent industrial cooperation and speed up the construction of new infrastructure, encourage Chinese enterprises to actively create an open and inclusive ecosystem of AI industry, encourage foreign AI enterprises and scientific research institutions to promote the application of advanced AI technology in the Chinese market, and encourage domestic AI enterprises to "go". Go out and carry out deep international cooperation with the countries along the belt and road. Three, we should strengthen the interconnection and interconnection of network facilities and promote open development. We should continuously strengthen basic frontier research with the countries along the belt and road, aim at the major strategic needs and the commanding heights of future development, and strengthen the research and development of frontiers such as perceptual computing, machine learning and brain like computing. Fourth, we should pay more attention to the "digital divide" and release more tolerance. The existence of data islands is still a key factor restricting the development of AI industry. Expanding mutual information interaction, expanding the openness of data and the scope of cooperation. Fifthly, we should accelerate the digital transformation of industry and promote the integration of development; encourage open source, support the construction of open source development platform, open technology network and open source community, and accelerate the construction of industry training resource pool. To promote international cooperation and encourage enterprises to establish an international R & D center around the "one belt and one road" initiative, support the application of AI technology in the countries along the border, and further deepen exchanges and cooperation in the fields of standards, norms, supervision and safety.

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