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The Opportunity and Challenge of The Age of Big Data

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Abstract. The arrival of large data age has gradually expanded the scale of information industry in China, which has created favorable conditions for the expansion of information technology and computer network. Based on big data the computer system service function is becoming more and more perfect, and the efficiency of data processing in the system is improving, which provides important guarantee for the implementation of production plan in various industries. At the same time, the rapid development of fields such as Internet of things, social tools, cloud computing and the widen of information channel, these make the amount of data is increase, expand the influence range of the age of big data, we need to take the opportunities and challenges of the age of big data correctly, use data information resources effectively. Based on this, this paper will study the opportunities and challenges of the era of large data.

1. Introduction
With the continuous progress of human society, a variety of networks and information technology is updated, these promote the growth rate of data is constantly, laid a solid foundation for the arrival of large data era. It requires researchers to pay more attention to the impact of large data on the development of different fields, and deepen the value of the study. It brings large opportunities for human social dynamic research and the simulation analysis of a variety of social problem. At the same time, the increase in the amount of data in the era of large data also poses a challenge to the efficient processing of data, requiring the technical staff to focus on the rational use of different information technology and computer networks, and respond to the challenges brought by the age of big data actively.

2. The analysis of the impact of the arrival of the age of large data
The so-called large data actually is a data set, obtain a larger amount of information through the deep study of a useful data among a large number of data, in order to meet the production plan to implement the various needs. "Wall Street Journal" pointed out that the important impact of the wireless network, large data age and intelligent production which in the analysis of the three major technological changes cause great impact of human society in the future. This also illustrates the importance of paying attention to the research and development of opportunities and challenges in the era of large data objectively, and it has been improved the overall level of production of human society.

The advent of the era of large data, accelerates the development of mobile Internet, promotes the information industry penetrates into a number of areas, it also has great impact on the socio-economic, scientific and other areas, brings important reference information for the profound changes in social research ideas. Take the average daily use of Internet users in the world as a reference, the various research data show that in 1998 the average monthly use of Internet users is1MB; as time goes by, 2000, 2003, it was10MB, 100MB respectively, to 2008 it has been 1GB, equivalent to 1024MB; in 2014 the average monthly traffic use reached 10GB, it is affected by the information technology and the expansion of the scale of information technology industry, in the whole network traffic statistics analysis,
we found that the users totaled 1 billion GB. The total network flow consumption in 2001, 2004, 2007, 2013 is 1 year, 1 month, 1 week and 1 day respectively. In 2013, the amount of information in the whole network was high enough that need about 188 million DVDs to store it. Compared to other countries, the data that Internet users produce in China is most in the world, the daily production of data is in the forefront of the world. For example, Taobao has nearly tens of millions of transactions every day, its' daily data generation is far more than 50000GB, the system's storage capacity reached 40000TB (1TB = 1000GB); the average daily data of Baidu is up to several thousand PB (1PB = 1000TB), the web data stored in the network system is up to several trillion, the system needs to answer 60-70 billion search request every day, it will produce hundreds of PB data. In the process of data analysis of the unit camera, we can see that the generated data per second of every 8Mbp camera is 3.6GB, and each city in different areas has a large number of cameras, the daily average of the amount of data reached hundreds Even more of the PB. In the process of more regional analysis of the data volume, we can see that the CT used in the hospital obtains the patient's image data, the daily average of the amount of data is generated by dozens or even hundreds of GB, besides the hospital information management system, it also increased the overall amount of data indirectly. These aspects of the different contents, an objective description of the large data is penetrating in a number of industries, has a positive role in promoting to the arrival of large data generation [1].

By the impact of information explosion, people begin to give some attention to the era of large data. It is mainly because the number of Internet users are increasing continually. Cut off data December 2016, the netizens in China reached 731 million, the new Internet users is 4299 million in this year, the Internet penetration rate reached 53.2% in 2015, compared to 2015 it increase 2.9 percentage points. According to the prediction of China Internet Network Information Center (CNNIC) that by the end of 2017 the scale of Internet users in China is up to 772 million, the Internet penetration rate will reach 55.9%, the amount of data is continuing to increase. The current number of Internet users in China and Internet penetration rate is as shown in Figure 1.

In the process of large-scale data under the scale of China's mobile phone users, we found that cut off date December 2016, China's mobile phone users reached 695 million, increase 5.5 million people by the end of 2015, the proportion of mobile Internet users goes from 90.1% to 95.1% by 2015, increase 5 percentage points. China's mobile phone size is expected to reach 739 million in 2017, the netizens in the use of mobile Internet users are taking 95.1% percentage it will increase to 97.8% compare to 2016, the amount of data will continue to increase [2].

Through the deep discussion on the above content, it illustrates that the era of large data is coming objectively, and it has a greater impact on the industry to the community, promote the amount of data is
increasing, the computer network data processing efficiency put forward higher requirements, we need to pay attention to the opportunity and challenges which are brought by the era of large data in order to ensure the data processing effectiveness.

3. The analysis of the opportunity of the era of large data

Large data age has had a positive impact on the development of various industries, we need to use a variety of technical means to do different data efficient processing, improve the efficiency of the use of data at the same time and ensure the production plan deeply. Therefore, we need to combine the application of large data in-depth discussion, take the right view of the era of large data opportunities.

From the macroeconomic aspects of consideration, we should pay attention to the effective use of information technology and computer networks, the establishment of a powerful economic indicators forecasting system, collect, analyze and process the economic data in various areas of the large data age, deepen the understanding of the era of large data. Based on the analysis of the mood data provided by Google, it is possible to make in-depth analysis of the various moods of thousands of Internet users, and make scientific predictions on the dynamic changes of the Dow Jones Industrial Average. The actual forecast accuracy is high to 85%. Taking the manufacturing industry as an example, in order to analyze the status of product sales of enterprises, we can make related forecast according to the comments of the customers of network, and summed up the data, in order to provide a scientific product sales analysis. Based on the large data analysis methods they achieve the inventory management and a comprehensive procurement of raw materials, and understand the diverse needs of customers, better grasp the market trends, and enhance the effectiveness of strategic deployment and adjustment. The blind inventory in the product sales will cause greater economic losses, in order to achieve the effective detection of market risk [3], reduce their operating costs, we need do a deep analysis of large data.

Combined with the development of agriculture, the Bureau of Meteorology can build up reliable weather data bases, which can be used to analyze the weather data of different regions in several decades. Through the in-depth analysis of these data, It can scientifically produce the correlation graph of crop yield under the influence of temperature change and rainfall in different years, and make scientific predictions on the output of next year, in order to provide suggestions and opinions for agricultural development in different regions and sell agricultural personalized insurance, reducing the risk of crop cultivation effectively; in the business development, different enterprises through the scientific analysis of sales data, they can understand the customers' shopping habits for different goods, and then take a mixed way of selling goods in the major supermarkets, shopping malls, and provide personalized service for different customer groups, in order to achieve the long-term development goals of maximizing its' sales profits. In order to understand the actual concerns of financial capital and analyze the people's attitude to stocks and bonds, the major enterprises in the financial field can make the corresponding strategic decision by analyzing the micro blog accounts of the enterprises in the financial field. In order to reduce the bad debt rate, to reduce their own unnecessary economic losses, Alibaba carries out lending business to the small and medium enterprises, Taobao conducted a comprehensive analysis on the small and medium-sized business transactions, and then find out the small and medium enterprises which has the large potential market, good condition. At the same time it promote their own business smoothly and also meet the needs of small and medium enterprises, form the situation of "win-win"[4].

Through the deep analysis of large data, medical field access the rich data of a variety of epidemic situation, in order to promote the overall efficiency of the disease prevention center continuously, improve the realization of the scientific prevention of different diseases, regional economic it is essential to the development and improvement of the regional health status. In the process of carrying out the "Google flu trend" project, through the Internet users search content and the spread of the integration of the information of the various diseases in the global scope, promotes the accuracy rate of disease tracking reached 98%. In the social network, through the construction of a professional medical platform, we can provide patients with a wide range of services, so that patients can communicate with the doctor through a professional medical platform for medical and clinical symptoms. In the process,
the doctor can obtain more clinical results statistics. When analyzing the human body gene the use of large data analysis, the patient can get personalized treatment program, and reached the purpose of the right medicine ultimately. In the field of social security management, through the deep excavation of the data which is stored in the smart phone, it can analyze the dynamic flow and traffic conditions in different areas and improve the efficiency of traffic congestion. At the same time, through the reasonable use of a variety of professional search engine, WeChat public number, micro blog, QQ and others[5]. The large data era full-scale marketing panorama diagram is shown in Figure 2

Figure 2 large data era full-scale marketing panorama diagram

4. The analysis of the challenges of large data age
Through the analysis of the actual application of the current large data technology, we can know that it still faces some challenges, and it hinders the expansion of its own application. The specific performance in the following areas:

4.1 the data collection in the mining of large data
The data and information is large which are contained in the Internet of Things and the major information systems, and the actual use value of different data information is different. It is necessary to improve the efficiency of heterogeneous data collection by using the method of deceiving and failing, and compare with the historical data as much as possible, conduct a scientific assessment on the true reliability of the data through a number of angles. This requires the technical staff increase the efforts of the data mining technology research and development, to maintain data collection efficiency. Therefore, the industry should develop a reasonable measure to effectively cope with the challenges brought by the era of large data, in order to promote their long-term development of stability combing with their own actual development profiles [6].

4.2 the data storage in large data mining
In the face of the increase of data, it is necessary to achieve low cost, low power consumption and high storage efficiency, when storing data in computer systems, in order to ensure the rational allocation of
redundancy and improve the efficiency of cloud computing technology and realize the efficient use of cloud storage space. This requires continuous improvement on the rules, the scientific classification of data, reduce the storage capacity effectively.

4.3 the data processing of the large data storage
The complexity of the parameters in the development of different industries, it exacerbated the complexity of the parameters, they are mainly concentrated in the multi-source heterogeneous, multi-space and the interaction between the entities dynamic, it increases the difficulty of data processing objectively. Therefore, we need do an analysis of the integrated information of a variety of data, access the content to understand, and improve the efficiency of data processing continuously.

4.4 the visualization of the large data mining
The deep mining of various types of data in the era of the large data, we need do a simulation analysis of data in the various in the three-dimensional space, observe the results using the visual way, we need to promote the development of intelligent computer through a variety of information technologies, in order to achieve the in-depth data mining and visualization of the results [7].

5. Concluding remarks:
The impact on the era of large data is great to the human society, provide an important reference to the economic, scientific, social and other areas of research work. Therefore, it is necessary to give more attention to the opportunities and challenges to the age of big data, take these opportunities and challenges correctly, enrich the contents of different research work, explore new ways of research actively. At the same time, at the age of large data which is based on the actual development of the industry and data processing problems, develop effective measures to actively respond, making the big data age social productivity can continue to improve, the data processing can achieve the desired results, injects more vitality to the progressive progress of the community.

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