

Application Analysis of Big Data Based on Decision Tree in Intelligent City Research and Planning

Ying Zhou

Jiangxi Police Institute, Nanchang, 300003, China

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Abstract: At present, with the global wave of technological innovation, this wave also has a far-reaching impact in the global cities. Intelligent city represents the development of technology trend and is a microcosm of intelligent earth. With the infiltration and influence of big data, it has changed the way of compiling, evaluating and managing urban research and planning. Data are widely distributed in many areas of smart cities. Mining the potential value of massive data and providing reliable decision-making and suggestions for urban governance will make big data a booster for urban development. The construction of a smart city can create a better life for people in the city. It also plays an important role in the harmonious and sustainable development of the city. This paper analyzes the application of big data in smart city research and planning, and proposes optimization measures for its application, hopefully to contribute to the development of China's new urbanization.

1. Introduction

With the continuous development of modern social technology, the role of big data in national development is also constantly highlighted, and plays an important role in improving national innovation and competitiveness [1]. Smart city is the epitome of the smart earth. It is also an important measure to get rid of the economic crisis in developed countries and regions such as the United States, Europe and Japan in recent years. Intelligent city represents the development of technology trend and is a microcosm of intelligent earth. Intelligent city can make the experience of the city better and enhance the competitiveness of the city [2]. In the past, the development of urbanization only expanded the space mechanically. And in the way of consumption of resources, promote the process of urban development. With the penetration and impact of big data, it has changed the way in which urban research and planning is compiled, evaluated and managed [3]. Using information and communication technology to sense, analyze and integrate key information of the core system of urban operation [4]. Furthermore, the different needs of various urban activities such as people's livelihood, environmental protection, and public safety are implemented intelligently. The corresponding concept is a smart city.

The application of big data in smart cities can effectively promote the research and planning of smart cities, and there are still some difficulties. National and government needs to support and promote the application of big data in smart cities [5]. A smart city is the latest form and goal of current urban construction. In the future, the city will develop to a certain degree of advanced urban form. Data spread across many areas of smart cities, tapping the potential value of massive data and providing reliable decisions and recommendations for urban governance will make big data a booster for urban development [6]. Many countries have also actively explored the construction of smart cities in order to solve the problems of urban development. Through the development of these years, these cities which take the lead in development have also made some good achievements [7]. The past urban planning and development model is very necessary to implement innovation and transformation. The arrival of the big data era and the development of smart cities play a very important role in the transformation of the existing model [8]. The construction of intelligent city can create a better life for people in the city. It also plays an important role in urban harmony and sustainable development.

2. Intelligent Urban Planning Based on Big Data

When the staff completes the data collection, what is about to be expanded is the work of storing the data. In the process of data storage, the categories are expanded according to different types and stored. Under the administrative management system of China's characteristics, the planning and development of the city shall be guided and improved by all relevant departments. The development of new thinking and new ideas in big data and smart city planning. The development of big data technology and its great significance to social development have promoted the recognition of the value of data by academic circles, governments and enterprises in China. Urbanization construction is a long-term construction task in China, and the current urbanization construction has reached a new stage [9]. On the surface, each data source may have more or less limitations and one-sidedness. Under the complicated and inextricable connection of these original data, the essence and law of things may be hidden. The form, speed and breadth of data show explosive growth. The application of big data has attracted wide attention both in business groups and in government departments.

There are two main channels for visiting the public platform established in a smart city, namely, industry system and city base database. There is a great overlap of functions between departments, so when planning and management are carried out. There are duplicate or cross-Planning problems, the most prominent one is about urban land planning. The unreasonable planning plan and the inefficient implementation of the plan have seriously affected the smooth development of the urban planning work. In order to ensure the comprehensiveness and credibility of the collected data, the platform needs to collect heterogeneous or even heterogeneous data as much as possible. After big data access, smart city planning under the support of information and communication technologies can better solve these problems. We can use information technology to establish a shared information platform for various functional departments and integrate information through technical means.

The value of big data brought about by the Internet has begun to show up and research on these big data. It provides a broad space for cities to reduce operating costs and improve social public services. Under the premise of following the national unified indicator system, localization work in terms of extended functions is combined with local actual conditions. Establish a working mechanism for inter-regional information interconnection. Break through its own and geographical restrictions, and establish a sound information public service platform on the basis of realizing synchronous information networking in various places. Connected to various places, providing consulting services for all types of workers and public employment service agencies in various places. Figure 1 shows the sensory service model of information fusion management.

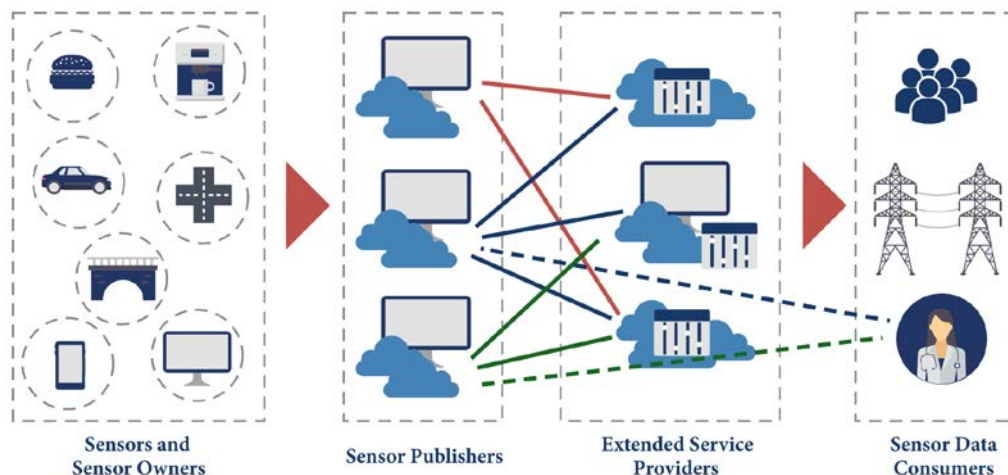


Fig. 1 Perception Service Model

After pre-processing the collected data, the public support platform of smart city needs to choose different storage schemes according to the type of data. Taking big data application as the center of smart city construction is the development requirement of smart city planning and construction at present. At the same time, it also puts forward requirements for intelligent urban planning and

construction. In life and society, big data can be said to be ubiquitous. Big data sources include network data, enterprise data, government data and so on. At present, from a national perspective, there is no unified standard for the construction of smart cities. Therefore, in the actual construction process, there is a lack of planning guidance. Although the state attaches great importance to it, it has not yet incorporated smart city construction into the country's development process at the national level. As a result, the management responsibilities between some departments and positions are not clear. For the city base library, it is necessary to carry out more collection activities on the information, and then fill the database. After collecting the data, you need to process the data. This process is an important stage in the construction and planning of smart cities in big cities. It is of great significance.

3. Challenges of Smart City Construction

Influenced by the development of big data, people pay more attention to open and transparent data information. What people need to do is to make the results of data and information public so that they can be visually and intuitively presented. Reasonable planning and utilization of urban space is an important part of smart city development based on big data. Intelligent urban development planning based on big data can fully reflect the characteristics of the city and make development and decision according to local conditions. Urban planning work will also shift from traditional spatial planning to dynamic time-space planning. Long-term real-time assessment and rapid optimization will also be realized. Big data as a new generation of information technology, there is no doubt that the surge of big data will bring about a social change. Big data will be the key point for transforming urban governance from experience governance to science governance, and it is also a subversion of traditional governance.

At present, there is a lack of corresponding big data talents on a global scale. Big data talents are all complex people, and they need to master more skills. It is important for the processing of data information to be able to deeply analyze and study the value of the information involved in the data information. Find out the relationship and rules of data information and deepen understanding [10]. At present, we should actively cater to the development trend of the times, and it is imperative to establish a new intelligent space system under the era of big data. The planning and development of cities in China are mainly carried out under the guidance of many departments. Limited by the administrative system for a long time, problems have arisen over time. Supporting government decision-making through big data is not only a technical problem, but also a top-level design of the way to govern. Due to the rise of big data, the corresponding data security issues are becoming increasingly prominent, especially the construction of smart cities need a lot of data to provide support. For the planning and construction of smart cities, the use of big data is necessary for the development of the times and also the needs of the people.

The government should change the traditional development goal of urban construction, starting from the theme of urban development. Taking urban issues as the planning and construction orientation, the integrative study of smart cities is carried out. The core of a smart city is a more intelligent way to utilize the new generation of information technology with the Internet of Things, cloud computing and so on as the core. To change the way governments, businesses and people interact with each other. We will respond quickly and intelligently to various needs including people's livelihood, environmental protection, public safety, urban services, industrial and commercial activities, improve the efficiency of urban operations, and create a better urban life for residents. From the perspective of information technology, it is intended to achieve the goal of efficient, accurate and convenient urban operation by constructing a sophisticated and advanced intelligent system. Figure 2 shows the architecture of the system.

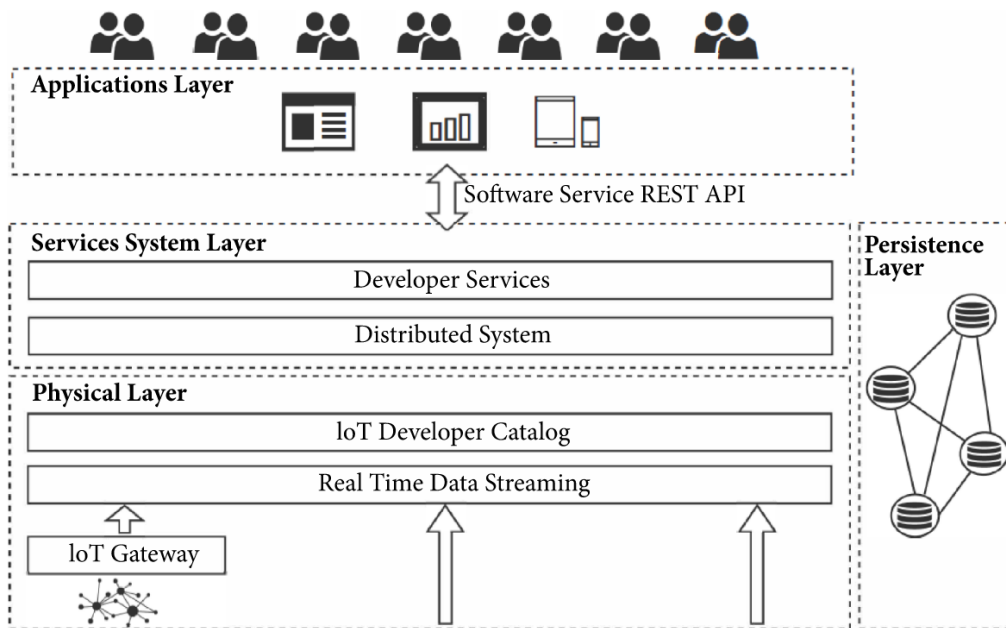


Fig. 2 Smart city architecture

In the current development of smart cities, they are hindered by technology. Many data interfaces cannot be opened and utilized reasonably and effectively, and there are information islands for urban development and construction. The application of big data and the research and planning of smart cities cannot be separated from the support of national policies. The urban planning system is rather messy, the planning of each department lacks communication, and the planned content overlaps. The government's decision-making will become more accurate, and administrative management will become more effective, which will further win the general recognition of society. A series of measures and opinions have been put forward by the relevant departments of some smart cities under construction in China on the security of data resources. Generally speaking, most of them are directive regulations and management policies. The development of big data also has its own unique characteristics. Big data itself contains some viral information, which will do harm to computers. Talents are the core force of urban development. Only by cultivating a group of comprehensive and compound talents with big data thinking, technology and comprehensive knowledge can we truly meet the development needs of China's smart cities.

4. Conclusion

Intelligent city is the inevitable trend of the future development of our cities. With the development of modern information technology, big data has gradually penetrated into the development of smart cities. Big data has become a key factor in promoting a country's productivity, innovation and competitiveness. Its application in smart city research and planning is more and more extensive. The status of smart urban planning in the existing urban and rural planning system will continue to rise, highlighting more and more problems. Relevant government departments should pay more attention to this problem and formulate targeted measures as soon as possible. The construction of a smart city can provide citizens with a more harmonious and beautiful city life and promote the sustainable development of the city. The construction of smart cities in China is still in its infancy, and the application of big data technology in smart cities is of great value for promoting the development and construction of smart cities. The Chinese government and relevant departments need to increase national policy support and promote information sharing. Ensure urban information security in a limited open form.

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