

Retraction

Retracted: Network Security and Ideological Security Based on Wireless Communication and Big Data Analysis

Wireless Communications and Mobile Computing

Received 25 July 2023; Accepted 25 July 2023; Published 26 July 2023

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

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- [1] C. Jiang, "Network Security and Ideological Security Based on Wireless Communication and Big Data Analysis," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 1159978, 6 pages, 2022.

Research Article

Network Security and Ideological Security Based on Wireless Communication and Big Data Analysis

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Received 8 November 2021; Accepted 4 January 2022; Published 31 January 2022

Academic Editor: Narasimhan Venkateswaran

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The rapid development of information technology has caused unprecedented changes in society and life. People's dependence on information terminals represented by mobile communication devices has greatly increased. The average time spent on information terminals is more than three hours per day, especially for the younger generation. This figure will be even more exaggerated. The West takes the network as an important position for cultural penetration into China and pushes the cultural products of good and bad to China in large quantities. In this context, the study of the relationship between network culture and ideology has become an important node in the construction of ideological security defense. This study first makes a detailed analysis of the concept and research status of network ideology, then discusses the harm of Western ideological network penetration, and puts forward the corresponding countermeasures. According to the characteristics of the current stage, a network ideology big data platform is designed and the detection ability and running time of the platform are analyzed. The results show that the overall performance of the platform is very good and it is more suitable to work in parallel mode.

1. Introduction

The fifth information technology revolution has brought human beings into the network age. In the 21st century, terminal Internet has reached a very alarming level in terms of coverage, which has brought dramatic changes to the lifestyle that Chinese people are used to [1]. The widespread of the Internet has brought lots of fierce confrontation of various ideologies on the Internet. Therefore, the research and control of ideological security have become a common challenge faced by all countries in the world. China also conforms to the trend of the times and actively takes measures to deal with the challenges brought by various social thoughts in the network from the ideological and action aspects [2]. The ideological conflict and integration in the network are raised to the height of national strategic security, which highlights the determination to maintain the ideological security in the Internet era. We should firmly use Marxist ideological

education to build a solid line of defense in the network ideological struggle. We should scientifically treat the network as a double-edged sword of ideological education and explore the impact, opportunities, and challenges of ideological confrontation in the network on China's network security and ideological security. Only when we know ourselves and the other, we can innovate the countermeasures that threaten the ideological security of our country more scientifically [3].

Scholar Zheng Qianqian believes that ideological security is an integral part of national security. The dominant voice in the Internet world is in the hands of Western countries headed by the United States. They continue to use the Internet to introduce their own values into our country, hoping to trigger ideological turbulence in our country. China must respect the leadership of Marxism in the field of cyber ideological security governance, use the information network as a front, maintain cyber security, and promote the coordinated development of cyber governance and

social security [4]. Zhong Jing believes that network ideological work is an important part of ideological struggle. In the era of big data, network ideological security is facing a more complicated situation. We must timely adjust the level of understanding and ability in the field of big data analysis, improve the network ideological security collaborative work mechanism, enhance public opinion analysis and crisis response capabilities, and actively explore ideological network political work methods [5]. Xu Wei and others believe that economic and cultural development is not balanced. Some Western countries hope to invade China's capitalist culture through the Internet, trying to make waves in the field of Chinese ideology. It can be seen that network security and ideological security are not only related to the country's economic construction, but also related to a huge test of China's soft power, which must be paid attention to [6]. Although the existing research points out the fierce conflicts in the field of thought, the research on the construction of the network security system is still blank.

With the in-depth development of globalization, the links between countries have been continuously strengthened. With the help of online media, they are expanding from the real world to the virtual space. On the one hand, it has created unprecedented opportunities for international cultural exchanges; on the other hand, it has mixed the ideologies of different countries and nations, bringing about collisions and frictions between ideologies [7]. The development of this research is under the background of increasingly complex ideological struggles in the Internet field, and the rapid changes in the social and economic structure have brought a huge impact of negative information to the development of the Internet, threatening the dominant position of my country's traditional ideology [8]. It is hoped that through the improvement of network security, the active role of the field of ideological struggle will be strengthened and will provide a reference for the contemporary development of Marxism.

2. Network Security and Ideological Security Based on Wireless Communication and Big Data Analysis

2.1. The Connotation of Wireless Communication. Wireless communication refers to the information transmission activities without the help of traditional physical media such as conductors or cables in the process of signal transmission [9]. It mainly has the following characteristics: firstly, the transmission distance is longer, because it gets rid of the restriction of physical media, and it can realize the real-time long-distance transmission between multiple terminals. From home Wi-Fi to ground air communication, we can get very clear transmission signal. Secondly, the types of terminals are diversified. Under the background of the rapid development of information technology, the types of information terminals are constantly enriched. Radio walkie-talkie, mobile phone, and computer can realize the function of wireless communication.

2.2. The Harm of Current Western Ideological Network Penetration. Under the influence of the Western network ideology, the values of young students in the new era are quite different from those in the past. Under the influence of the network ideological offense in Western countries, there is a tendency of weakening and desalinating the mainstream ideology in China's ideological and cultural field, and there is a trend of belief in identity crisis in the ideological field, which is mainly manifested in suspecting or even giving up the adherence to Marxism [10]. This has brought great threat and impact to the political foundation of our country. The belief in Marxism is one of the magic weapons for the continuous victory of the socialist revolution and China's modernization. With this belief, our party led the people to defeat many enemies under extremely difficult conditions, established new China, and made great achievements in the subsequent national construction [11]. The great achievements we have made today are achieved by countless people with lofty ideals, especially the Communist Party of China, who have defended Marxism with blood and life. However, with the deepening of reform and the development of market economy, the construction of spiritual civilization has not been matched; coupled with the Western countries' vilification and criticism of China's ideological system, some young students doubt or contradict Marxism and the theory of socialism with Chinese characteristics. They admire the democratic appearance of Western capitalism and are willing to evaluate their own lives with Western values. This tendency has been spreading among young students and has many supporters [12].

3. Construction of Big Data Analysis Framework of Internet Ideology

3.1. Data Collection and Data Screening of Network Ideology Big Data Platform. Usually in social science research with a small amount of data, the collection and processing methods of its research objects are similar to batch processing, but for big data, considering the cost of storage space and the interference of invalid information, stream processing has become the most important information collection method in big data research field. Large-scale network ideological data collection is the first step to analyze public network public opinion, usually including data detection, data storage, sorting, and other related technologies [13]. The main technology currently in use is to obtain research data through search engines and interfaces and to preview all network data. This article is based on the three main subjects of the country, social diversified organizations, and related overseas organizations and finally determines the sample selection of the sub-bank through limited definitions and indicators displayed in online public events. The collection method adopts a three-combination mode of account identification and information collection, related activity track data collection, and specific network public event account identification and information collection. Through manual identification of relevance for secondary screening, the abovementioned sub-domain sample set is finally determined [14].

The subfield sample set established by the research is a dynamic database whose accuracy will be gradually improved during gradual observation, and samples can be added or deleted at any time. On the other hand, it should be noted that although the main observation objects of this study are the sample collections of the three subfields, and content analysis and interactive analysis will be carried out in this field, the network ideology big data research platform is still a big network-oriented big data research platform for the whole network data. The data observation platform can store sample data in the database and store relevant data after preliminary screening during network public event tracking. The formula used in the data collection and data filtering process is shown as follows:

$$H(Q) = \sum_{i=1}^N \frac{Q_i}{\text{Sum}(Q)} \log_2 \left(\frac{Q_i}{\text{Sum}(Q)} \right). \quad (1)$$

3.2. Facts and Attribution Analysis of Internet Ideology Big Data Platform. Network ideology big data platforms cannot directly output results like general data analysis tools, but need to manually conduct in-depth mining of data content. The higher the degree of coincidence between the time node in the field and the time node of the overall event, the more prominent the dominant role of the field. The content of events in the field can directly explain the value orientation within the field. Comparing the content of event topics between fields, if the content overlaps with each other, it means that the interaction between fields is good, which is conducive to ideological security. If there is no overlap between the contents of the issues between the fields, it means that there is no interaction between the fields and the ideological security is threatened. Comparing the time nodes of the event topic content between the fields, if the topic content time node is misplaced, it means that the interaction is lagging, which is not conducive to ideological security.

The core of event changes in the field can be used to judge the value orientation within the field through the true and false content matrix and the main content of the four quadrants. Comparing the true and false content matrix between fields, if the representational and nonrepresentational data contents are at the same level of dialogue, it shows that the interaction is good and the ideological security is guaranteed. Otherwise, it is threatened. The attribution of network public events in each field can directly determine the value orientation of this field [15]. The comparison of attribution attributes between the various fields, if coordinated and consistent, and there is no ideological security threat. When other attributions appear in different fields, it is necessary to judge the degree of threat to ideological security according to their attribution orientation. Among them, the attribution of power orientation involves authority and legitimacy, and the threat is the greatest. The attribution of the dominant ideological field is extremely important. It needs to be focused on observation. The interaction is good, ideological security is guaranteed, and vice versa, and there are security risks. The formula used in the analysis is shown as follows:

$$y(K|\alpha) = \frac{y(\alpha|K)y(K)}{y(\alpha)}. \quad (2)$$

3.3. Value Orientation and Effect Conception. The nature can be directly judged as an independent analysis index, and its positive or negative degree is the final output. The higher the positive index, the more secure the ideological security, and the higher the negative index, the ideological security is challenged, but the harmonization and tension of the value orientation involve pros and cons that need to be observed in conjunction with nature. The value orientation within the field is consistent and positive in nature, which is conducive to ideological security. The value orientation within the field is coordinated and consistent, and the nature is negative, which is not conducive to ideological security. The value orientation within the field is tense and positive in nature, which is not conducive to ideological security. The value orientation within the field is tense and negative in nature, which is conducive to ideological security. The value orientations among the fields are coordinated and consistent, and the nature is positive, which is conducive to ideological security. On the contrary, the nature is negative, which is not conducive to ideology. The conflict and incoordination of value orientation between the dominant field and the diverse and heterogeneous fields will cause certain ideological security threats. The value orientation and nature between the pluralistic field and the heterogeneous field need to be judged according to the specific situation.

In addition, for the concept of a big data research platform for network ideology, in addition to the logical analysis of the content and results corresponding to its main analysis framework, this research also makes a basic conception of its effect. What needs to be explained is that this idea should be established on the premise that the big data analysis framework of network ideology is established. First, by identifying frequent features, the main information of the four dispute points in the independent field is summarized. Secondly, the synonymy and similarity of the information output are identified by the four dispute point indicators in the independent field, and whether there are contradictions and conflicts in the independent field is observed. Finally, between the observation field and the field, the degree of coincidence of the output information results in the four dispute point indicators. When the degree of coincidence is high, the data content can show consistency or conflict. When the degree of coincidence is not high, it shows that the is poor.

4. Analysis and Suggestion

4.1. Analysis

- (1) The system's ability to detect intrusions

According to Table 1 and Figure 1, we can know that the four sets of data are analyzed by the network ideology big data analysis system. The false detection

TABLE 1: Analysis of the system's ability to detect intrusions.

	False detection rate (%)	Detection rate (%)	Missed detection rate (%)
The first group	1.73	96.85	3.69
The second group	1.17	95.87	2.67
The third group	1.08	95.14	2.32
The fourth group	1.35	95.02	2.15

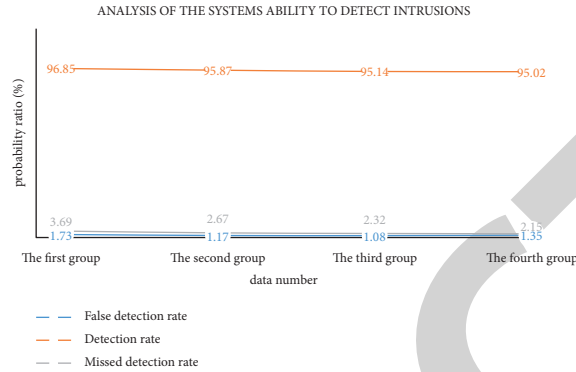


FIGURE 1: Analysis of the system's ability to detect intrusions.

rate is between 1% and 2%, and the detection rate is above 95%, and the detection rate is over 95%. The rates are between 2% and 4%. Based on the objective analysis of the data, the false detection rate and missed detection rate of the system are very low, but the detection rate is very high. Because different types of intrusion behaviors have different characteristics, the detection effects are not the same, but the overall performance of the network ideology big data analysis system is very good.

(2) Comparison of the running time of the system in series and parallel

According to Table 2 and Figure 2, when the system is running serially, the running time is 184 seconds, 402 seconds, 626 seconds, and 862 seconds. When the system is running in parallel, the running time is 108 seconds, 243 seconds, 288 seconds, and 360 seconds. The increasing trend of the time required for serial operation is significantly higher than that of parallel operation. Therefore, the network ideology big data analysis system should work in parallel operation as much as possible.

4.2. Suggestion. The Internet is an important frontier of ideological and political education for young people. Our party and government attach great importance to the theoretical propaganda work of the Internet, emphasize the influence of the Internet on society and the influence of the Internet on colleges and universities, and make efforts to make the Internet play a positive role [16]. To continuously improve the party's advantages in the ideological struggle on the Internet and form a public opinion platform dominated by Marxism, we must work together in many aspects. The first is to use the influence of positive public opinion to offset the negative side of Western decadent ideas. We should

coordinate all kinds of social resources, jointly build a special Marxist theory education platform, innovate and design Marxist education model, and establish a large-scale national shared database [17]. We should encourage those social organizations with cultural heritage and firm Marxist ideological foundation to establish their own cultural websites, and with the help of their own understanding and interpretation of Marxist theory and national traditional culture, the folk power propaganda of Marxist value are realized. Therefore, we must strengthen the integration of Chinese resources to ensure that the information on the Chinese website plays the best role.

At present, very few nongovernmental forces and social organizations in China can make positive public opinions on the Internet, which is extremely contradictory to China's population and national conditions. Although it is difficult to expand the amount of information in a relatively short time, we can make Chinese information more efficient and smoother and increase the utilization rate of Chinese information [18]. Secondly, efforts should be made to develop the distance education system on the Internet so that more people can learn Marxism online more easily. Based on the development of the current situation, we should constantly promote the process of Marxist network education [19]. It is an important step to speed up the construction of Chinese cultural websites and make excellent cultural websites effectively resist the infiltration of Western Internet ideology. The third is to build a high-quality network propaganda team, which has a scientific understanding of Marxist theory and modern information network technology. At this stage, the development of Marxist education requires not only higher philosophical and cultural literacy, the ability to accurately express and explain Marxist theory, and the sense of responsibility for Marxist values and moral concepts, but also excellent information and information ability. Only in this way, we can better meet the needs of Marxist education

TABLE 2: Running time of the system in series and parallel.

The amount of data	Serial running time (seconds)	Parallel running time (seconds)
1000	185	108
2000	402	243
3000	626	288
4000	862	360

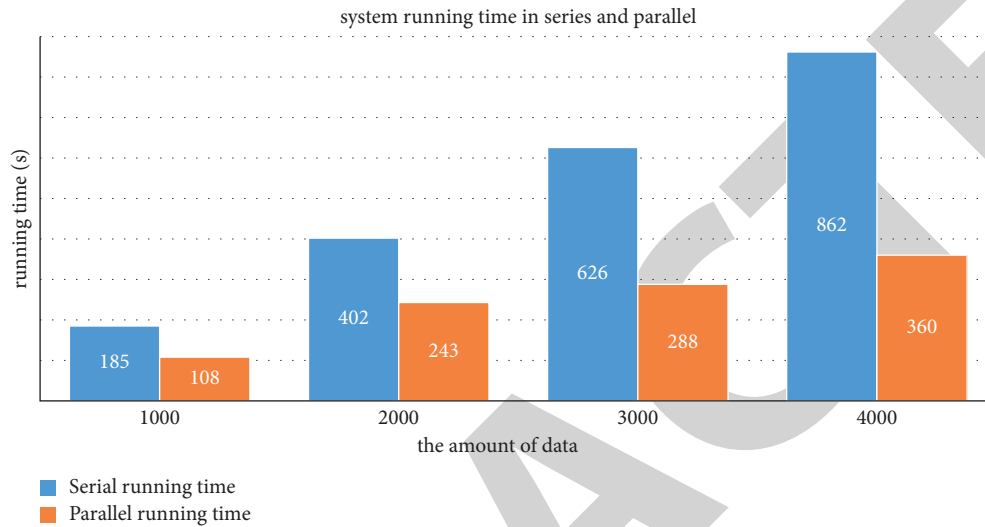


FIGURE 2: Running time of the system in series and parallel.

in the Internet age. The application and development of ideological and political teachers in the field of information technology are strengthened, so that they can have a scientific understanding of information skills and information ethics. They made them understand the network environment, grasp the national ideological and political information, and understand the national ideological trend.

5. Conclusions

The rapid development of network, the widespread of network, the diversity of network subjects, and the cross space-time nature of network communication determine the complexity of network society and also make the management of cultural conflicts on the network more difficult. Many bad thoughts in Western society are spreading and spreading in China's network by means of the new tool of Internet, which affects the thinking and behavior of Internet users in China to a certain extent and also brings great impact on the existing network security management in China. It is imperative to build a new network security system. Relevant departments should complement each other's strengths, make full use of the development of wireless communication technology, expand Marxist education to the field of mobile terminals, integrate social science elements and big data analysis of network ideas, and develop this field with a high degree of practicality. In the follow-up work, this research will also be devoted to constructing how to realize the integration and unification of online teaching and offline learning, so that the efficiency of

online ideological and political education can be further improved.

Data Availability

Data sharing is not applicable to this article as no datasets were generated or analyzed during this study.

Conflicts of Interest

The author declares that there are no conflicts of interest with respect to the research, authorship, and/or publication of this article.

Acknowledgments

This study was supported by the Research on the Construction of Cultural Security in Shaanxi under the Background of National Security (2021ND0160).

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