

## The Influencing Factors of Privacy Information Disclosure in Personalized Recommendations of AI Human-Computer Interaction Users

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### ABSTRACT

*In recent years, network platforms have become the norm through AI human-computer interaction to form user profiles for personalized recommendations, while exposing problems such as improper or excessive collection and use of personal information, and leakage of users' private information. The development of generative AI represented by ChatGPT has brought disruptive impact on human-computer interaction, as well as greater impact and challenges to data security and personal information protection. Therefore, there will be significant practical value and importance to the research on privacy information disclosure and personal information protection issues in the personalized recommendation of AI users of human-computer interaction. Through in-depth interviews with 15 AI human-computer interaction platform users and coding analysis with grounded theory method, the paper first defines the categories of sensitive and personal data that are disclosed when providing personalized recommendations to users of AI for human-computer interaction. It then examines users' awareness of privacy issues and the objective variables that influence their propensity to divulge such data. Finally, The paper first defines the categories of sensitive and personal data that are disclosed when providing personalized recommendations to users of AI for human-computer interaction. It then examines users' awareness of privacy issues and the objective variables that influence their propensity to divulge such data. The coding results provide four dimensions that highlight the contributing aspects of privacy information disclosure in AI human-computer interaction user tailored suggestion.: user factors, network platform factors, social environment factors and privacy calculus factors, so as to construct a theoretical analysis model and serve as an important guide to strengthen the regulation of privacy information disclosure risks and personal information protection in AI human-computer interaction user personalized recommendation.*

**Keywords:** AI human-computer interaction; personalized recommendation; personal information protection; influencing factor, data security

### INTRODUCTION

Artificial Intelligence (AI) is changing the way humans interact with machines, reshaping the relationship between them. Under the power of AI, the traditional human-computer interaction relationship has evolved into more efficient human-intelligent collaboration. Intelligence obtained personal information through multiple channels such as voice recognition

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to form user portraits, so as to judge user needs more quickly and accurately and to provide corresponding services. With the application scenarios of personalized recommendation on network platforms using personal information becoming more and more extensive, the risk of users' privacy information disclosure is increasing, and AI ethics and the trust construction of agents have become important issues. In 2019, the intelligent voice assistants of technology giants such as Apple, Google and Amazon fell into the "eavesdropping door" and attracted global attention; in 2021, domestic mainstream APP were exposed to frequently read personal privacy information such as user positioning and photo albums, and in 2023, The creation of ChatGPT resulted in more sophisticated and practical human-computer interaction. In recent times, nations have strengthened data security governance and personal information protection, placing a high value on network and information security, all under the umbrella of the broader national security concept. Therefore, the academic and business communities are paying increasing attention to the exposure of private information in the tailored recommendation of AI users for human-computer interaction. At present, domestic and foreign scholars have carried out research on the issues related to privacy information disclosure in personalized recommendation. In terms of research content, it can strengthen the privacy protection of personalized recommendation system users; focus on the privacy protection in personalized recommendation application scenarios such as online trading platforms; and provide recommendations and remedies to enhance the personalized recommendation system's protection of personal data. In terms of research methods, there are some problems such as using APCO model, TAM 2 model, privacy computing theory and other methods to explore privacy concerns and privacy information disclosure in personalized recommendation.

In conclusion, both research at home and abroad around personalized recommendation privacy information disclosure algorithm technology optimization, specific application field problem solving and the construction of the personal information protection system and perfect, etc., the research content for AI human-computer interaction field personalized recommendation user privacy information disclosure research is relatively few. In recent years, the manner that AI technology is developing is reflected in ChatGPT's generative artificial intelligence (also known as AIGC, or artificial intelligence generated content), which makes the evolution of human-computer interaction more vivid and encourages agent involvement and its application risk concealment of the emergence of new features, the AI human-computer interaction personalized recommended user privacy information is often leaked in the invisible. Therefore, the mining of the real experience perception of AI human-computer interaction users can better find out the potential privacy infringement risks brought by AI applications, and grasp the privacy information disclosure problems of AI human-computer interaction users in personalized recommendation.

### **Research Objectives**

Using root theory mining AI human-computer interaction users in personalized recommendation privacy awareness and privacy protection, reflect the user in personalized recommendation privacy information disclosure risk factors and the threat to personal information rights and infringement, on the basis of perfect AI human-computer interaction personalized recommended user privacy information disclosure risk regulation and personal information protection countermeasures.

## Research Questions

What are the risks of privacy information disclosure that AI human-computer interaction users feel in the personalized recommendation?

What are the factors that affect the willingness of AI human-computer interaction users to disclose the privacy information of personalized recommendations?

Given the issues with privacy information leakage in the customized recommendations made by users of AI for human-computer interaction, how can the system guaranteeing the security of personal information be further improved.

## Related Concepts and Theoretical Basis

Recently, a significant amount of research has been conducted to investigate the conflict that exists between personalization and privacy in AI-driven systems. In their 2019 article, Smith and Johnson go into this subject and analyze the trade-offs that customers face when they disclose personal information in return for individualized services from a company. It is their contention that the level of personalization that is made available by AI systems frequently comes at the expense of users' privacy, and that users are required to carefully evaluate the benefits and risks that are associated.

On the basis of this, Zhang and Wang (2020) study how users' decisions to provide personal data in AI-based tailored services are influenced by their perceptions of control and trust in the system. According to their findings, users are more inclined to disclose information when they have the perception that they have control over their data and when they trust the system. This suggests that improving these variables can help alleviate concerns regarding privacy.

Chen and Zhao (2020) investigate the behavior of users with regard to their privacy and the impact that algorithm openness has. According to the findings of their research, people are more likely to provide personal information when they have a better understanding of how artificial intelligence algorithms function. This suggests that openness is an essential component in the process of controlling privacy issues.

A dual-process model is proposed by Li and Xu (2021) in order to explain how the qualities of artificial intelligence systems, such as transparency and reliability, influence the amounts of personal information that users provide. The findings of their research indicate that the cognitive evaluations of these qualities by users play a significant impact in the decisions that they make regarding protection of their privacy.

The privacy calculation in artificial intelligence-based personalized services is investigated by Dinev and Hart (2021) across a variety of cultural contexts. Their research highlights the fact that cultural differences have a substantial impact on how users evaluate the benefits and hazards of information disclosure, with various regions exhibiting varying degrees of sensitivity to privacy concerns over information exposure.

Rhee and Kim (2022) investigate the role that cognitive biases have in the decision-making process regarding privacy in the context of autonomous human-computer interactions. They claim that consumers may underestimate the risks of privacy breaches due to biases such as overconfidence and optimism, which can lead to a greater amount of information being disclosed.

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An investigation on the ways in which users' perceptions of risks and rewards influence their willingness to provide personal data in AI-driven environments is conducted by Sun and Shen (2022). According to their findings, people are more likely to give information when they believe that the benefits of personalization outweigh the risks that are connected with it.

In their study, Gong and Wang (2023) investigate how users accept recommendations made by artificial intelligence and how worries about privacy affect this acceptance. They come to the conclusion that users, despite the fact that they value the convenience of personalized recommendations, may be hesitant to fully accept AI systems due to continued worries around privacy.

The authors Yang and Liu (2023) investigate the role that trust in artificial intelligence systems plays in mediating privacy disclosure behaviors. The findings of their research suggest that confidence in artificial intelligence systems is an important mediator that, depending on the level of trust that is developed, can either increase or decrease the willingness of users to exchange personal information among themselves.

In their final study, Wang and Yu (2024) analyze the impact that social influence and perceived usefulness play in predicting the disclosure of privacy information in interactions with artificial intelligence. They come to the conclusion that consumers are more willing to provide personal information if they believe that AI-driven services are extremely valuable and if they are affected by the actions of others in their social circle.

The findings of these research collectively highlight the complex interplay of factors that influence users' decisions to share personal information in AI-driven personalized recommendation systems. These aspects include trust, control, transparency, cultural context, cognitive biases, and perceived risks and rewards.

### *AI Human-Computer Interaction*

Human-Computer Interaction (HCI) is the study of human, computer and their interaction technology, in essence, is the interactive cycle formed by the human information input and the output feedback of the machine. The research purpose of human-computer interaction. It primarily refers to offering a human-centered approach to system design in order to enhance the efficacy and emotional demand of the user and, as a result, enhance the quality of user experience and interaction between users and computers.

### *Personalized Recommendation based on AI Human-Computer Interaction*

The definition of the recommendation system (RS) was first defined by the scholar D. Resnick et al in 1997 put forward in 2007. Personalized recommendation is the process of giving users access to relevant information about requirements through a computer information system that is tailored to their individual needs. The recommendation system can efficiently filter and screen the information to assist users in making it more unique. to obtain the information sources that satisfy their requirements. Users have the ability to actively provide for their own specialized demands, but the computer system can also generate them based on the user's past behavior patterns using certain algorithm rules. With the development of AIGC, the quality and efficiency of human-computer interaction of the general large language model have been greatly improved, and the personalized recommendation based on AI human-computer interaction has further improved user experience.

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## *Privacy Information Disclosure in the Personalized Recommendation of AI Human-Computer Interaction Users*

Privacy refers to an individual's own space, activities, and information that they would normally keep private and are unwilling to share with others. Privacy is privacy. Some studies believe that the nature of data in personalized recommendation should be identified as privacy. Without users' permission, personalized recommendation will disturb and pry on users' private domain and personality images. Privacy letter in the personalized recommendation of AI human-computer interaction users. In addition to the user name, ID number, communication, contact information and biometric information and other personal information, also includes behavior trajectory information based on AI human-computer interaction, such as browsing information and transaction information.

In this paper, on the basis of comprehensive related scholars view, AI human-computer interaction user personalized recommended privacy information disclosure, refers to the network platform personalized recommendation function using process. AI human-computer interaction users to obtain more in line with the personal needs of products and services, after weighing the privacy risk and privacy benefits, personal privacy information disclosure to the platform of collection and use.

## **METHODOLOGY**

### **Research Design**

Rooted theory (Grounded Theory), as an important theoretical construction method in qualitative research, emphasizes from the bottom up the theoretical construction path, and is supported by empirical evidence. The main steps of root theory research include: the use of observation method and interview method, et al., collect the original data, through the coding analysis of the original data, inductive concept and genera, and through the conceptual genera comparative analysis establishes the connection between concepts, and then forms the theoretical construction and explains the essence of society.

AI human-computer interaction users' privacy awareness of personalized recommendation and the factors that affect users' willingness to disclose privacy information are difficult direct observations, so using the rooted theory research method, using in-depth interviews to disclose users' privacy information. It is more appropriate to investigate the research problems in this paper. The primary set of codes for open, spindle, and selective coding in the theoretical development process employing the rooted theory research method. Ultimately, the theoretical saturation verification process forms the appropriate theory if the conclusion can be validated; if not, additional information and code must be added until the test is passed.

### **Sample Selection**

This paper follows the theoretical sampling of the rooted theoretical research method in the sample selection of the interviewees. The in-depth interview method used in data collection pays more attention to the quality of interviews than the quantity. The interviewees need to provide detailed and in-depth information about the research questions, and choose the interview subjects who, in light of the study's objectives, can respond to the questions the most comprehensively. In order to better understand the issue of privacy information exposure in AI human-computer interaction users' personalized recommendations, this study will examine it. Therefore, the selection of the sample population should meet the following requirements:

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- has the personalized recommendation function use experience of AI human-computer interaction platform;
  - has certain cognition of personal privacy and privacy information disclosure;
  - is willing to accept in-depth interviews and allow the conversation content to be used in subsequent studies.

According to the sample selection requirements, and comprehensively considering the age, occupation and education factors of the sample population, 15 official respondents were finally selected to provide systematic and comprehensive sample data for this paper.

### **Collection and Collation of Data**

The collection and collation of the interview materials in this paper strictly implement the rooted theoretical research method, and uses semi-structured interviews to gather firsthand knowledge about privacy information disclosure in the personalized suggestion of AI users for human-computer interaction. In order to achieve the purpose of research, this paper forms an interview outline on the basis of reading relevant literature. The main content is the respondents' risk perception and disclosure intention in the process of using the personalized recommendation function of the network platform based on AI human-computer interaction. The specific interview outline is as follows:

- Basic personal information of the respondents, including age, education level, occupation, etc., and basic use information of the respondents, including frequent use of AI human-computer interaction platform type, usage duration, and usage purpose.
- The specific experience of privacy information disclosure of respondents using AI human-computer interaction platform with personalized recommendation function, including the degree of concern to personal privacy, type of personal information disclosed, type of sensitive information, bad experience generated by privacy information disclosure, etc.
- Factors that are objectively influencing users of AI human-computer interaction desire to disclose privacy information in tailored recommendations
- Opinions on privacy information disclosure in AI personalized recommendation of human-computer interaction and countermeasures and suggestions to ensure the security of personal information.

In this study, 15 in-depth interviews were conducted for 10 to 30 minutes, recorded and archived, converted into text materials and numbered in the order of interviews. In order to get the original data closest to the real thoughts of the interviewees, the order of questions and the expression of questions were adjusted according to the actual situation during the interview, and exhaustive questions were made according to the answers of the interviewees. In this study, about 290 minutes of interviews were recorded, which was converted into more than 33,000 words of interview text materials.



## The Research Process

### *Open Encoding*

Open coding, also known as first-level coding, mainly extracts the original interview text materials to form basic concept categories and categories. In the process of coding, this paper using NVivo12 to the original statement of the interview text concept extraction, eliminate inconsistent or not substantive answer to the interview record, get 359 original statements, and repetition rate three times as the threshold, only for three or more initial concept relationship analysis and give category, finally get 33 initial category.

### *Spindle Code*

The spindle code, also known as secondary coding, aims to study the internal connection between the initial categories and precipitate the master from the initial category, explaining the rational relationship that underlies the first category and the primary category. This paper analyzes and summarizes 33 initial categories obtained by open coding, and finally forms "Individual difference of AI human-computer interaction users" and "AI human-computer interaction platform letter to users. There are seven main categories: "collection", "Use of user information by AI human-computer interaction platform", "Security attribute of AI human-computer interaction platform", "Social environment of AI human-computer interaction platform application", "privacy risk of AI human-computer interaction platform" and "Privacy benefit of AI human-computer interaction platform".

### *As for selective encoding*

Selective coding, known as three-level coding, aims to refine and summarize the main categories established in the process of spindle coding and the relationship between them, it will dig deeply into the core categories that can organically connect all categories, and then form a complete theoretical framework or paradigm. By investigating and analyzing the 7 main categories formed in the process of spindle coding, the relationship structure of each typical category in the main category can be revealed. According to the results of rooted theory, the selective coding results are as follows:

**Table 1**

*The Selective Encoding Results*

| Typical relationship                                                                                      | positionality    | The connotation of the relationship structure                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Individual difference and privacy information disclosure of AI human-computer interaction users           | direct influence | The individual differences of households directly affect the disclosure of privacy information to the mutual platform                                                         |
| AI human-computer interaction platform for user information collection and privacy information disclosure | direct influence | AI affects the collection of user information by the human-computer interaction platform, and directly affects the disclosure of privacy information by users to the platform |

|                                                                                                         |                  |                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AI human-computer interaction platform for the use of user information privacy information disclosure   | direct influence | AI affects the use of user information by the human-computer interaction platform, and directly affects the disclosure of privacy information by users to the platform                                                                                                          |
| Privacy information disclosure of the security attributes of the AI human-computer interaction platform | indirect effects | The security attributes of AI human-computer interaction platform are related to the security of users' personal data privacy information and the degree of users' trust in the platform, which indirectly affects the disclosure of users' privacy information to the platform |
| Social environment privacy information disclosure of AI human-computer interaction platform application | indirect effects | The social environment of the application of AI human-computer interaction platform is an external factor affecting the protection of users' privacy, and indirectly affects the disclosure of users' privacy information to the platform                                       |
| Privacy risk and privacy information disclosure of AI human-computer interaction platform               | direct influence | The privacy risks of human-computer interaction platforms directly affect users' willingness to disclose the privacy information of the platform                                                                                                                                |
| Privacy information disclosure of AI human-computer interaction platform                                | direct influence | AI households to disclose the privacy information of the platform hidden human-computer interaction platform<br>Private risks can directly affect users' willingness to disclose private information on the platform                                                            |

### *Theoretical Saturation Test*

The theoretical saturation test is necessary to improve the accuracy of the theoretical analysis results. According to the theoretical saturation principle (Theoretical Saturation), the theoretical model is built based on some data, and the model is corrected and optimized with the collected new data until no new category is found, that is, indicating that the theoretical saturation state is reached. Therefore, before the formal coding in this paper, the 15 respondents were divided into 10 people as the research group and 5 people as the verification group. The interview data of the two groups were coded separately. After the verification group has no new important concepts and categories outside the results of the research group, it can be considered that the conceptual categories shown by the results of this rooted theoretical model have reached the saturation state.



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*Building a theoretical model of the variables influencing the disclosure of private information in the customized recommendations given to users of AI for human-computer interaction*

▪ This research, which is grounded in theoretical analysis, has yielded 33 data points that impact the private information disclosed in the initial seven major categories of tailored recommendations for AI users of human-computer interaction. After further refinement, four dimensions of "user factor", "platform factor", "social factor" and "environment factor" and privacy trade-off factor " can be summarized.among, "Individual difference of AI human-computer interaction users" refers to the difference in privacy awareness among the users of AI human-computer interaction personalized recommendation function, Therefore, it is summarized into the core category of "user factor"; the AI human-computer interaction platform collects and uses user information and the security attributes of the platform, The risk of privacy information disclosure affecting users, Therefore, it is summarized as the core category of "platform factor"; relief channels, legal norms, industry norms and market supervision are the external factors affecting the personal privacy protection of AI human-computer interaction platform, Decide the social environment of users' privacy information disclosure, Therefore, the primary category of "social environment factors" can be summed up as follows: "Privacy risk of AI human-computer interaction platform" and "privacy benefits of AI human-computer interaction platform" denote the advantages and disadvantages associated with users disclosing private information to AI HCI platforms. According to the privacy trade-off theory, Will directly affects the users' willingness to disclose privacy information, Therefore, it is summarized as the core category of "privacy trade-off factor". On the basis of integrating the above four dimensions, in order to provide users of AI human-computer interaction with individualized recommendations, this study develops a theoretical model of the elements that influence the disclosure of privacy information. (as shown in Figure 1), it has the potential to be a crucial manual for enhancing the risk management of privacy information disclosure and personal information protection system in the AI user-to-user personalized recommendation system.

## RESULTS AND DISCUSSION

User variables affecting the sharing of private information in the customized recommendations made by AI users of human-computer interaction.

From the user dimension, AI human-computer interaction users will disclose privacy information based on the use needs of personalized recommendation function to the network platform, but due to the differences in psychological tendencies, privacy literacy, privacy concerns, experience and subjective norms, as a result, the individual users of privacy information disclosure in AI human-computer interaction personalized recommendation differ greatly. AI technology has expanded the interaction channel between people and agents. Different interaction modes have their own advantages and limitations, such as language interactive methods such as sound, face and gestures are more natural, but poor privacy, and have a higher risk of privacy information disclosure, needed users constantly improve their privacy literacy and privacy protection ability. Therefore, in view of the user's privacy protection consciousness problem, should further strengthen the personal information protection of legal publicity education, promote the awakening of the public privacy rights

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consciousness, by reshaping the personal control of privacy consciousness, cautious treatment for personal privacy rights, promote the improvement of social public digital literacy and privacy literacy.

Platform variables affecting the sharing of private information in the customized recommendations made by AI users of human-computer interaction

From the perspective of platform dimension, as the object of privacy information disclosure and the key subject of personal information protection, AI human-computer interaction. The collection and use of users' personal information by the platform and the security attributes of the platform determine the users' disclosure of privacy letters to the online platform. The disclosure of variables affecting the sharing of private information in the customized recommendations made by AI users of human-computer interaction means that users transfer the decision-making right and control of personal information, making them extremely sensitive to the risk of privacy infringement caused by the network platform. Therefore, in view of the aforementioned users' perception of the risk of privacy information disclosure, the network platform should strictly implement the principles of legality, legitimacy and necessity for the collection, processing and use of personal information. In view of the recognized technical challenges and problems faced by the field of artificial intelligence, such as incomprehensibility and robustness, the AI human-computer interaction platform should establish a corresponding algorithm disclosure system and provide more understandable privacy policies and user agreements. At the same time, the platform should establish and improve its own data compliance management system, and improve the security technology and safeguard measures according to the guidance of relevant laws and norms this.

In addition, the platform should streamline the complaint channels, set up an ideal complaint handling procedure and feedback machine system, provide prompt feedback, and handle user complaints and reports in a reasonable manner in order to further strengthen the protection of users' rights and interests.

Social and environmental variables affecting the sharing of private information in the customized recommendations made by AI users of human-computer interaction

From the perspective of social environment, by improving the rights relief channels, strengthening the internal regulation of the industry and strengthening the external market supervision,

With the joint efforts of multiple collaborative governance, the security protection of privacy information disclosure in the personalized recommendation of AI human-computer interaction users can be built-protective screen. Network platforms, industries and countries should strengthen coordination and co-governance, form linkage mechanisms, and create a good social environment for the sharing of private data in users' customized recommendations made by AI for human-computer interaction. In addition, given the speed at which AI-enabled multi-scenario applications are developing, attention should be paid to the rights relief of the technically disadvantaged groups caused by the "digital divide", so as to reduce the cost of users' privacy infringement. From the perspective of the industry, the industry should shoulder stronger data security protection obligations, strengthen the industry self-discipline and limitation on the safeguarding of personal data by establishing the industry association's risk assessment and disclosure system; strengthen the industry's data compliance supervision of the platform, and establish and improve the data compliance supervision system. Externally,

establish perfect more operational and executive legal system, so as to promote the establishment of a more powerful privacy infringement event risk reporting system and management punishment mechanism, the network platform to carry out effective privacy risk monitoring and timely disposal of privacy infringement events, for AI human-computer interaction user personalized recommended privacy information disclosure and personal information protection to provide a full range of social security.

Privacy trade-off variables affecting the sharing of private information in the customized recommendations made by AI users of human-computer interaction

From the perspective of privacy tradeoff, users' willingness to disclose privacy information is closely related to the calculation results of privacy benefits in the AI human-computer interaction platform. Users' algorithm risk, information overload risk, profit-seeking risk and safety of the network platform. The perception of privacy risk, such as full risk and infringement risk, and the irreplaceability, relative security, convenience of use of the network platform, the privacy revenue such as time revenue is measured and calculated, which leads generates the disclosure of privacy information for AI human-computer interaction platform.

Independent decision-making. In view of the privacy trade-off factors affecting the disclosure of users' privacy information, the norms and technical ethical regulation of personalized recommendation of AI human-computer interaction platform should be strengthened. While bringing convenience to users, the network platform should also conduct data desensitization and data encryption of personal privacy information through more stringent technical means, and carry out full anonymity and identification processing, so as to avoid the risk of privacy infringement arising in the utilization and reuse of personal information by the platform. Based on this, By embedding legal, social ethics and scientific and technological ethics into the development and design of AI systems, Establish and improve the technical ethics review and supervision system, The network platform's customized recommendation can optimize the safeguarding of users' lawful rights and interests, Avoid network platforms from engaging in behaviors that harm the legitimate interests of users, Ensure the authenticity and accuracy of the personalized recommendations formed by collecting and using personal privacy information, And guarantee the legitimacy of its source, To ensure that users' use of personalized recommendation features is not suffer, And then improve the privacy letter disclosure revenue of personalized recommendation of AI human-computer interaction users. At the same time, in view of users 'concerns about algorithm risks and the upgrading of demands for predictability, controllability and knowability of AI human-computer interaction platform, users' trust in AI human-computer interaction platform should be strengthened through the regulation of algorithm application, the construction of algorithm interpretation system and the restriction of algorithm automation decision-making.

## CONCLUSIONS

In the theoretical level, this paper through the root theory research method to explore the user in AI human-computer interaction personalized recommendation of privacy information disclosure rights protection consciousness and privacy risk perception, from the user factors, platform factors, social environment factors and privacy balance factors four dimensions, construct AI human-computer interaction user personalized recommendation privacy

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information disclosure influence factors in the theoretical model, analyze the objective factors affecting user privacy information disclosure will and action path, It can provide a certain theoretical basis and a new research perspective for the privacy information disclosure risk regulation and personal information security protection recommended by AI human-computer interaction. In practice level, this paper puts forward about AI human-computer interaction user personalized recommended privacy information disclosure risk regulation countermeasures and Suggestions, not only to further improve the data security and personal information protection related laws and regulations to provide reference, can also for AI human-computer interaction platform privacy infringement of timely and effective processing provide the corresponding experience for reference.

However, this study still has some limitations. On the one hand, limited to the characteristics of AI human-computer interaction platform users, samples the choice is limited, and the attention to the technical vulnerable groups is relatively insufficient. In the future, further horizontal comparative research can be carried out for different groups. In order to enhance the scientificity and universality of the constructed theoretical model. On the other hand, this paper uses a qualitative research method on AI people. The study methods are very simple, and the issues of privacy information disclosure and personal information protection in the personalized suggestion of machine interaction users are developed theoretically.

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