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# RESEARCH ON THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN SOCIAL WORK ASSESSMENT

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## ABSTRACT

With the continuous progress and development of technology, the application scope of artificial intelligence is gradually expanding to various industries and fields, especially in the field of social work assessment, where its penetration and impact are particularly evident. This trend not only brings unprecedented development opportunities and opens up new working modes and ideas for the field, but also comes with a series of new challenges and tests. Although in the current stage of development, the practical application of artificial intelligence in social work assessment still faces many problems and limitations, such as uneven data quality, unclear ethical boundaries, and technological bottlenecks that urgently need to be overcome. In order to effectively address these challenges, we have adopted a series of targeted strategies and measures: strengthening data management and optimization, ensuring the accuracy and completeness of data collection, and improving data quality; Deeply integrate ethical norms with artificial intelligence technology, clarify ethical boundaries, and ensure that technological applications comply with ethical and legal requirements; Continuously improving the maturity and accuracy of artificial intelligence technology, breaking through existing technological bottlenecks, and enhancing the stability and reliability of the system; Improve the mechanism of human-machine collaboration, optimize the division of labor and cooperation between humans and machines, and enhance overall work efficiency. Through these measures, we can not only fully leverage the unique advantages and potential of artificial intelligence in social work evaluation, but also significantly improve the efficiency of evaluation work and the quality of evaluation results. This not only helps to promote continuous innovation and development in the field of social work, providing more scientific and accurate solutions to social problems, but also lays a solid and powerful support foundation for the overall progress of social work, and contributes an important force to building a harmonious society.



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## Introduction

With the rapid development and continuous innovation of modern science and technology, artificial intelligence (AI) technology has been widely applied in many fields and is gradually permeating all aspects of our lives and work, including social work. In today's era, the rise and development of AI has injected new vitality into social work, while also bringing unprecedented opportunities and challenges. Against this backdrop, how to effectively leverage AI technology to scientifically and accurately evaluate all aspects of social work, thereby improving its quality and efficiency, has become a crucial issue worthy of in-depth discussion. This not only concerns the future development direction of social work but also has a profound impact on the optimization and improvement of the entire social service system.

## How AI can assess social work

Artificial intelligence assesses social work mainly in the following ways: (Figure 1)

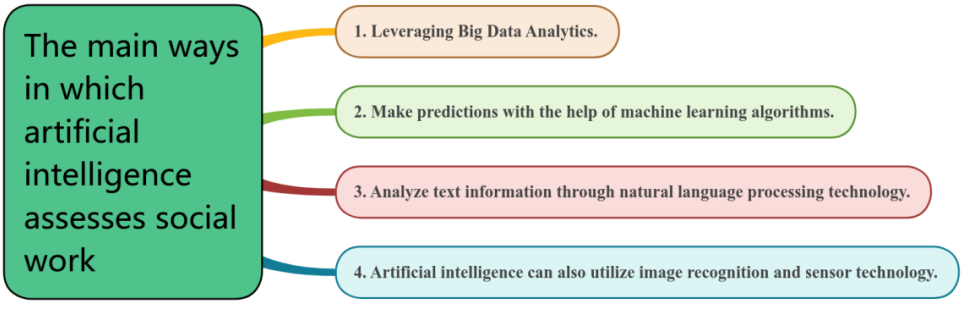


**Figure 1.** The main ways in which artificial intelligence assesses social work

*(1) Leveraging Big Data Analytics*

Artificial intelligence can collect, organize and analyze a large amount of social work-related data, such as basic information of service recipients, demand conditions, service records, etc. Through in-depth mining of these data, it is possible to identify

patterns and trends in service recipients, such as common needs of specific groups, the frequency and regularity of problem occurrence, etc., thereby helping to evaluate the pertinence and effectiveness of social work services. For example, if the data shows that the elderly in a community have a greater demand for health care services, it is possible to evaluate whether the current health care social work services for this group are sufficient and whether adjustments are needed.

*(2) Make predictions with the help of machine learning algorithms*

Artificial intelligence can learn from past social work cases and data to build predictive models. These models can predict the probability of certain social problems, behavioral changes in service recipients, etc. For example, predicting the possibility of a family in trouble getting out of trouble in the future, or predicting the development of a special type of child after receiving specific intervention measures, in order to assess the rationality and expected effect of social work intervention strategies.

*(3) Analyze text information through natural language processing technology*

In social work, there are a large number of text materials, such as interview records of service recipients and assessment reports. Natural language processing technology can perform semantic analysis and sentiment analysis on these texts, helping social workers to better understand the needs and psychological state of service recipients, and then assess the quality and effectiveness of services. For example, analyzing the emotions and demands expressed by service recipients in interviews, and assessing whether social workers have accurately grasped and given appropriate responses.

*(4) Artificial intelligence can also utilize image recognition and sensor technology*

In some specific social work scenarios, such as services for the disabled, image recognition technology is used to analyze their body movements and behavior patterns to assess the progress of rehabilitation services; or sensors are used to collect environmental data to assess the impact of the living environment on the quality of life of the service recipients, thereby comprehensively evaluating the effectiveness of related social work services.

However, there may also be some challenges and problems in the assessment of social work by artificial intelligence, such as data bias may lead to inaccurate assessment results, and the complexity of the algorithm may make the results difficult to interpret. Therefore, in practical applications, it is necessary to combine human expertise and experience to comprehensively judge and interpret the assessment results of artificial intelligence to ensure the scientificity and reliability of the assessment.

## Advantages of artificial intelligence in social work assessment

The advantages of artificial intelligence in social work assessment are mainly reflected in the following aspects (Figure 2).

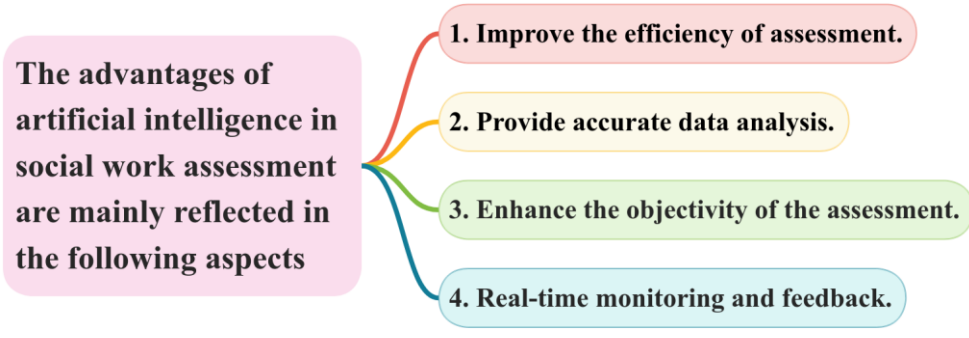


**Figure 2.**The advantages of artificial intelligence in social work assessment

*(1) Improve the efficiency of assessment*

Artificial intelligence technology has demonstrated remarkable data processing efficiency in modern society. This technology can quickly process massive amounts of data related to the field of social work, including basic information of service recipients, records of needs assessment, and records of service processes. The high-speed data processing capability of artificial intelligence makes it possible to comprehensively analyze and assess the service objects, service processes, and service effectiveness of social work in a short period of time, significantly reducing human resources and time costs. Compared with traditional manual evaluation methods,

artificial intelligence significantly saves time and labor costs, and can conduct in-depth analysis and comprehensive summary of numerous cases in a short period of time. This has brought revolutionary changes to the field of social work.

*(2) Provide accurate data analysis*

Through in-depth data mining and analysis, artificial intelligence can reveal the hidden laws and problems in the data, provide social workers with more accurate decision-making support, and thus optimize service plans and improve service quality. In terms of accurate pattern recognition, artificial intelligence can identify patterns and trends in data with the help of machine learning algorithms. For example, it can find that certain types of service recipients are more likely to encounter certain problems, or that certain interventions have more significant effects on specific groups. This provides a basis for social workers to formulate targeted service plans and intervention strategies.

The application of artificial intelligence in the field of data analysis not only covers pattern recognition, but also includes predictive analysis and behavioral analysis. Through predictive analysis, artificial intelligence can predict possible future events and help social workers prepare and plan in advance. Behavioral analysis helps social workers understand the behavioral patterns of service recipients and design intervention measures more effectively.

In addition, artificial intelligence can also use natural language processing technology to analyze large amounts of text data, such as posts on social media, forum discussions, etc., to obtain the public's views and attitudes on certain social issues. This information is extremely valuable to social workers because it helps them understand social phenomena more deeply and formulate service plans that are more in line with public needs.

*(3) Enhance the objectivity of the assessment*

The application of artificial intelligence technology in social work is based on a large amount of data and advanced algorithms for assessment, which significantly reduces the interference of human factors. In this way, artificial intelligence can more objectively reflect the actual situation of social work, thereby avoiding the adverse effects of subjective bias on the assessment results. The objective assessment criteria

used by artificial intelligence means that it will not be affected by human subjective factors, such as personal emotions and prejudices. It can objectively and consistently assess the effectiveness of social work based on pre-set assessment indicators and algorithms. This data and algorithm-based evaluation method helps to improve the reliability and fairness of the assessment results, while also significantly reducing human errors.

*(4) Real-time monitoring and feedback*

With the continuous advancement of science and technology, the application of artificial intelligence technology in the field of social work has become more and more extensive. It can monitor the progress of social work in real time, identify potential problems and challenges in a timely manner through advanced data analysis and processing capabilities, and provide professional feedback and suggestions. This ability enables social workers to quickly make corresponding adjustments and improvement measures, thereby significantly improving the timeliness and effectiveness of services. In addition, some artificial intelligence systems also have the function of real-time monitoring of the status of service recipients. For example, they can collect key information such as health data and behavior patterns of service recipients through various sensors. The real-time analysis and processing of these data enables the artificial intelligence system to promptly feedback the status changes of service recipients to social workers, thereby helping social workers adjust service plans according to the latest situation. In this way, artificial intelligence not only enhances the response speed of social work, but also improves the overall service quality, ensuring that the timeliness and effectiveness of services are substantially improved.

## Challenges of using artificial intelligence in social work assessment

The main challenges faced by artificial intelligence in social work assessment are as follows (Figure 3).

*(1) Issues related to data quality and privacy*

Data quality plays a crucial role in the construction and training of artificial intelligence models. If there are biases, insufficient accuracy, or incomplete

information in the dataset, these defects may directly affect the assessment results of the model, leading to incorrect conclusions and decisions. Especially in the field of social work, data collection often involves sensitive information and personal privacy of service recipients, so ensuring the security of data and appropriate privacy protection measures is particularly important. Data quality and privacy protection are two key aspects that cannot be ignored in artificial intelligence applications.

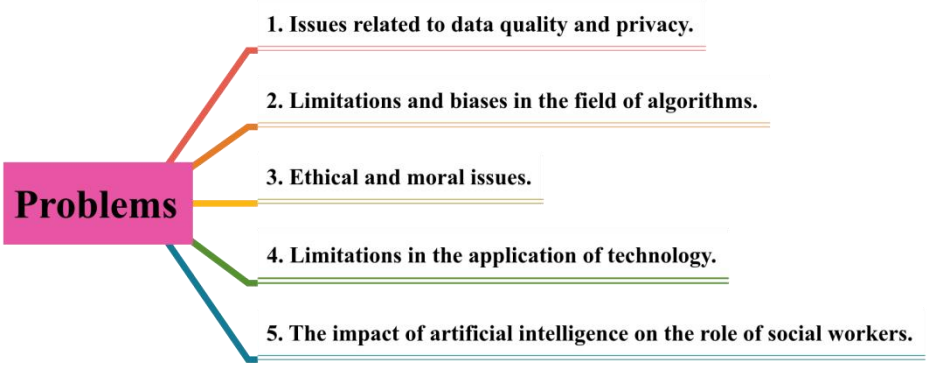


**Figure 3.** Problems

In social work, the accuracy of the assessment of artificial intelligence models is highly dependent on the quality of the dataset used. However, various challenges may arise in the process of data collection and organization, such as incomplete and inaccurate data, as well as outdated information. The existence of these issues may have a negative impact on the assessment results of artificial intelligence models. At the same time, the data processed in the field of social work often contains personal privacy information. How to ensure that personal privacy is not leaked while using this data is an important issue that needs to be taken seriously. Therefore, in the development and application of artificial intelligence models, it is necessary to pay attention to both data quality and privacy protection to ensure the healthy development of artificial intelligence technology and the ethical requirements of social work are met.

*(2) Limitations and biases in the field of algorithms*

Artificial intelligence algorithms may have biases, which may stem from insufficient representativeness of training data or flaws in algorithm design. For example, if the training data mainly comes from a specific region or group, there may be bias in the evaluation of other regions or groups. This bias may have an impact on the fairness and effectiveness evaluation of social work services. Besides, the complexity of the algorithm may lead to insufficient transparency, making it difficult for people to understand its decision-making process, and thus difficult to trust its results. In some cases, algorithms may overly rely on historical data and fail to fully consider social changes and new situations, which may significantly reduce their effectiveness in real-world applications.

*(3) Ethical and moral issues*

In the field of social work, the application of artificial intelligence is gradually increasing, but it may encounter some challenges when dealing with complex relationships and emotions between people:

(a) One of the main challenges faced is that artificial intelligence may not fully consider ethical and moral factors when conducting assessments. For example, in social work, artificial intelligence currently cannot provide the necessary care and sympathy to disadvantaged groups like humans. In addition, at present, artificial intelligence cannot fully respect the personal choices and privacy rights of service recipients when dealing with their wishes. These ethical and moral considerations are crucial for social work as they are directly linked to the fundamental rights and dignity of service recipients.

(b) Artificial intelligence shows a lack of humanized understanding in the assessment process. Although artificial intelligence technology excels in processing and analyzing large amounts of data, it may lack a profound understanding of human emotions, cultural backgrounds, and complex social contexts. In social work, the needs and problems of service recipients are often complex and diverse, requiring social workers to have humanized care and understanding. At present, artificial intelligence may not be able to completely replace humans in this regard, as human social workers can gain a deeper understanding of the inner world and emotional needs of their service recipients through empathy and interpersonal communication skills. In addition, social work also involves understanding different cultural and

social backgrounds, which requires rich social experience and sensitivity, which are currently difficult for artificial intelligence to achieve.

*(4) Limitations in the application of technology*

The current artificial intelligence technology still has limitations, especially in areas such as natural language understanding and complex situational judgment, where its accuracy and flexibility may not be sufficient to meet all needs. In terms of social work assessment, the evaluation results of artificial intelligence often require in-depth analysis and interpretation with the help of human professional knowledge and experience. Furthermore, when faced with fuzzy and unstructured data, the performance of artificial intelligence may be limited, as the interpretation of such data often relies on human intuition and creativity. In terms of learning and adapting to new environments, especially in dealing with the rapidly changing real world, artificial intelligence is currently unable to make rapid adjustments and responses like humans.

*(5) The impact of artificial intelligence on the role of social workers*

The application of artificial intelligence technology may have a profound impact on the professional role of social workers. On the one hand, it may lead social workers to overly rely on digital technology tools and platforms, thereby to some extent neglecting the continuous improvement of their professional skills. This dependency may weaken the judgment and coping ability of social workers in complex situations in practical work. On the other hand, the involvement of artificial intelligence may reduce the direct interaction between social workers and service recipients, which may not only affect the emotional experience and satisfaction of service recipients, but also weaken the ability of social workers in interpersonal communication and emotional support. Therefore, although the application of artificial intelligence can improve work efficiency, it may also have adverse effects on the quality and service effectiveness of social work.

## The response plan of artificial intelligence in social work assessment

The response plan of artificial intelligence in social work assessment is mainly reflected in the following four aspects (Figure 4).

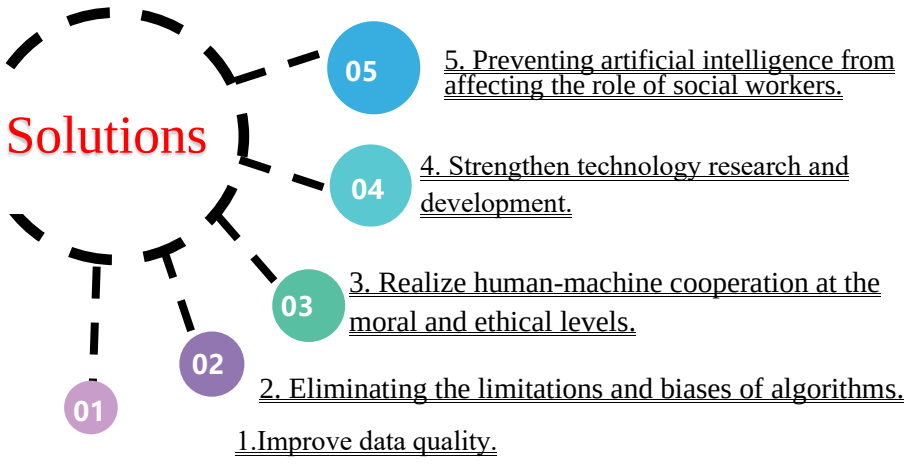


**Figure 4.** Solutions

*(1) Improve data quality*

In order to ensure that artificial intelligence data has high quality, wide representativeness, and precise accuracy, and can effectively learn and accurately predict, we must establish a strict data collection and management mechanism. This includes thorough data cleaning, rigorous validation, and detailed annotation work, with the aim of minimizing biases and errors in the data, thereby improving the training effectiveness and final decision quality of artificial intelligence.

*(2) Eliminating the limitations and biases of algorithms*

To eliminate potential limitations and biases in algorithm design and training, a series of measures must be taken. Firstly, in each stage of algorithm design and training, it is necessary to fully consider various factors that may affect the results, ensuring that these factors do not lead to unfair or biased decisions. This covers aspects such as data diversity, representativeness, as well as algorithm transparency and interpretability. Secondly, using a diverse and comprehensive training dataset can help reduce bias in the algorithm when dealing with different populations. In addition, optimizing the algorithm structure, such as introducing depolarization

algorithms or adjusting parameters, is also an effective strategy to reduce the impact of bias. Finally, it is crucial to regularly evaluate and adjust algorithms to ensure their fairness and accuracy. The assessment process should include monitoring and analysis of algorithm decisions in order to promptly identify and correct deviations. Through these methods, we can move towards the goal of building more fair and unbiased algorithms.

*(3) Realize human-machine cooperation at the moral and ethical levels*

On the level of morality and ethics, we are committed to achieving cooperation between humans and machines. This collaboration is achieved by combining advanced artificial intelligence technology with human expertise to form a unique human-machine collaborative assessment model. In this mode, artificial intelligence can leverage its powerful data processing capabilities to provide strong data support for evaluation work and provide preliminary assessment results. At the same time, social workers can utilize their rich practical experience and profound understanding and insight into service recipients to conduct more in-depth analysis and judgment of the preliminary assessment results provided by artificial intelligence. Through this human-machine collaboration approach, we can fully leverage the strengths of artificial intelligence and social workers to achieve higher quality and effectiveness in the assessment process, ultimately providing more accurate and effective services for social work.

*(4) Strengthen technology research and development*

In order to continuously promote the progress and innovation of artificial intelligence technology in social work, we must strive to improve its accuracy, flexibility, and adaptability in social work assessment. This not only involves continuous optimization of existing technologies, but also the development of new algorithms and models to adapt to the evolving needs of social work. At the same time, we also need to strengthen the research depth on the application of artificial intelligence technology, explore in depth how to more effectively integrate it into social work practice, and ensure that digital technology can provide strong support for the field of social work. Through these efforts, we hope to provide more solid support for the development of social work, thereby promoting social harmony and progress.

*(5) Preventing artificial intelligence from affecting the role of social workers*

In promoting the application of artificial intelligence technology in the field of social work assessment, we must be particularly vigilant about the potential impact of artificial intelligence on the role of social workers. In order to ensure that the core values of social workers are not eroded, we should develop a series of strategies to balance the application of artificial intelligence and the professional functions of social workers. This may involve clearly defining the application boundaries of artificial intelligence, ensuring that social workers continue to play a leading role in key decision-making processes, and improving their digital skills and technological application capabilities through continuous assessment and training. Through these measures, our goal is to maintain the professional status of social workers while maximizing the potential of artificial intelligence technology to jointly promote high-quality development in the field of social work assessment.

## Conclusion

Artificial intelligence has enormous potential in assessing social work, bringing new opportunities and challenges. Although there are still some problems and limitations, by strengthening data management, integrating ethical standards, improving technological level, and promoting human-machine collaboration, the advantages of artificial intelligence can be effectively utilized to improve the efficiency and quality of social work assessment, and provide strong support for the development of social work. In the future, with the continuous advancement and improvement of artificial intelligence technology, it is believed that artificial intelligence will play a more important role in the field of social work, promoting the development of social work towards a more scientific, efficient, and humane direction.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## References and notes:

Dong.,H. et. al. (2021) 'Based on improved surface corrosion detection of shore bridges', China Optical Journal Network, (16).

Dongsheng, Z.(2022) 'Exploration of the Integrated Digital Performance Model for Community Correction and Inspection', Supreme People's Procuratorate of the PRC, 22 November. Available at: https://www.spp.gov.cn/llyj/202211/t20221122_593419.shtml.

Henghui,Z. and Zhang,J (2024) 'The application and development of artificial intelligence', Technological innovation and productivity, (9).

Hui, Ch.(2023) 'Research on the Application of Artificial Intelligence in the Development of Digital Economy', Network Security and Informatization, 8, pp. 11-14.

Junhua.,L (2014) 'Feasibility Analysis and Method Exploration of Social Work Intervention in Vocational School Student Management', Chinese Extracurricular Education, (2).

Shixia.,D. (2023) 'How to Conduct Assessments in Social Work', Qiqi Library, 8 May. Available at:https://wenku.so.com/d/c31f12ffb62bb2bbefd60d3356f27211.

Wenjing., and Shilu.,L. (2024) 'Research on the application of artificial intelligence technology in the field of social work', Journal of Changchun University of Science and Technology (Social Sciences Edition), (5).

Xinhua.,S. (2023) 'Research and application of key technologies for home intelligent manufacturing based on Internet of Things technology', Automation Applications, 64(16), pp. 41-44.

Youyuan .,Y. (2024) 'Luchun County Smart Correction Center: Empowering Technology to Improve the Quality and Efficiency of Community Correction', Red River Network, 5 December. Available at:https://www.hh.cn/ynhhzMini/site/content/117172024120550526.html.

Zhizheng.L (2014) ''The Impact of Artificial Intelligence Development on Social Work', Folk Customs, (9).

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