

## An ethical examination of artificial intelligence

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### Abstract

The concept of artificial intelligence was first proposed by several scientists at the Dartmouth Conference in 1956. In the nearly century since, the field of artificial intelligence has developed rapidly, and it is now considered one of the rising stars in the scientific community. The development of artificial intelligence has not only promoted the fourth industrial revolution but has also brought about significant changes that have not been seen in a century. As artificial intelligence gradually penetrates every field of society and subtly influences our lives, it will inevitably raise many ethical issues. However, due to the rapid development of artificial intelligence, people can only be reactive and cannot “plan ahead” for the ethical issues raised by artificial intelligence. Moreover, the discussion of the moral problems brought about by the development of artificial intelligence and the corresponding countermeasures still needs to be improved. Because of this, the author will discuss the ethical issues raised by the latest artificial intelligence from the three perspectives of “gender ethics,” “environmental ethics,” and “social ethics” and propose corresponding measures.

## 1. Introduction

Since the concept of artificial intelligence (AI) was proposed a century ago, it has been supported by government AI policies and capital investment in AI by top technology companies, resulting in unprecedented development and gradual penetration into various fields and aspects of human life. People are in the midst of a wave towards an AI society. Before the arrival of the AI wave, experts from various countries began to pay great attention to “artificial intelligence” and ponder AI technology’s ethical or philosophical issues.

Compared to the rapid development of AI, The ethical problems of modern AI are slightly lagging. AI scientists are chasing larger training datasets and more advanced neural network models. Still, at the same time, they ignore the ethical issues behind the development of AI, and

there is no precise specification on the ethical issues of AI. There is no effective consensus among academics on this issue. For this rapidly developing science and technology, if there are no ethical and practical norms, it will bring a lot of unknown risks, and strengthening the research on technology ethics will effectively reduce the possibility of unknown risks. Therefore, the author will focus on “gender ethics,” “environmental ethics” and “social ethics” to unify the three perspectives to discuss the ethical issues and risks related to AI, such as “gender discrimination of AI” and the impact of AI technology on the ecological environment and other issues. Humankind must be prepared for the possible risks of developing artificial intelligence and achieve the coordinated development of artificial intelligence technology and ethics.

This paper proposes some ideas for strengthening the ethical constraints of AI and some theoretical basis for regulating AI and building a reasonable normative framework (Wang et al., 2020).

## **2. Literature Review**

Due to the rapid development of artificial intelligence, many scholars have focused on and discussed the ethical issues of artificial intelligence. Although many scholars have noticed and addressed this problem, it is still in its infancy. Moreover, most scholars only focus on one aspect rather than discussing the ethical issues brought about by artificial intelligence technology from a macro perspective. Du Yanyong explored the issue of artificial intelligence resurrecting the deceased and proposed corresponding countermeasures (Du, 2024). Chen Shouzhu has carried out a detailed discussion of the ethical risks of artificial intelligence to the environment and proposed effective governance measures (Chen, 2019). Qin Hao of Bohai University has carried out a detailed discussion of the ethical issues of artificial intelligence concerning human rights and proposed effective countermeasures (Qin & Wang, 2018). Jin Xiangxin and others have discussed the impact of artificial intelligence on employment and proposed corresponding countermeasures (Jin, 2024). Miao Lin and others have focused on the ethical issues of artificial intelligence in the development process and proposed corresponding countermeasures (Miao, 2018). Wu Dan and others discussed the issue of gender equality in artificial intelligence decision-making. They proposed corresponding countermeasures (Wu et al., 2024), and Li Junping conducted an in-depth discussion on the ethical issues of human rights and responsibility in artificial intelligence (Li, 2013). Given that previous scholars tend to focus on one aspect and lack discussion on the “environmental ethics” issues brought about by the ethics of artificial intelligence, Therefore, this article will comprehensively discuss the issues brought about by the rapid development of artificial intelligence from three different perspectives: “gender ethics,” “environmental ethics,” and “social ethics.” Hopefully, this will provide a theoretical basis for establishing ethical norms for artificial intelligence.

## **3. Results and Discussion**

### **3.1 Ethical norms: human society imposes strict requirements on the development of artificial intelligence technology**

At the early stage of the development of artificial intelligence technology, some scientists attached importance to the development of artificial intelligence to put forward the relevant ethical requirements. The American science fiction writers once put forward the famous “three laws of robotics”: the first law is robots must not harm humans; the second law is robots must obey human orders; the third law: robots must protect themselves, but cannot violate the first law; the second law (Asimov, 2004). In recent years, the development of artificial intelligence has advanced by leaps and bounds, profoundly affecting all areas of human life. With the introduction of ChatGPT, humankind has come to a new era, and as robots become more and more intelligent and artificial intelligence becomes more and more powerful, society needs to formulate some rules to ensure that the artificial intelligence can make ethical judgments to avoid chaos, to adapt to the new situation of scientific and technological development. To adapt to the new scientific and technological development situation, the relevant organizations in various countries are very concerned about the future of artificial intelligence technology and have put forward more specific ethical norms for its development. Korea had drafted the Robot Ethics Charter, which included such elements as preventing humans from using robots in violation of the law, protecting data obtained by robots, ensuring that humans could control robots, and setting ethical standards in computer programs.

To provide a guiding direction for the design and application of robots and to avoid the occurrence of potential dangers, in April 2016, the British Standards Organisation (BSI) published Ethical Design and Application of Robots, which gives ethical standards for the research and development of different types of robots. In December 2016, the IEEE published the standard document Hop Ethical Design (First Edition), which addresses the development of generalized Artificial Intelligence (AGI) and Super Artificial Intelligence (ASI) development with specific ethical requirements involving eight components. In 2016, the globally renowned Microsoft proposed six principles for AI development. In 2017, IBM also put forward three principles for developing AI: basic requirements for its purpose, transparency, and skills. In 2017, the US ITI released 14 principles in the three levels of the Principles of Artificial Intelligence Policy. Although the relevant organizations and companies in various countries have put forward precise ethical and moral requirements for the development of AI technology, the ethical and moral problems of AI technology have not been completely solved.

The complexity of the problem lies in the fact that the development speed of artificial intelligence can be said to be unprecedented. With the continuous development of artificial intelligence, and human life is gradually closely related, but also inevitably produce more ethical problems, so the study of the ethical and moral issues of artificial intelligence technology must be able to keep up with the speed of the development of artificial intelligence, and only in this way can we effectively constrain the ethical norms of artificial intelligence, so that it can serve the human race better and promote social progress at the same time, but also benefit the human body.

## 3.2 The issue of “gender ethics” in artificial intelligence technology

In this chapter, I would like to take the issue of “gender discrimination,” a significant impact of AI, to discuss the key to the emergence of “gender ethics” in AI technology and the corresponding countermeasures.

### 3.2.1 “Sexism” in AI technology

The term “sexism” is a frequently occurring construct, and the author argues that sexism in AI decision-making is essentially an extension of the long-standing notion of gender bias in the real world to the virtual world. Thinking epistemologically, the human brain is accustomed to categorizing the information it receives to reduce the cognitive processing workload, but this does result in the first biological distinction between men and women; the second distinction occurs in the formation of expectations of social roles. Nowadays, society expects much more from men than women in terms of work and more from women than from men in terms of family, which was the opposite regarding matrilineal societies. With the historical development of humankind, in most cases in the past, women have played a secondary and subordinate role in society to participate in social practices. From this, it can be learned that gender discrimination results from the combined effect of the historical cognitive limitations of human beings at the current stage of society and the social environment in the course of long-term development. The current decision-making of artificial intelligence is still far from human cognition, can only mechanically comply with human procedures, and has not yet generated autonomous consciousness. It can only make statistically significant judgments from the database given to the training model by human beings. It cannot identify the social significance of gender discrimination by having autonomous consciousness. On the contrary, the interaction based on big data will amplify the “sexism” again. The “sexist” decision-making of AI nowadays is essential that people’s values are attached to the database of AI model training and also invade the decision-making system of AI. AI’s powerful learning and analysis capability and data processing capacity will further amplify this phenomenon, thus showing that AI has the appearance of “sexism.” AI’s powerful learning and analyzing ability and data processing ability will further expand this phenomenon, thus showing that AI has the appearance of “sexism.” In the author’s view, although women are regarded as secondary to social practices in overall human values, the key lies in the practitioners who create AI. No other member of society can actively intervene in the AI’s decision-making. AI Practitioners’ value orientation also determines AI’s value orientation, only that AI’s decision-making amplifies the value orientation of the “practitioners” who create it. According to relevant data in the “Global Women in AI List” released by the Tsinghua University-Chinese Academy of Engineering Knowledge Intelligence Joint Research Centre, Tsinghua University Artificial Intelligence Research Institute, and Beijing Zhiyuan Artificial Intelligence Research Institute. The 2000 most influential AI scholars around the globe involve 20 fields, 100 scholars in each field, of which the two fields with the most female scholars are human-computer interaction and visualization, with the proportion of only 26% and 17%; the third is shared by natural language processing, knowledge engineering, and security and privacy, with only 12%. Specifically, due to the gender imbalance in the “Creator” of AI, gender bias has been a

significant factor in the penetration of AI algorithmic modeling, training, and application phases through both technical and social systems. Most male practitioners in the current “male-dominated social practice” strongly influence how AI is being developed. This is a significant influence, and the majority of male practitioners in the current “men are mainly involved in social practice” concept, further exacerbating the “sexism” of AI in decision-making.

Nowadays, due to the gradual penetration of AI into various fields of human life, the “gender discrimination” of AI will be shown in the practical fields of employment and recruitment, judicial judgment, credit measurement, advertisement placement, and audio-visual data in which AI is involved, and the gender bias problem is the most obvious in the field of employment and recruitment. The gender inequality problem is even more hidden in advertisements and audio-visual data. In 2015, scholars at Carnegie Mellon University found that Google’s ad-targeting algorithms discriminate against users based on gender. Its algorithm program pushed far more high-paying jobs to men than women. In addition, the recommendation algorithms of Bing and LinkedIn prioritize jobs for men. Similar implicitly discriminatory employment information pushes are also typical in China. When employers enter “programmer” and “engineer” into job sites such as Wisdomlink Recruitment and BOSS Direct Recruitment, the resumes of male job seekers will be pushed first. However, when they enter “receptionist” or “domestic helper,” the system will push the resumes of female job seekers first.

It is easy to see that the selective distribution of job information puts different job seekers in an unbalanced state of information, and the algorithm extends the unfair treatment of women in real life to a certain extent. This kind of data and information production discrimination distribution discrimination also inevitably leads to the application of information data discrimination, that is, the inevitable unfair results. There are specific differences between women and men regarding hiring results, salary, and promotion opportunities. According to the “2023 Survey Report on the Status of Chinese Women’s Workplace” released by Wisdom Recruitment, when women were asked about the biggest obstacle to promotion in the workplace, the factor of “gender discrimination” ranked the second, accounting for 25.5% of the total, which is significantly higher than that of men (11.2%). They passively lost promotion since they were “in the marriage and childbearing stage.” The proportion of women who passively lost promotion opportunities due to “being in the marriage and childbearing stage” reached 23.2%, which is also significantly higher than the 10.7% of men. Artificial intelligence algorithms extend the unfair treatment of women in the actual workplace. However, in some cases, AI decision-making can also be shown to compensate for human cognitive limitations and reduce “sexism” for specific reasons. For example, in a hiring scenario, due to the stereotype of hiring decision-makers, women have a 69% lower chance of being interviewed for a neutral position than men. In comparison, AI-based resume screening systems can reduce this gender gap by 43%, which, on the other hand, also reflects that AI decision-making complements and improves human cognition and can lead to fairer gender decision-making in some special situations. Therefore, in the current stage of AI development, the flexible use of AI can reduce “gender discrimination” in society.

### **3.2.2 Countermeasures to the problem of “sexism” caused by artificial intelligence technology**

To improve the “gender problem” in the practical use of AI technology, it is necessary to start from the root cause.

The first thing to do is start with a change in ideology and continue vigorously promoting equality between men and women, especially in the workplace. In Chinese tradition, although men and women are likened to the complementary relationship of yin and yang, they still haven’t gotten rid of the essentialist stance on gender issues and traditional gender concepts such as male superiority and female inferiority, male strength and female weakness, and male superiority and female inferiority, either implicitly or explicitly, have caused women to encounter difficulties in the areas of political participation and discussion, career development, and economic rights, and so on. This ideology will be subconsciously projected and even expanded through AI technology, resulting in a vicious circle, so the first thing to do is to realize the thinking of equality between men and women so that there can be women’s participation in every field and optimize the gender ratio of personnel in various professions.

The second is to reconcile the ratio of female to male staff in artificial intelligence. Globally, women and girls are 25 percent less likely than men to know how to use digital technology and less likely than men to understand how to use computers for programming and apply for ICT patents. Focusing on cultivating women’s programming mindsets, changing the stereotype of “programmers,” optimizing the nature of the work, and rationally adjusting the structure of the work so that women no longer have a biased mindset towards the job, thereby optimizing the gender ratio of the programmers’ workforce, and allowing more women to enter the field of Artificial Intelligence (AI) to improve the development of AI models. The problem of “gender discrimination” in developing AI models can be improved.

The third is to increase the impartial governance of algorithmic technology. Technology development follows a circular logic: new technology is adopted to solve problems, new technology triggers new issues, and newer technology is adopted to solve the problems. To eliminate discrimination at its source, it must first be eliminated technologically.

Firstly, data input is guaranteed to be fair. Data is the basis for the operation of algorithms, and there is a saying in the computer field: “Rubbish in, rubbish out,” meaning that wrong data input will only lead to incorrect output results (Geiger et al., 2020). In other words, if the input data contains discrimination, its discrimination will be solidified or even further amplified after processing by the algorithm. Therefore, data fairness is the basic principle that guarantees algorithmic justice. Algorithm developers should always maintain a prudent attitude towards algorithms and carefully select the applicable fields of autonomous decision-making algorithms, especially those that may directly cause discrimination, which should be avoided as much as possible. On this basis, algorithm design should prohibit the introduction of personal explicit bias and endeavor to identify implicit bias, avoid discrimination as much as possible, and reduce biased coding of women. At the same time, it should also strengthen the detection of diversity in the data set, reveal real-world characteristics from different perspectives, and avoid bias caused by the classification of features from a single gender dimension only.

Second, the transparency of the algorithm should be improved. Algorithm transparency refers to the disclosure of information by the design user of an algorithm about how the algorithm is deployed, how it works, and how it is used to facilitate regulation by the regulatory authority or a third party. In March 2022, Article 12 of the “Administrative Provisions on the Recommended Management of Internet Information Service Algorithms” promulgated by the Cyberspace

Administration of China put forward corresponding recommendations on the transparency and interpretability of algorithmic rules, and the “Guiding Opinions on Strengthening the Comprehensive Management of Internet Information Service Algorithms” also put forward some requirements for “promoting algorithmic openness and transparency.” Algorithm designers and developers should consciously apply transparency to the information push of algorithms to reduce the information asymmetry between users and Internet platforms. Internet platforms should actively disclose intelligent algorithmic procedures and enhance the explanation of relevant information to establish a balanced relationship between users and platforms.

### **3.3 The “environmental ethics” of artificial intelligence technologies**

Due to the rapid development of artificial intelligence, it has gradually penetrated all corners of human life, which makes the “environmental ethical” issues of artificial intelligence closely related to human beings and further push the “environmental ethical” problems of artificial intelligence to the tip of the wind. Ethical debates in the development of modern technology reflect the sensitivity, acuteness, and complexity that were not found in the previous technological era. Unregulated technological development can lead to environmental severe ethical problems, and AI technology is no exception. In recent years, many scholars have begun to pay attention to this problem, and human beings should analyze the environmental and ethical issues arising from AI technology from various angles. The author will explore AI technology’s ethical and ecological problems from “energy consumption” and “environmental pollution” perspectives.

#### **3.3.1 Artificial intelligence technologies accelerate human use and consumption of natural resources**

As Tesla CEO Musk warned, the current acceleration of human use and consumption of natural resources by AI technology is an important issue that is very easy to ignore. He said that the constraints on AI computing are predictable, “I predicted chip shortages over a year ago, and the next shortage will be power. I don’t think there will be enough power to run all the chips next year.” Sam Altman, CEO of Open AI, also said that AI will consume more power than people expect and that energy breakthroughs will be needed for future development. In the current boom in the development of artificial intelligence, the race of large models of artificial intelligence, in a sense, is more like a “race of arithmetic power.” Driven by the scale effect, companies continue to increase the model parameters and the amount of data to train the model and strive to improve the “quantity” in exchange for “quality” changes, and the corresponding arithmetic demand will also increase exponentially. Taking the training of GPT-3 as an example, GPT-3 has 175 billion parameters, and it is estimated that the training process used about 1,287 megawatt-hours (that is, 1,287,000 kWh) of electricity (Meek et al., 2016). What to make of this power consumption? This is equivalent to the electricity consumption of about 121 US households for an entire year. An expert has also made the analogy that it’s roughly equivalent to 3,000 Tesla electric cars driving together for 200,000 miles each. GPT-3 was released in 2020, and many may ask how the updated model consumes energy. This is because, in recent years, many AI tech companies have stopped

releasing training details, such as what hardware was used and how long it took, making energy consumption calculations difficult. However, the energy consumption of GPT-3 can be used as a reference. The GPT-3 model parameters are 175 billion, while GPT-4 has been revealed to contain 1.8 trillion parameters. With the doubling of parameters, the energy consumption will also increase significantly.

The above energy consumption is still limited to the training stage. After completing the training, AI will usher in a new power-consuming stage—reasoning, that is, the process of people using AI to output results. The director of the International Security Institute of the China Institute of Modern International Relations, Liu Chong, made this judgment. He said the current AI development route continuously increases the superimposed chip's model parameters. If it continues to follow this development route, future power consumption will increase. From this perspective, the future of AI energy consumption problems may become more and more prominent, especially when the power supply is relatively tight. Due to wind, solar, and other new energy generation due to randomness, volatility, instability, and other technical bottlenecks, today, the mainstream still includes thermal power generation and other traditional power generation modes. For the time being, energy has not become a limiting factor for the development of AI, but this is indeed a very imminent problem.

Artificial intelligence technology is not only for the accelerated consumption of electric energy. At the same time, as artificial intelligence is gradually used in various fields of society to achieve the transformation from theoretical technology to practical application, such as the application of multiple industries such as robots, the manufacture of these robots has to make use of many non-renewable energy resources in the natural world. The innovative development of artificial intelligence also accelerated the replacement of products and thus produced many old products that have become solid waste. These intelligent technology products are made of metal and non-metal materials, which are difficult to dissolve in nature, thus accelerating the consumption of natural resources and creating severe environmental problems.

### **3.3.2 The use of artificial intelligence technology will have an impact on the natural ecological environment of the region concerned**

Artificial intelligence technology in the application of practice is always a specific carrier, such as different kinds of robots, intelligent communities, and even intelligent technology used to protect the forest ecological environment and other projects. These projects need a specific carrier to achieve the purpose, and a large number of installations and use of these carriers will, to a certain extent, affect the balance of the natural ecology of the surrounding area, such as the use of artificial intelligence technology in the protection of forest resources.

In this example, various artificial intelligence equipment will be installed in the forest, and then the dynamic monitoring of multiple indicators of the forest. These devices will inevitably produce a potential threat to the normal activities of plants and animals and, to a certain extent, will affect the growth of plants and animals. From the microcosmic perspective, the electromagnetic radiation and noise that using intelligent technology products may bring will also damage the natural ecological environment of the relevant areas.



### **3.3.3 Countermeasures to the “environmental ethics” issues arising from artificial intelligence technologies**

To address the issue of “accelerated energy consumption by AI technology,” internally, we should advocate that AI practitioners should not only focus on the size of the model and the accumulation of data volume and generally try to produce “qualitative change” through “quantitative change,” but also focus on developing smaller models that consume less power with the same effect, to reduce the power consumption of AI, and add the idea of energy saving to the evaluation index of a model. Instead, they should focus on developing models with smaller volume and lower power consumption under the same effect to reduce the power consumption of AI, add the thinking of energy saving to the evaluation index of a model, and establish regulations and industry norms to create a consensus that power consumption is also an essential index for evaluating the goodness of a model. Through the change of thinking and innovation of technical bottlenecks, the thinking of energy saving is integrated into algorithms and models. Finally, AI algorithms with lower power consumption and better application effects are developed. From the outside, we can accelerate the bottleneck breakthrough of clean energy technology, make breakthroughs in wind power, solar power, and other clean energy, and increase the investment of scientific research funds and personnel to overcome the randomness, volatility, instability and other unstable shortcomings of wind power and solar power generation, which will make more clean power used in the development and application of AI technology, Thereby, This indirectly reduces the “energy consumption anxiety” of AI technology.

To address the problem of “artificial intelligence technology polluting the ecological environment,” we should start from the following two points to make improvements.

First, develop and improve AI’s environmental ethical design and strengthen the management of related technologies and products.

Before developing an AI technology, AI practitioners should improve the related technology’s environmental and ethical design so that the technology’s development and the ecological environment “go hand in hand.” They must avoid the old road of “polluting first, and then treating later,” at the same time, scientists should actively promote the development of AI technology. At the same time, scientists should actively promote the standardization and unification of artificial intelligence technology, improve the universality of the components of the product itself to improve the utilization rate of the product, thereby reducing the waste of resources, and finally improve the industry standard, by professionals to do professional things, to ensure that the product has been reliable before entering the market, to avoid the emergence of imperfectly developed commodities into the market, resulting in the waste of resources and environmental pollution in the second time.

Secondly, AI technology research should go hand in hand with product recycling and reuse research.

Nowadays, the artificial intelligence industry has ushered in the rapid development of the dividend period. Practitioners are crazy to develop better products to dominate the market share. In the rapid growth of technology, at the same time, it should strengthen the artificial intelligence

technology product recycling and reuse research and improve the resource utilization rate so that the “development” of artificial intelligence technology and “development” of environmental protection. The “development” of artificial intelligence technology and environmental protection should proceed step by step to avoid “polluting first and treating later.” We should fully use the residual value of discarded artificial intelligence products and, through technological reform, enable discarded artificial intelligence products to be reused or effectively recycled to avoid ecological pollution.

### **3.4 The “social ethical” aspects of artificial intelligence technologies**

In the development of artificial intelligence technology and the gradual penetration of various fields of human beings, the “social ethics” issues will be progressively highlighted. In the emergence of several “social ethics” issues, the more prominent contradiction is that artificial intelligence technology will rob the living space of human beings? The next author will discuss the “social ethics” of artificial intelligence technology.

#### **3.4.1 Will Artificial Intelligence Technology Rob Humans of Their Existence?**

The latest Future Jobs 2023 report from the World Economic Forum 2023 shows that nearly a quarter of global jobs will change over the next five years due to changes in artificial intelligence, digitalization, and other economic developments such as the green energy transition and the return of supply chains. About 75 percent of the companies surveyed said they expect to adopt AI technology within the next five years. The report expects AI to eliminate as many as 26 million records and administrative positions, such as cashiers, ticket takers, data entry, and accounting. Including the recent launch of Baidu’s “Radish Run” driverless taxi, Tesla has also recently launched its development of driverless taxis, which will replace many jobs with artificial intelligence, so what will happen to these unemployed people? Will the development of artificial intelligence technology take away human beings’ living space?

From a dialectical point of view, due to the versatility of AI technology and the high degree of industrial relevance, the development of AI technology has a more far-reaching impact on employment than previous technological innovations on employment. On the one hand, AI technology helps to give rise to new industries and new jobs, providing new employment opportunities and development channels for workers and promoting the realization of high-quality employment; on the other hand, AI replaces a large number of low-end jobs, leading to the expansion of the scale of unemployment, further increasing the pressure on the employment of the labor force. Problems such as mismatches in the employment structure will become more and more prominent.

Nowadays, due to the rapid development of artificial intelligence technology, the labor skills of workers lag behind the demand for labor skills in the age of artificial intelligence, and the advent of the age of artificial intelligence will inevitably lead to an increase in the number of structurally

unemployed people. Marx once said, “As soon as the means of labor appear as machines, they immediately become the workers’ competitors. The self-expansion of capital using machines is proportional to the number of workers whose conditions of existence are destroyed by them.” In the dimension of the substitution effect of machine employment, Marx argued that the substitution effect can spread to groups of highly skilled workers.

Artificial intelligence technology will have an impact on the demand for jobs in two dimensions: on the one hand, the labor productivity of enterprises will increase, and then the demand for jobs will decline, and on the other hand, artificial intelligence will replace some jobs. Artificial intelligence technology for some regular labor, such as logistics sorters, accountants, taxi drivers and other labor substitutability is strong, while for some teachers, academics and other high cost of labor is labor substitutability is weak. In short, with the development of artificial intelligence technology, the market demand for labor will be towards the development of high-knowledge, high-skill talents, “regular labor” manual labor will slowly be eliminated, which also brings us the challenge of expanding the scale of unemployment and raising the threshold of employment.

Some repetitive labor, rule-based, and procedural positions will no longer exist in the future. At the same time, AI will replace some positions in the accounting and financial industries will not disappear, but the demand for labor will be significantly reduced. The World Economic Forum’s Future Employment Report 2020 predicts that, by 2025, the introduction of new technologies and the change in the division of labor between humans and machines will cause 85 million jobs to disappear. Professor Yuval Harari of the Hebrew University in Israel has also suggested that AI will replace more than 50 percent of jobs over the next 20 to 30 years.

On the other hand, artificial intelligence also has a job creation effect. With the development of technology, new technology will replace part of the jobs. Still, at the same time, it will also create a part of jobs, as Marx said: “Although the machine is bound to crowd out the workers in the sector of labor to which it is applied, it can cause an increase in the employment of the other sectors of labor.” Artificial intelligence will also indirectly create more jobs by improving production efficiency, changing economic structure, and promoting economic and economic production. In the era of artificial intelligence, the rapid development of the digital economy, platform economy and many other emerging industries will also give rise to many new jobs new employment opportunities, driving a significant expansion of jobs related to artificial intelligence, providing more new jobs for workers, while artificial intelligence technology and the production model of traditional enterprises, and thus for the demand for composite talents will also be increased, the World Economic Forum The Future Employment Report 2020 predicts that by 2025, the number of people employed by the digital economy will reach 379 million, and 97 million new jobs will be created, and at the same time, today’s booming network live broadcasting, banding, anchor, e-commerce and other emerging industries also provide more flexible employment opportunities for women who are in a disadvantaged position in the traditional sector, and also optimize the employment group to a certain extent. The gender ratio in the employment group has also been optimized to a certain extent. From the perspective of the supply and demand structure of talent in new occupations, according to the analysis report on the current situation of employment situation of new occupations published by the Ministry of Human Resources and Social Security, there is a significant gap in the supply of new occupations. The contradiction between supply and demand is relatively prominent. So, from this perspective, the booming development of AI technology has brought more jobs to a certain extent.

### **3.4.2 Countermeasures to the “social ethics” issues arising from artificial intelligence technologies**

To mitigate the social and ethical problems brought about by the development of AI technology, especially the problem of encroaching on human living space and replacing human jobs, the improvement should be optimized from the following three points.

First, financial support for flexible employment for workers must be strengthened.

Strengthening financial support for flexible employment for workers, encouraging workers to take up flexible employment from a policy perspective so that more and more people will join the new jobs created in the era of artificial intelligence, and more and more people will start their businesses flexibly, boosting economic development and stimulating the job market, thus creating more and more jobs and realizing a virtuous circle. By encouraging workers to innovate and start their businesses and providing them with financial support, entrepreneurial guidance, and tax breaks, we can cope with AI's impact on traditional employment, raise innovation, and promote the prosperity of the job market.

Second, talent training for new occupations should be strengthened.

Enhancing workers' comprehensive quality and skill level is the key to improving employment quality and alleviating structural employment conflicts. It helps workers better adapt to the employment environment of the emerging digital economy in the era of artificial intelligence. With the traditional manufacturing industry slowly shifting to digital, intelligent, increasingly emerging enterprises, traditional vocational training is often based on the low-end market. If training is not upgraded and cannot move towards emerging industries, it is easy to cause a mismatch between the skills of the workforce and the supply and demand of talent needed by emerging enterprises, which in turn causes a vicious cycle of unemployment. Therefore, training should be combined with the local emerging industries and the skills gap to achieve accurate, efficient, quality high-end training for enterprises to continue to deliver talent, but also to alleviate the employment pressure and gradually achieve a virtuous cycle, at the same time to increase the cultivation of digital technology talents, to adapt to the scientific and technological and industrial revolution in the development of the needs of the business economy, to improve the supply of labor from the source.

Third, strengthen the construction of social security and improve the protection system of workers' rights and interests.

First, develop a social security system that adapts to new employment patterns. Because of the multiple employment relationships, unstable income, and difficulty in participating in social insurance for flexibly employed people, improve the existing policy provisions and contribution methods for flexibly employed groups to participate in employee social insurance and further promote social insurance from full coverage of the system to complete coverage of the personnel.

Secondly, the role of Internet platforms in coordinating labor relations should be brought into full play to strengthen the protection of employees' labor rights and interests. Because of new

occupations' flexible and diverse morphological characteristics, explore policies on protecting rights and interests, social security, and employment services adapted to cross-platform and multi-employers. The worries of practitioners of new occupations should be effectively addressed, and their creativity and enthusiasm should be mobilized. Only in this way can the structural contradiction between market transformation needs and the mismatch between labor force skills be ameliorated.

#### **4. Conclusion and Suggestion**

Today, the development speed and role of artificial intelligence have exceeded people's imagination. It is hard to imagine whether humans are ready for the arrival of strong artificial intelligence in the era of rapid development of artificial intelligence. Idealized in the future is for people and AI to live in harmony. AI brings more convenience to human beings and collaborates with human beings to create a better life. Artificial intelligence technology has indeed changed human production life and way of thinking. However, it must be pointed out that the progress of any technology is based on the development needs and fundamental interests of human society, and the main body behind it is human beings. When developing a particular technology, people should never detach themselves from the main body and develop it into a technology that is harmful to human beings. In-depth thinking and countermeasures on the ethical issues of AI technology do not aim at restricting the development and application of this technology but rather at avoiding its negative impacts as much as possible to highlight the purpose of the technology of "serving human beings." In particular, it should be emphasized that to develop a specific technology, human beings must, from the outset, fully consider the various ethical issues that may exist, clarify the direction of development of the technology, and pay great attention to its future. This is both humanity's responsibility for technology and humanity's responsibility for its own future. Only through the rapid development of AI and the constraints and norms of AI that are in keeping with the times can we create AI that truly benefits humankind.

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