



# Research on the Impact of Artificial Intelligence Development on College Students' Employment

Yucun Wang<sup>1</sup>

<sup>1</sup>Shandong Agricultural University School of Information Science and Engineering  
Tai'an City 271018, Shandong Province, China  
Email: wyc@sdau.edu.cn

**Abstract.** Artificial intelligence has had a wide-ranging impact in many fields of social life. The rapid development of artificial intelligence has promoted the development of industrial scale, created new job opportunities, and provided new ways for college students to improve their employment skills, which will have various effects on their employment. The employment issue of college students not only concerns the vital interests of millions of families, but also serves as an important guarantee for the implementation of the national talent strategy and the stable development of society. The systematic study of the impact mechanism of artificial intelligence on college students' employment not only helps to grasp the employment opportunities brought by technological changes, but also provides theoretical basis for the reform of talent cultivation mode in universities, which has important practical significance for achieving higher quality employment. Therefore, in today's rapidly developing era of artificial intelligence, especially as the development of artificial intelligence promotes the integration and development of various fields in society, studying the impact of the development of artificial intelligence on the employment of college students has more positive practical significance.

**Keywords:** artificial intelligence, college students, employment, impact.

Artificial Intelligence is a new technological science that studies and develops theories, methods, technologies, and application systems for simulating, extending, and expanding human intelligence[1]. In 1956, at the Dartmouth Conference, scientists such as John McCarthy, Marvin Minsky, and Claude Shannon first proposed the term "artificial intelligence". This conference marks the birth of artificial intelligence as an independent discipline and lays the foundation for subsequent research[2].

The development of artificial intelligence in the early decades was mainly based on theoretical research. Although it laid a certain theoretical foundation for the later development of artificial intelligence, due to the lack of major theoretical breakthroughs and the absence of technology applications that have a wide impact on social life, it can be said that the impact of early artificial intelligence on various fields of society was very small. But in the past decade or two, with the great improvement of social computing power and the rapid development of big data technology, artificial intelligence technology has made rapid progress. Artificial intelligence has had a wide-

ranging impact on many fields of social life and is bound to have various effects on the employment of college students.

## **1 The positive impact of the rapid development of artificial intelligence on college students' employment.**

### **1.1 The rapid development of artificial intelligence has promoted the development of industrial scale and has a positive impact on the employment of college students.**

The development of artificial intelligence has promoted the growth of industrial scale. According to the article published by People's Daily, the scale of China's AI industry will reach 4041 billion yuan in 2021. The accelerated integration of artificial intelligence technology and the real economy has promoted the transformation and upgrading of traditional industries, injecting strong impetus into high-quality development[3]. According to the "Artificial Intelligence: Boosting China's Economic Growth" report released by the world's top management consulting firm Accenture in 2017, artificial intelligence is expected to drive a 27% increase in labor productivity in China by 2035. The "New Generation Artificial Intelligence Development Plan" released by China proposes that by 2030, the core industry scale of artificial intelligence will exceed 1 trillion yuan, driving the scale of related industries to exceed 10 trillion yuan[4]. The above data indicates that the development of artificial intelligence has promoted the development of industrial scale, and the growth of industrial scale will undoubtedly have a positive impact on the employment of college students.

### **1.2 The rapid development of artificial intelligence has created new job opportunities, which is beneficial for the employment of college students.**

On the one hand, the rapid development of artificial intelligence itself has created a large number of new job opportunities. Whether it is theoretical research, algorithm research, model research, data analysis and mining for the development of artificial intelligence, or various application testing and practices for the development of artificial intelligence, these processes have created a large number of new job opportunities; In addition, emerging professions such as AI trainers, Algorithm engineers, intelligent system architects, AI product managers and data annotation engineers have emerged. All of the above have effectively promoted the employment of college students in corresponding majors.

On the other hand, the rapid development of artificial intelligence is not an independent process. Along with the rapid development of its own science and technology, artificial intelligence often has extensive and profound integration with many application fields in social life. The social experience of the past decade has shown that this combination generally has an impact on the corresponding aspects of social life, thereby generating new talent demands in the corresponding social fields. For example, in the past decade or so, the integration and development of artificial intelligence

and finance, the integration and development of artificial intelligence and transportation, the integration and development of artificial intelligence and social security, the integration and development of artificial intelligence and film and television, and so on. Due to the potential for artificial intelligence to develop into a tool relationship for various aspects of social life, regardless of which field of integration between artificial intelligence and social life develops, there will be a corresponding demand for new tool users in that field. These new talent demands are the demand for new professional and technical positions, which is conducive to the employment of college students.

### **1.3 The rapid development of artificial intelligence provides new ways for college students to improve their employment skills, which is beneficial for their employment.**

The rapid development of artificial intelligence has created an unprecedented new path for college students to enhance their employment skills. When college students hope to find employment in certain social fields but find themselves lacking in professional skills, artificial intelligence technology becomes another way for them to improve their corresponding professional skills. For example, some graduates from art majors have used artificial intelligence technology to enhance their employment skills in animation and film, and some students from transportation majors have used artificial intelligence technology to enhance their employment skills in the field of autonomous driving.

### **1.4 The rapid development of artificial intelligence has promoted the development of technology intensive industries, which is conducive to promoting the participation of college students in the high-end employment market competition.**

Technology intensive refers to the type of economic activity that requires a significant amount of physical labor per unit due to the use of a large number of machinery and equipment, high levels of production technology and labor productivity[5]. In the context of rapid development of artificial intelligence technology, high-end talents who master cutting-edge technologies such as AI and big data have become the core demand for social development. This trend has created unprecedented opportunities for college students' employment: on the one hand, college students with relevant professional skills will gain significant competitive advantages in the high-end job market; On the other hand, the cultivation and delivery of high-level talents also fully demonstrate the key value of higher education in serving national strategies and promoting industrial upgrading. By cultivating versatile talents who can adapt to the demands of the intelligent era, the social function of university education has been more fully reflected and enhanced.

The rapid development of artificial intelligence can help college students make more reasonable career plans and promote their employment.

Due to the fact that the employment of college students is a major issue related to their future and social development, it has always been an important issue that the country and universities attach great importance to. Therefore, nowadays universities generally provide certain career planning education for their students, hoping to guide them to make early and reasonable career plans through appropriate education, and promote their employment. However, even so, there is still a considerable number of college students who are quite confused when facing employment issues. They cannot know very clearly what kind of job they are suitable for, and they have not been able to prepare sufficient professional knowledge in a timely manner for the careers they may pursue in the future. The development of artificial intelligence can enable college students to use the help of artificial intelligence to make more reasonable career plans, and can also enable college students to learn necessary knowledge and skills with the help of artificial intelligence technology. This is of great positive significance in promoting the employment of college students.

## **2 The development of artificial intelligence has a certain negative impact on college students' employment**

### **2.1 The development of artificial intelligence may lead to the disappearance of some old professional and technical positions, thus posing new challenges to the employment of college students in the corresponding professional fields.**

The development of artificial intelligence is beneficial for the employment of college students, but it also has a certain negative impact on their employment. The development of artificial intelligence will lead to the elimination of old and new technologies in many aspects of social life. Some old professional and technical positions may disappear due to the development of artificial intelligence, which will pose new challenges to the employment of college students in corresponding fields and have a certain negative impact on their employment. From an employment perspective, more and more supermarkets, banks, and restaurants are starting to use machine services, and even high knowledge jobs such as lawyers and securities analysts may be replaced by robots, which poses challenges to the employment of workers[6]. McKinsey & Company predicts that by 2030, at least 118 million people in China will be replaced by artificial intelligence or robots. Positions such as translators, assistants, salespeople, and editors are at risk of being largely replaced, and some knowledge-based and creative jobs will also be impacted by artificial intelligence[7].

### **2.2 The development of artificial intelligence will lead to changes in the professional and technical demands of some existing job positions, which will have a certain negative impact on the employment of college students.**

The development of artificial intelligence will prompt changes in the professional and technical demands of some existing job positions. In order to carry out social produc-

tion activities more effectively, some managers of employers hope that employees will use artificial intelligence technology to improve and optimize the traditional production and lifestyle of their units, which puts forward new professional and technical requirements for the talents in the positions. However, the rapid development of artificial intelligence technology and its numerous impacts on social life have only occurred in recent years. Therefore, many college students nowadays and in the past have not learned much professional knowledge about artificial intelligence, and their ability to combine artificial intelligence with their respective professional fields to solve specific problems is even more lacking. From this perspective, the development of artificial intelligence has a certain negative impact on the employment of college students.

### **2.3 The development of artificial intelligence may cause some college students to experience mental anxiety in the face of technological changes in the job market.**

For various reasons, the vast majority of college students fail to learn about the integration of artificial intelligence and their professional knowledge and technology during their college years. Even a considerable proportion of college students do not understand the most basic knowledge and technology of artificial intelligence, let alone be able to solve technical problems in their professional fields with the knowledge and technology of artificial intelligence. When college students with practical knowledge deficiencies are confronted with real employment demands, they are bound to experience feelings of confusion, loss and mental anxiety. This has a negative impact on both the employment and healthy growth of college students.

## **3 The development of artificial intelligence and the practical problems of college students' employment have put forward new requirements for higher education.**

### **3.1 Colleges and universities should formulate more suitable talent cultivation plans based on the reality of artificial intelligence development and the characteristics of each major.**

Colleges and universities should formulate more suitable talent cultivation plans based on the reality of the development of artificial intelligence and the characteristics of each major. In the talent cultivation plans, emphasis should be placed on the integration of artificial intelligence technology and knowledge of various majors, so that college students can learn relevant knowledge and skills on how to use artificial intelligence technology to promote their professional knowledge learning and research during their college years. Lay a solid knowledge foundation for college students' later employment and professional development.

### **3.2 Colleges and universities should appropriately add disciplines and majors in accordance with the reality of the development of artificial intelligence and the reality of social demands.**

The reality of the development of artificial intelligence and the reality of social demands have given rise to some new professional talent demands, such as large model development researchers, large model trainers, and new efficient iterative algorithm developers, etc. These new demands for professional talents emerged suddenly along with the rapid development of artificial intelligence, and there is a significant gap in talent demand in society. Colleges and universities should, with a developmental perspective, promptly add some corresponding disciplines and majors, cultivate new professional talents, promptly meet the talent demands of society, make their own contributions to the rapid development of society, and also be conducive to promoting the employment of college students.

### **3.3 Colleges and universities should appropriately carry out vocational training in artificial intelligence based on the reality of the development of artificial intelligence and the reality of social demands.**

Colleges and universities should appropriately carry out vocational training in artificial intelligence based on the reality of its development and social demands, providing timely channels for college student job seekers with knowledge needs in artificial intelligence or those who have already started working but are facing new skill demands to update and reconstruct their knowledge, which is conducive to the employment, re-employment or career development of college students.

### **3.4 The development of artificial intelligence objectively poses a demand for college students to grow into versatile talents.**

Before the rapid development of artificial intelligence, the main demand for college students in society was "one specialization and multiple abilities", especially "one specialization" which received more attention. With the rapid development of artificial intelligence technology, there have been corresponding changes in the requirements of society for college students. Due to the fact that college students who have mastered artificial intelligence technology can use it to quickly improve their professional skills and knowledge, the development of artificial intelligence objectively puts forward a demand for college students to grow into versatile talents. College students should not only firmly grasp their professional knowledge and skills, but also master the relevant technologies of artificial intelligence, and be proficient in applying artificial intelligence technology to promote their professional development. That is to say, the development of artificial intelligence requires college students to become composite talents who not only master professional knowledge but also artificial intelligence technology.

### **3.5 The development of artificial intelligence has put forward new development ideas for the joint training of talents between universities and enterprises.**

The rapid development of artificial intelligence has become an event that has a profound impact on various fields of society, including politics, economy, military, technology, education, and national security. Although the development of any scientific field will have an impact on the progress and development of society, there is no other discipline that can, like artificial intelligence, simultaneously drive and influence the development and progress of various aspects of social life.

The rapid development of artificial intelligence not only requires huge capital investment and hardware infrastructure support, but also relies on the cultivation of high-quality technical talents. In this process, universities and high-tech enterprises have their own advantages: universities have strong teaching and research capabilities and theoretical innovation abilities, while enterprises have clear market orientation and strong engineering practice capabilities. Through the collaborative education mechanism between schools and enterprises, the advantages of both parties can be fully utilized to achieve deep integration of industry, academia, and research. This collaborative model not only allows students to participate in the research and application of industrial level AI models in advance, but also transforms real enterprise projects into high-quality teaching cases, thereby cultivating compound AI talents who not only master cutting-edge theories but also have practical abilities.

## **4 Conclusion**

The employment issue of college students not only concerns the vital interests of millions of families, but also serves as an important guarantee for the implementation of the national talent strategy and the stable development of society. In recent years, the number of college graduates in China has continued to expand, reaching 11.87 million in 2024, a historic high, and the employment situation is becoming increasingly complex. At the same time, artificial intelligence technology has also had a profound impact on the employment of college students. Therefore, studying the impact mechanism of artificial intelligence on college students' employment not only helps to grasp the employment opportunities brought by technological changes, but also provides theoretical basis for the reform of talent training mode in universities, which has important practical significance for achieving higher quality employment. Therefore, in today's rapidly developing era of artificial intelligence, especially as the development of artificial intelligence promotes the integration and development of various fields in society, studying the impact of the development of artificial intelligence on the employment of college students has more positive practical significance.

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