

# Study on the Influence and Threat of Chat GPT

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**Abstract.** ChatGPT is a chatbot program, a natural language processing tool driven by artificial intelligence technology. The powerful functions of ChatGPT have attracted the attention of both academia and industry and have had a huge impact on society as a whole. In this paper, the related work of ChatGPT is first reviewed, and then the economic and social impact of ChatGPT is discussed. The technological philosophy and ethical issues in the AI industry and the potential economic and social threats and future development trends of ChatGPT are further considered. ChatGPT will replace part of human work to a certain extent, which is an inevitable trend.

**Keywords:** ChatGPT, Artificial Intelligence, Human-Computer Interaction

## 1. Introduction

ChatGPT is a chatbot program developed by OpenAI in the United States, which is a natural language processing tool driven by artificial intelligence technology that can communicate by learning and understanding human language and interact according to the context of the conversation, truly chatting, thinking and communicating like a human, and even completing the writing of emails, video scripts, copywriting, translation, code, writing papers, etc. ChatGPT was able to successfully pass Google's programming interview and obtain an offer for an L3-level engineer with an annual salary of \$183,000, and a law professor at the University of Minnesota asked ChatGPT to try out graduate exam questions in four of their school's courses. Finally, ChatGPT passed all the exams with a comprehensive score of C+. Figure 1 and Figure 2 show examples of ChatGPT debugging code and dialogs, respectively.

User this code is not working like i expect — how do i fix it?

```
resultWorkerErr := make(chan error)
defer close(resultWorkerErr)
go func() {
    defer cancel()
    resultWorkerErr <- b.resultWorker(ctx)
}()

err := b.worker(ctx)
cancel()
if err == nil {
    return <-resultWorkerErr
}
return multierror.Append(err, <-resultWorkerErr)
```

ChatGPT It's difficult to say what's wrong with the code without more context. Can you provide more information about what the code is supposed to do and what isn't working as expected? Also, is this the entire code or just a part of it?

User just part of it — the error never surfaces. I think there is something wrong with the channel

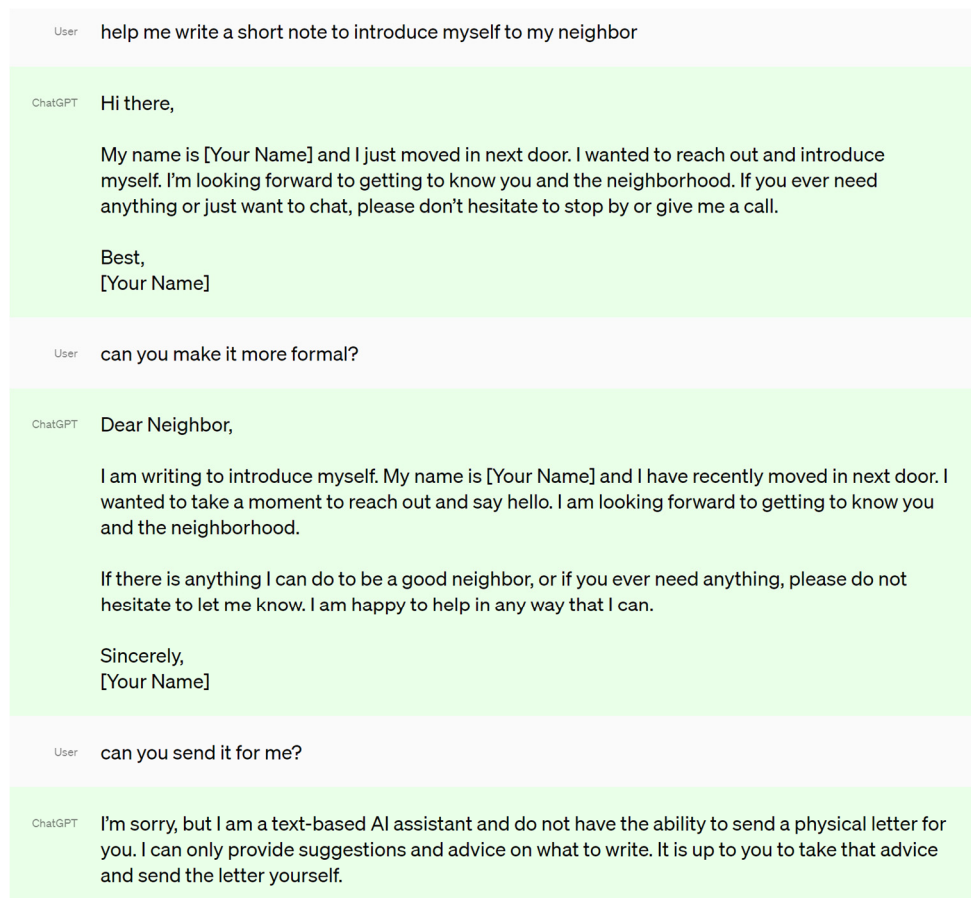
ChatGPT It's difficult to say without more information about what the code is supposed to do and what's happening when it's executed. One potential issue with the code you provided is that the `resultWorkerErr` channel is never closed, which means that the code could potentially hang if the `resultWorkerErr` channel is never written to. This could happen if `b.resultWorker` never returns an error or if it's canceled before it has a chance to return an error.

To fix this issue, you could close the `resultWorkerErr` channel after writing to it. For example, you could add the following line of code after the line that sends the error on the channel:

```
close(resultworkerErr)
```

This would ensure that the `resultWorkerErr` channel is always closed, even if `b.resultWorker` never returns an error. Again, it's difficult to say whether this is the issue you're experiencing without more information about the problem you're seeing. Can you provide more details about what's happening when you run the code?

**Figure 1.** Example of ChatGPT debugging code.



**Figure 2.** An example of a conversation conducted by ChatGPT.

ChatGPT is a typical AI application [1]. Robotics, speech recognition, image recognition, natural language processing, and expert systems are all examples of artificial intelligence, a subfield of computer science. In addition to computer science, his research covers a wide range of disciplines, including information theory, cybernetics, psychology, linguistics, logic, cognitive (thinking) science, behavioral science, and systems theory [2]. Software, hardware, automation, and communication tools are needed. The technological breakthrough of artificial intelligence has spawned a number of emerging subindustries in many fields, mainly including deep learning, machine learning, natural language processing, computer vision/image recognition, gesture control, virtual personal assistants, intelligent robots, recommendation engines and assistance filtering algorithms, situational awareness computing, speech translation, and automatic recognition of video content. Machine learning has become the core field of research and application [3-7].

ChatGPT and artificial intelligence have had a huge impact on human society. The first is the issue of employment. Intelligence can greatly improve production efficiency, save labor costs, and promote the prosperity and development of material wealth in human society, which also

means that some low-tech physical labor will be replaced by artificial intelligence. From the analysis of artificial intelligence on the dual replacement of human physical and mental labor, not only low-income industries such as manufacturing, retail, services, transportation, etc., but also those professional fields that require training for several years before, it is foreseeable that the development of artificial intelligence will affect almost all walks of life in the future. The second is security. The biggest application of scientific and technological innovation is premised on safety, and the biggest danger is that humans cannot control it, and the consequence is to bear the huge loss of human, financial and material resources invested in artificial intelligence, and it is likely to pay the price for trying to take power in artificial intelligence.

In this paper, I first review the work related to ChatGPT and then discuss the impact of ChatGPT on the economy and society, the philosophical and ethical issues of technology in the AI industry, and the potential threats and future development trends of ChatGPT to the economy and society.

## **2. Related work**

After ChatGPT was proposed, it generated much research and discussion. Reference [8] is a review paper on ChatGPT and explores the current social impact of ChatGPT, which can help readers understand the most basic facts about ChatGPT. Reference [9] proposes that generative artificial intelligence represented by Chat GPT will stimulate ecological changes in the field of communication. At the information level, generative artificial intelligence will penetrate the barriers of network resources, become a next-generation network entrance and super media, and drive the transformation of the media industry. At the individual level, generative AI will more deeply empower individuals and promote the sinking of communication power and the digital survival of people. At the connectivity level, generative AI will serve as the connectivity hub for the next-generation Internet, inspiring the transformation of mobile Internet to intelligent connectivity. The comprehensive intelligence brought by generative artificial intelligence is a profound revolution, and the governance logic of communication and society will undergo profound changes. This section discusses the impact of ChatGPT from different perspectives[10].

Reference [11] proposes that ChatGPT's powerful language processing capabilities can greatly promote information circulation and cooperation between government organizations, reduce government administrative costs and improve the efficiency and effectiveness of public management, bring development opportunities for digital government construction, promote digital government construction such as intelligent government-citizen interaction, intelligent public services, scientific government decision-making, etc., and even trigger in-depth government reform. At the same time, the double-edged effect of ChatGPT has also brought great impact and risks to public management, making people pay attention to institutional restructuring and risk regulation in the ChatGPT era and think about how to reasonably control the application boundary of ChatGPT. Under the framework of traditional public management emphasizing the relationship between the government and the market, the application of ChatGPT faces the risk of public value failure, and it is necessary to reconstruct the judgment standard of public value failure in the era of artificial intelligence and propose countermeasures for its potential risks. Human morality problems, human ambivalence toward high intelligence, and the complexity of public life also make chatbots represented by ChatGPT face the risk of

moral death, which should be humanistic and build value norms in the era of artificial intelligence. The application and development of ChatGPT may have a positive or negative impact on the quality and increase of the labor force, and scientific and effective policies should be designed to make artificial intelligence promote social progress and improve people's well-being to maintain the sustainable development of the workforce.

Reference [12] proposes that the ChatGPT model can promote the people-friendly, efficient and intelligent development of digital government, but it may also cause data sovereignty security risks at the national level, administrative public deconstruction risks at the government level, and data rights infringement risks at the individual level. To standardize the technical application of ChatGPT models, it is necessary to promote the classification and grading of ChatGPT data, improve the responsibility chain of ChatGPT models, clarify the state's obligations to protect citizens' data rights, and strengthen the state's guidance and research and development of ChatGPT technology.

### **2.1 Impact of ChatGPT in the publishing industry**

Reference [13] analyzed 233,914 English tweets in the month after the launch of ChatGPT to analyze the impact of ChatGPT and people's concerns. The paper found that ChatGPT has the potential to revolutionize existing journalism and academic publishing, including providing features such as creative writing, academic writing, code generation, and answering questions. The launch of ChatGPT has also sparked a discussion about general artificial intelligence.

Reference [14] first introduces the natural language processing and artificial intelligence technologies related to ChatGPT, then introduces the evolution of the underlying technology of ChatGPT, and finally discusses the impact of ChatGPT on academia and the publishing industry. Although ChatGPT can improve publishing efficiency to some extent, people still need to be aware of the moral hazard that ChatGPT can cause and cannot fully rely on ChatGPT to generate content.

Reference [15] proposes that intelligent content generation is the manifestation of the rapidly evolving intelligent transformation in the field of news communication. From the perspective of "knowledge", intelligent content generation brings changes and challenges to the news and publishing industry in terms of knowledge extraction, knowledge production and knowledge dissemination. Coexistence with artificial intelligence is the proper way of thinking and survival in intelligent transformation: we should deeply understand human subjectivity, give full play to their initiative, and understand and respond to the changes brought about by intelligent content generation with intelligent thinking; use intelligent content generation tools with exploratory thinking to obtain high-quality knowledge content; improve intelligent literacy, research and formulate a system of rules for the development and application of intelligent content generation technology, and ensure that the use of artificial intelligence tools is carried out under ethical, rule, and legal constraints.

### **2.2 Impact of ChatGPT in the education industry**

Reference [16] considers the potential risks of using ChatGPT in education. Although ChatGPT-based chatbots can take on some of the teacher's work and can provide students with good answers, this paper finds that ChatGPT brings problems such as test integrity and privacy

manipulation and cannot be directly applied to the process of educating students, and further research is still needed.

Reference [17] uses ChatGPT to take the US Medical Licensing Examination, not only for multiple-choice questions but also for short-answer questions, and is evaluated through a comprehensive evaluation method. The results show that ChatGPT can achieve better performance than previous large language models such as GPT-3 and instruct, basically reaching the passing level of 3rd-year medical students and answering logical answers to most questions.

Reference [18] argues that the generic large model, as a proxy technology, can "arm" learners and narrow the gap between the knowledge-weaker and others. At the same time, as a super tool, the general large model is expected to initiate a new round of knowledge revolution. However, the large universal model has huge destructive effects, which will bring an urgent crisis of alienation to education. The indoctrination output of the generic large model is closely linked to the vulgarization of education, and in this context, learners may face risks such as the shallowness of cognitive structure and the homogenization of cognitive thinking. The phenomenon of physical departure during the use of the general large model may engulf the learning community, making it difficult for learners to establish real and effective communication relationships with the people and things around them. The conversational learning model of the universal big model may bring risks such as the collapse of educational value, the rise of new digital authorities, and the colonization of platform capital. In the future, it is necessary to take dialectical actions according to different situations and actively play the positive support function of the general large model for education ecology.

### **2.3 Impact of ChatGPT in the financial industry**

Reference [19] considers the potential of ChatGPT in financial research and finds that ChatGPT has advantages in generating and confirming some research ideas, but there are still shortcomings in the literature overview and designing suitable verification schemes. The paper's point is that ChatGPT is not yet a substitute for the role of humans in financial research, but it lists a few risks.

Risk of legal infringement and noncompliance AIGC (Artificial Intelligence Generated Content) generated by ChatGPT in the course of dialog with users may imply the risk of copyright infringement. If ChatGPT provides text, works or software code created by others in the process of feedback to users' problems, if it exceeds the reasonable use limit, such as comments and introductions, it is also an infringement of others' right to information network dissemination. AIGC's "answers" are all online open-source data, which are produced through large-scale pretraining models, and it borrows many human intellectual property rights, and if the law takes a bigger step, human intellectual property rights and interests may not be guaranteed. At the same time, ChatGPT may pose a risk of disclosure of trade secrets and breach of confidentiality obligations. Users may enter confidential information when submitting a request without protection or vigilance, which may constitute disclosure and violation of relevant information.

The problem of differences in the technical processes of financial institutions Due to the different cognition of ChatGPT by different financial institutions, the development foundation and application capabilities, the emergence of ChatGPT may aggravate the differences between financial institutions in the process of digital development. Some financial institutions,

especially small and medium-sized financial institutions, are still in the stage of vague cognition of digital transformation, not combined with their own business development status and characteristics, limited by capital, talents and other factors, and unable to invest many resources. System construction can only be based on specific and fragmented business, and it is difficult to form a systematic technical and operational structure. ChatGPT needs to be based on large-scale training data and facility foundations, and after it is put into the application of financial technology, it may further widen the development differences of financial institutions, increase industry concentration, and aggravate the risk of small and medium-sized enterprises being eliminated.

#### **2.4 Impact of ChatGPT on the transportation industry**

References [20] and [21] consider the interactive potential of ChatGPT and smart cars. Mainly by asking ChatGPT if it understands smart car-related issues and then trying to update and improve ChatGPT's knowledge reserve during the Q&A process. When this paper tested ChatGPT, ChatGPT could not yet network, so there would be a problem of knowledge lag. The paper argues that despite the potential of ChatGPT, it is currently unclear how it will be used in smart vehicles, and the problems caused by inaccurate speech recognition still need to be overcome.

### **3. The impact of ChatGPT on economic and social aspects**

While ChatGPT pushes human-machine dialog to a new level, it also brings opportunities to promote the development of the artificial intelligence industry to a new chapter. Domestic and foreign technology giants have launched a new round of AI competitions, actively deploying generative AI, such as Baidu's Wen Xin Yiyan and Bing's small assistant. For example, ChatGPT can be used on some web pages or applications, such as adding a search keyword to create PPT on office and introducing a more convenient organization method in some applications, which increases the competitiveness with other similar applications.

The jobs that AI can replace are often simple and regular. For example, in document writing, AI can be applied to natural disaster bulletins similar to "fill in the blanks". After determining fixed information such as time, place, event type, and number of casualties, AI can fill in quickly and accurately according to preset rules. For example, in food delivery, AI can calculate the optimal delivery route and time based on the customer's address information and order content, but it is difficult to pose a threat to the employment of low-skilled workers, such as handling and cleaning, and other jobs that require physical strength. These tasks require human physical abilities and flexibility, which ChatGPT currently cannot possess.

ChatGPT can help users complete papers, quickly implement the program code of a command, quickly identify questions and give answers in a variety of ways. While providing new ways of learning, it will also reduce the opportunities for users to escape from thinking deeply, which will have an impact on the education system, thereby reshaping the existing education methods, teaching content and direction of education system reform. In summary, ChatGPT is able to process information accurately and efficiently, reducing the burden of human work.

#### **4. AI Philosophy and ethical issues of science and technology**

In industry, ChatGPT is favored by various fields for its generative dialog capabilities based on large language models (LLMs). In particular, ChatGPT has brought great convenience to academic research, helping scholars to carry out preliminary information collection and data processing and even quickly organize literature reviews, significantly reducing the time required to write papers. However, it is also this technology that ChatGPT possesses that has caused scientific research and ethical controversy. For example, the misanswers that often occur in ChatGPT reduce the rigor and scientific nature of academic research, which in turn promotes the spread of false information and brings significant harm to society. At the same time, the plagiarism and plagiarism involved in the information generated by ChatGPT also affect the entire academic ecology. In particular, the large enterprises where the creators of ChatGPT work use their monopoly position in technology raise questions about the ethics of technology and the problem of value penetration. For example, ChatGPT disinformation dissemination will reduce the scientific nature of academic research. ChatGPT is a corpus-based generative dialog model that can produce coherent and grammatically correct text but does not have the ability to identify false information, may generate false academic text, or may cite nonexistent scientific research, which in turn causes inaccuracy, bias and plagiarism in professional research.

According to a survey conducted by the online course provider Study.com in 2023, more than 89% of students use ChatGPT for homework. The study was based on a questionnaire of 1,000 students over the age of 18 to study the use of ChatGPT in the classroom. The survey also showed that (1) 48% of students used ChatGPT to complete quizzes, 53% used ChatGPT to write essays, and 22% used ChatGPT to generate essay outlines; (2) 72% of college students believed that ChatGPT should be banned on university networks. Jenni Quilter, associate dean of NYU's College of Arts and Sciences, said professors are now concerned that students are cheating using ChatGPT. According to Quilter, there were incidents of students using ChatGPT back in December. Using ChatGPT without permission has consequences equivalent to any academic plagiarism incident, including redoing assignments, deducted points, and writing checks.

According to reports from <https://cosmosmagazine.com/technology/ChatGPT-ban-in-schools/>, some schools banned the use of ChatGPT, but many experts say it could improve education in Western Australia, and Victoria's public schools last week joined New South Wales, Queensland and Tasmania in banning ChatGPT across the board while in school. Meanwhile, school districts in the United States, France and India banned ChatGPT. Teachers were asked to watch for signs that students were using the tool at home. However, there is no indication that AI detection technologies, such as those created by OpenAI, will be used in schools. However, many education experts have called for calm and see AI as an opportunity, not an obstacle, in education. Dr. Catherine McClellan, deputy chief executive of the Australian Educational Research Council, said in an article in Time magazine that panic about the threat of edtech was not new. "Learning technology, paper, slate, chalk, every advance in every technique is called the death of learning," she said. "Therefore, I do not think panicking and saying, 'you cannot touch it' is the way to go — that is how we use it, so it is valuable to students." Therefore, the use of this tool depends on the original intention of the user.



ChatGPT itself does have a progressive side, and it can assist scholars in doing their daily work better. However, as a research tool, it has a significant drawback, especially in regard to scientific integrity, where overreliance on content generated by ChatGPT can raise the risk of plagiarism, fraud, and copyright infringement. Ling Xiaoxing if ChatGPT writes a poem in the style of the poet Li Bai. Although ChatGPT can generate a new poem, the sentences in it are similar to existing ancient poems and thus may bear traces of "academic ethics" or "plagiarism". At the same time, students may use ChatGPT to produce works that do not belong to them, which leads to unethical behaviors such as plagiarism, which in turn affects the educational and academic ecology. Such behavior will lead to outcomes that do not reflect students' abilities and knowledge behaviors, which in turn will affect education and academic ecology. Such behavior will result in outcomes that do not reflect students' abilities and knowledge.

At present, China does not impose any blockade on ChatGPT. The first reason is that most students currently do not have access to download ChatGPT, and most students do not know much, and the second reason is that plagiarism is not as valued in China as in other Western countries. From my point of view, I think ChatGPT does not affect students' ability to think, but I think it will change our educational facilities, because in many places students do not have this tool to learn, including summarizing some things they do not understand, and ChatGPT can assist in spelling and grammar checking, which is easier for some people with disabilities or new language learners to understand, so I think the blocking of ChatGPT is not very reasonable.

Potential threats and future development trends of ChatGPT to the economy and society in this context of AI advancement, we should recognize its coexisting opportunities and risks. On the one hand, the emergence of new technologies often brings new productivity needs, promotes different degrees of social change, and promotes the development of civilization. On the other hand, the application of new technologies needs to adapt to a buffer period, which may include the improvement of the technology itself, the adjustment of the direction of technology application, and the establishment of a mechanism to adapt to the application of new technologies. The New York Times reported that across the United States, university professors, department chairs and administrators have begun overhauling their lectures, and ChatGPT has prompted a potentially dramatic shift in teaching and learning. Some professors are redesigning their curriculum to include more oral exams, group work, and handwritten assessments instead of typing assessments.

In terms of potential threats, this paper reveals that the further development and in-depth application of ChatGPT may bring heavy "adjustment costs" to the economy and society and may also produce potential risks such as cognitive pollution, algorithm discrimination, information leakage, legal vacuum, and ambiguity and impact of human subject status. Second, in terms of future development trends, a new generation of artificial intelligence technologies such as ChatGPT is expected to gradually improve in information filtering, intellectual property rights and information security and realize more ChatGPT application scenarios in education, scientific research, medicine, art creation, commerce, industry, service industry, social governance, smart offices, emergency management, smart elderly care and other fields, showing more "intelligent" actions.

## 5. Conclusion

All in all, I think that one day AI will definitely replace humans in every aspect except the most basic labor, such as some designers, editors and other jobs may be replaced, because in capitalism, artificial intelligence is more labor-saving and money-saving than people, for example, in news reports, artificial intelligence in this aspect of the report written by artificial intelligence is more objective, and there are not so many subjective opinions. In terms of education, although the United States and many other Western countries have completely blocked students using ChatGPT to do homework, I still think that it is just a tool, depending on how humans use it, it does not affect students, and ChatGPT can help spelling and grammar check when debuting, some disabled or new language people are easier to understand. However, this is often not accepted because there is an ethical problem because ChatGPT's often wrong answers reduce the rigor and scientific nature of academic research, which may be spread by some people with intentions and then promote the spread of false information to bring major harm to society. At the same time, the plagiarism and plagiarism involved in the information generated by ChatGPT also affect the entire academic ecology.

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