

Legal Regulation of Risk Iteration in ChatGPT-like Generative AI Technology

Jing Deng*

School of Law, City University of Macao, Macao 999078, China

*Corresponding author: Jing Deng, djing449@163.com

Copyright: © 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: The technical iteration of generative artificial intelligence represented by ChatGPT generates strong computing power and intelligence, which brings convenience to people and improves people's production and living standards. Due to the extreme language logic and the ability to crawl data, the technology also has other deep problems. To solve such problems, this paper believes that the development of special laws can first be promoted from the following aspects. The second is to emphasize the strategic layout of national security to prevent countries from being blocked by other countries in terms of generation-like artificial intelligence. Otherwise, the productivity level of the affected country would fall. Finally, the paper discusses the division of responsibility for generative artificial intelligence of ChatGPT.

Keywords: Generative AI technologies; ChatGPT; Technological risk iteration; Legal regulation

Online publication: July 26, 2024

1. The issues raised

Since its rapid rise in 2022, ChatGPT (Chat Generative Pre-training Transformer) has become the fastest software to reach over one billion users, far surpassing the growth rates of previous fast-growing platforms like TikTok and Xiaohongshu. This is another breakthrough in artificial intelligence following driverless technology. Currently, ChatGPT and similar generative AI technologies represent the ultimate form of Metaverse forms. Its emergence has accelerated the implementation of the Metaverse by at least ten years^[1]. As of July 2024, according to OpenAI, ChatGPT has evolved to the level of ChatGPT4o. In 2018, GPT-1 had only 117 million parameters, while by 2020, GPT-3 had increased to 175 billion parameters, with parameters for subsequent versions yet to be disclosed. Through continuous performance improvements, it constantly exceeds human expectations regarding data analysis and integration capabilities^[2]. It is the unsupervised pretraining mode, which continuously fine-tune the language through the model, so as to obtain the accuracy and rapidness of language generation^[3]. It is ChatGPT that its language authenticity and richness are greatly improved through continuous updating and iteration, which makes the general public facing ChatGPT dialogue, unable to quickly recognize the authenticity of dialogue, and thus fall into crisis. Unlike traditional AI technologies, ChatGPT's innovation as a type of generative AI lies in its integration of partial autonomy throughout the entire generation

and processing process, utilizing neural convolution networks (similar to human neurons) to control settings and manufacturing, which initially demonstrates deep learning ability and simulates brain neural networks for learning. This creates an algorithmic black hole with opaque data ^[4]. In ChatGPT 3.5 to 4o, the number of neural convolutions has increased significantly, leading to ample improvements in response speed. Currently, GPT-4o can perform audio input in approximately 232 milliseconds, with an average of 320 milliseconds, which is roughly similar to human reaction times. Additionally, GPT-4o excels Whisper-v3 (a speech recognition model) in audio automatic speech recognition (ASR) and translation performance. As the reliance on ChatGPT by a growing number of users continues to increase, significant problems are also arising in its usage. For instance, the loss of speech control could enable spiteful actors to exploit ChatGPT's powerful information integration capabilities by controlling aspects of its code. This poses threats to national political security and could be used to spread rumors or use it to carry out Internet fraud. As ChatGPT continues to evolve in January 2024, during an interview with Bill Gates, Altman confirmed that the development of GPT-5 is underway. It also mentioned that OpenAI will focus on building better abilities and the capability to process video. The current GPT-4 model already provides voice and image functionalities, suggesting that the emergence of GPT-5 will naturally improve artificial intelligence capabilities further.

China's regulatory agencies have responded to the existence of both opportunities and challenges posed by powerful generative artificial intelligence. On December 8, 2022, China issued the "Opinions of the Supreme People's Court on Regulating and Strengthening the Judicial Application of Artificial Intelligence." The document called for improving the application level of artificial intelligence in courts at all levels while stressing the need to strengthen the classification and hierarchical management of judicial data. The document advocates adhering to the overall national security concept and preventing the use of non-compliant AI products. The output content of quasi-generative AI often represents the ideological expression of a country, and these generated texts may be detrimental to the interests of other countries and people ^[5]. On July 13, 2023, the Cyberspace Administration of China, in conjunction with seven other departments, jointly announced the "Interim Measures for the Management of Generative Artificial Intelligence Services". On June 24, 2024, the first Internet Blue Book, titled "China Mobile Internet Development Report (2024)," outlined the key legislative directions for the next stage in the field of artificial intelligence. In the governance of artificial intelligence, China mainly relies on "soft law" (legal norms that can be achieved without national coercive force), including the development of policy documents and behavioral standards at the national level. However, compared to "hard law" (legal norms enforceable through national coercive force), this "soft law" still faces challenges in implementation and regulation.

2. Analysis of risks in ChatGPT generative AI applications

2.1. Infringed upon the intellectual property rights of a third party

As a natural language system, ChatGPT requires a large amount of data input, which unavoidably includes gathering unauthorized content from authors when collecting large amounts of data. This also involves using copyrighted works without permission from their owners, leveraging the powerful computing and information integration capabilities of ChatGPT. The existence of ChatGPT has been exploited by malicious actors using technologies such as web scraping, video parsing, deep linking, and cloud storage to commit crimes. People may hide their activities by hosting overseas servers or using the dark web, thereby facilitating cross-border and cross-temporal intellectual property infringement and forming criminal chains. Relying on its AI-generated content fed by ChatGPT through massive data, it can produce a large amount of text data in a short time. However, these data are generated by constantly grasping information content and their source is basically not

authorized by the copyright owner, so the grasping behavior damages the rights and interests of the copyright owner ^[6]. However, there exists a situation where technical personnel and trainers continuously “feed” training data into ChatGPT. This creates the possibility that malicious actors could exploit this technology by designing and deploying code to create “mirror” ChatGPT instances. These instances could unintentionally incorporate code infringing on intellectual property rights, thereby boosting violations.

In addition, since ChatGPT operates primarily by processing large amounts of data with powerful computing power, its underlying model may not be inherently innovative ^[7]. This situation should not have intellectual property rights over the data generated by quasi-generative AI. For the academic community, ChatGPT as a legal subject is formed in a unique form to obtain data processing, which can shake the traditional intellectual property community ^[8].

2.2. Legal risks to personal information and property security

Due to ChatGPT capturing a lot of data, when individuals attempt to search specific individuals, it can lead to targeted individuals’ information becoming open and transparent. Recent reports also mention concerns that ChatGPT might unintentionally learn and store users’ chat records and the last four digits of their credit card numbers when personal information is involved ^[9]. More serious may also involve crime. Although the class generative artificial intelligence page, directly ask the system, the system often gives answers that are prohibited by the model, but can indirectly achieve criminal purposes through other ways. For example, by guiding ChatGPT through conversations, one could train it with a set of scripts for telecom fraud. Directly asking ChatGPT for fraud techniques is against system policies, and it will not provide answers. However, if the question is posed indirectly or phrased differently to “trick” a response, ChatGPT could potentially analyze and provide a response based on the input it receives.

2.3. Threats to national security

The powerful human-machine interaction mode increases the existence of political risks.

First of all, ChatGPT can generate specific information according to the specific instructions of the perpetrator, can generate countless different types of phishing websites, and can produce a lot of realistic fake news in a short time. Such fake news is often accompanied by huge political positions and ideas, and ChatGPT’s language can be constantly refined. Without professional groups to make analytical predictions, the general public often finds it difficult to judge the truth at the first time and often becomes instigated. Allowing criminal acts to take advantage of the heightened emotions of the instigated to harm the interests of the state.

Then there are the military applications of ChatGPT. In modern wars, targeting enemy targets is often achieved through satellite positioning systems to achieve accurate targeting. However, if the satellite is destroyed or activated by the enemy, it can only rely on human calculation. If one can use ChatGPT class-generated artificial intelligence powerful computing power, one can make ChatGPT in the course of combat, through its simple operating system, equipped to individual soldiers. Through the ChatGPT’s computing power, the specific location of the enemy is quickly calculated, so that the target is targeted by the locking of the UAV. For the rapidly changing modern war, due to the tension and fear in the fierce battle, the prediction of the situation will appear certain limitations. Predicting the current war environment with class-generative ChatGPT can help them grasp the situation of the war, and it can be seen that future wars will be better won with class-generative artificial intelligence.

Finally, ChatGPT’s generation-like applications cover a wide range of areas. As in the private sector, where it can provide government services needed by the public, ChatGTP can play a role in many livelihood industries

such as public affairs, agriculture, education, and judicial services. In the public domain, it can also provide the public with general government activities, such as quick access to the financial reports of government parts. At the legal level, it can promote the intelligent judicial construction of the judicial organ, and the case can be analyzed in advance through the input of the judicial staff into the ChatGPT generative artificial intelligence for the specific circumstances of the case. More importantly, through the rapid search of computer power in the vast amount of literature, auxiliary judicial staff to carry out trial work. This kind of technology involves all aspects of society and the country, and the continuous development of generative artificial intelligence technology can also involve a deep level of society and the country in the future, many scholars worry that once the ChatGPT generative artificial intelligence technology is cut off, resulting in a certain paralysis of private and public communities.

2.4. The ambiguous status of generative entities like ChatGPT

Some scholars have divided artificial intelligence into three categories: weak AI, strong AI, and super-strong AI. In addition, certain academics consider current models like ChatGPT to be weak AI because they believe such AI does not exhibit human-like cognition but rather performs simple data analysis and processing. At the same time, some scholars argue that ChatGPT has advanced to the stage of strong artificial intelligence but has not yet reached the stage of super-strong AI. The super-strong AI power and formidable data integration capabilities of ChatGPT have already surpassed human capabilities. Additionally, with its ability to analyze emotions and the emergence of models like ChatGPT-4o capable of engaging in conversational language with humans, controversy arises regarding the legal subjectivity and criminal liability of such AI.

3. The iterative path of legal regulation concerning risks associated with generative AI technologies like ChatGPT.

3.1. Advancing the formulation of specialized laws

With the continuous iterative development of ChatGPT, the technology is becoming increasingly developed and widely applied. In the future society, there will inevitably be a lot of legal problems, so it is urgent to carry out the work. In 2021, the European Union adopted the “European Conference and Council Format: Developing Uniform Rules for Artificial Intelligence (Artificial Intelligence Act),” which clearly defines levels of artificial intelligence for governance and assessment. In May 2024, the EU Council officially adopted the “Artificial Intelligence Act,” laying down foundational rules for supervising AI risks. In 2022, the Canadian government proposed the “Artificial Intelligence and Data Act,” aiming to establish a comprehensive new regulatory framework. In 2023, China also issued the “Interim Measures for the Management of Generative AI Services,” promoting and regulating the development of generative artificial intelligence. While various state councils, ministries, and local regulations currently address artificial intelligence, there is a lack of guidance from superior law.

Therefore, at the national level, China should accelerate the formulation of corresponding national laws, administrative regulations, technical standards, and liability clauses related to artificial intelligence, paving a path that is consistent with China’s national conditions ^[10].

3.2. Developing new quality productive forces contributes to national security

In 2023, the General Secretary Xi Jinping proposed the concept of “new quality productivity.” In China’s government report for 2024, new quality productivity was listed as the top priority among the annual top ten tasks. This type of productivity addresses breakthroughs in the three dimensions of labor, labor objects, and

labor tools, surpassing traditional productivity. The application of artificial intelligence will help propel China towards high-quality development. For example, in China, generative AI models like Baidu's Ernie Bot can significantly save time in handling daily tasks. However, compared to ChatGPT, there is still a gap in the data analysis and response speed of the two. To promote the path of high-quality development, China must further develop generative artificial intelligence technology, prepare for a rainy day, lay out artificial intelligence technology in advance, prevent generative artificial intelligence technology from being monopolized by other countries, and avoid damage to national interests.

China can do this in many ways, for example, strengthen the supervision of the targeted subsidies for the quasi-generative artificial intelligence in universities, so that funds can fully flow to the research and development work of the quasi-generative artificial intelligence. In the future, countries also can establish departments dedicated to generative AI, pooling national resources to develop generative AI technologies. These units will guide and supervise AI companies in developing, collecting, and training such technologies to ensure that generative AI can generate accurate data and answers..

3.3. Establishing a comprehensive framework for responsibility division regarding generative AI like ChatGPT

The supercomputing power and data integration capabilities of ChatGPT have already surpassed human abilities. Moreover, it includes a certain level of emotional analysis, and the recent emergence of ChatGPT-4o has reached the point of normal human language dialogue. In today's society, most countries' laws treat humans and human-associated legal entities as the primary subjects of criminal liability. However, in countries like Germany, the Criminal Code insists on excluding legal entities from criminal liability. Most countries, however, are anthropocentric and do not impose criminal liability on other subjects that are not human beings.

Whereas non-natural human subjects such as legal persons are primarily the fabrication and independent existence of a legal person's consciousness. The author believes that the existing ChatGPT4o exists, although it has some human attributes and even far exceeds human performance in some aspects. However, it is impossible to have independent thinking as in science fiction movies. Based on this, when ChatGPT is involved in criminal cases, more consideration should be given to the responsibility of ChatGPT developers and development companies. While the liability of generative AI users should be lessened than that of the above objects, the apologetic nature of the criminal law should be maintained, and other sectoral laws should be applied to solve the problem.

4. Conclusion

The launch of ChatGPT 4.0 marks the beginning of a new era in artificial intelligence. The pace of development of AI is expected to be even more rapid in the future. Renowned entrepreneur Elon Musk made a striking prediction in 2020: "The potential risks of AI are looming, and within the next five years we could face the possibility of AI overtaking humanity."^[11] In the future, there may be ChatGPT 5.0 and continuous iterations of ChatGPT. Of course, the risks associated with such ChatGPT developments may currently be unpredictable. However, the wisdom of future generations should be believed to resolve the risks posed by ChatGPT through law, regulation, and the delineation of responsibility for ChatGPT^[12].

Disclosure statement

The author declares no conflict of interest.

References

- [1] Zhu P, 2023, Luo Jun from the China Computer Industry Association: The Emergence of ChatGPT has Accelerated the Realization of the Metaverse by at Least 10 Years. *Daily Economic News*, February 21, 2023, 5.
- [2] Liu J, 2024, Criminal Responsibility of Providers of ChatGPT-like Generative AI Products. *Rule of Law Studies*, 2024(02): 61–71.
- [3] Cai SL, Yang L, 2023, Research on Risks and Collaborative Governance of ChatGPT Intelligent Robot Applications. *Information Theory and Practice*, 2023(05):14–22.
- [4] Liu YH, 2023, Three Major Security Risks and Legal Regulations of Generative Artificial Intelligence: A Case Study of ChatGPT. *Eastern Methodology*, 2023(04): 29–43.
- [5] Shang J, 2023, Meta-Rules for Risk Governance of Generative Artificial Intelligence. *Eastern Methodology*, 2023(03): 4–17.
- [6] Jiang H, 2023, The Impact of Artificial Intelligence Chatbots on Research Output and Talent Evaluation: A Perspective Analysis Based on ChatGPT and Microsoft Bing. *Journal of Chongqing University (Social Science Edition)*, 2023(02): 97–110.
- [7] Kong XC, 2023, Legal Responses to Generative Artificial Intelligence from the Perspective of National Security: A Case Study of ChatGPT. *Rule of Law Studies*, 2023(05): 61–70.
- [8] Wu Z, Xiao Y, 2024, Application, Risk and Legal Response of Generative Artificial Intelligence from the Perspective of ChatGPT. *Journal of Tianjin Normal University (Social Science Edition)*, 2024(03): 12–20.
- [9] Bi WX, 2023, The Regulatory Dilemma and Resolution of Risks in Generative Artificial Intelligence: Regulatory Perspective on ChatGPT. *Comparative Law Research*, 2023(03): 155–172.
- [10] Zhang XH, 2024, The Impact of ChatGPT on Law and Its Response Strategies. *Jiangnan Academic Journal*, 2024(03): 45–54.
- [11] Tang Y, Wang Y, Xu D, 2024, Legal Regulation of ChatGPT-like Artificial Intelligence in the Perspective of False Information Governance. *Journal of Hubei Second Normal University*, 2024(4): 34–39.
- [12] Ren J, 2023, Will Human-Machine Relationships Be Inverted? Reflections Triggered by ChatGPT “Escapes”. *Journal of Humanities*, 2023(05): 39–51.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.