ISSN 2616-7433 Vol. 4, Issue 10: 44-47, DOI: 10.25236/FSST.2022.041008

Potential risks of face recognition technology and its legal regulation

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Abstract: *As a new type of biological information recognition technology, face recognition technology is widely used in social public management, business sservices and other fields. The collection and application of facial information of the face recognition technology has broken down the protection boundary of personal information by traditional laws. It will cause serious social security risks if unrestricted. Due to the absence of clear and comprehensive protective measures and protection systems, this paper puts forward three suggestions to improve the legal regulation of "face recognition" in China: formulate strict regulations on the access and application of face recognition technology; improve the punishment measures and remedy regulations for abusing face recognition technology; and further guide individuals, enterprises and industries to self-discipline.*

Keywords: *Face recognition; Personal information risk; Dynamic facial feature*

1. Introduction

With the rapid development of 5G, artificial intelligence, cloud computing and other science and technology, various new products was born.[1] Among them, face recognition technology derived from the field of artificial intelligence. It's a new kind of product apply to confirm and identify people's identity by capturing facial information. Compare with the traditional manual verification mode, both of the efficiency and accuracy of face recognition technology has been greatly improved and widely used. However, face recognition technology is not absolute safety. Its convenience and efficiency are accompanied by a series of personal information risks.

2. The concept and development of face recognition technology

Face recognition technology is a derivative application in the field of artificial intelligence. It is a recognition technology that uses internal or external cameras focus on human face to collect, store and analyses face information, then makes intelligent and accurate comprehensive comparison of biological face features. For a long time, the information that can be recognized by face recognition technology was limited to the static, two-dimensional level, which only verifies the biological features of planar faces, and easily influenced by factors such as the degree of dim light, age, shooting angle, facial and hair shape changes. However, over the past years, face recognition technology has been dramatic changes, 3D dynamic face information was able to identify.[2]Base On 3D dynamic recognition technology, face biometric feature recognition such as blinking, looking left, looking right, nodding and opening mouth has been practicable. [3]It reduces the potential risk of face recognition technology, to a certain extent. The revolutionary progress brings the explosion of face recognition technology applications. With a series of scientific and technological progress and development such as big data, cloud computing, medical beauty technology, the application environment of face recognition technology is becoming more and more complex. In some complicated environments conditions, face recognition technology is still unable to achieve accurate recognition, and its potential risks begin to emerge.

3. The potential risks of face recognition technology

The face data is highly sensitive and complex biometric information. The Constitution of China clearly stipulates that citizens' basic rights shall not be illegally infringed. However, face data contains many basic rights and interests such as portraiture right and property rights, due to the high commercial value, it is inevitable to be peeped and coveted by illegal thieves, saboteurs and users with ulterior motives. Absence of clear and comprehensive protection measures, huge potential risks are permeated in the whole process when collecting, storing and identifying the face biometric features.

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3.1. Privacy risks

At present, there is no clear access authority regulation and application procedure standard on the use of face recognition technology in China, so that everyone can use it at will in any place. For example, at present, various kinds of face recognition technology devices, such as electronic eyes, sky eyes, unmanned aerial vehicles (UAV) cameras, entrance guards and face brushing, are everywhere on highways, residential property company, shopping malls, the door of one's house, and even in the upper air of the city. Make use of the feature that face recognition technology equipment is not easy to detect, those with ulterior motives collect and store the static or dynamic features of faces in a specific daily range, at the same time combine the relevant information such as age, work, contact telephone number, home address, education, marital status, religious beliefs, interests and hobbies filled in by people in daily activities such as buying a house, entering a higher school, or taking a bank loan, to extract and sell accurate personal privacy information.[4]These behaviors cause citizens' privacy information freely disseminated and used by for-profit organization in need, like real estate agency, decoration company, and even some state-owned profit-making enterprises. Selling personal privacy information illegally not only infringes citizens' privacy rights, but also indirectly reserves suitable soil for the survival of online fraud crimes.

3.2. Potential risks due to mechanism gap

Face recognition technology, seeing the name of a thing one thinks of its function, requires not only "face" but also "recognition". On the one hand, the core of this technology lies in the automatic comparison and recognition of facial biometrics by computer software; on the other hand, it lies in the storage of massive facial biometrics data in specific media and server systems. As China has not yet formulated the relevant responsibility and remedy mechanism for the storage and use of facial biometric data. Especially for the storage units and individuals of facial recognition and the storage environment. There are no clear legal responsibility and remedy provisions, and most individuals and industries usually randomly store the collected facial biometrics of users in simple and unprotected media such as U disk, hard disk and Baidu network disk. Once the data stored in the information is invaded by hackers or other illegal access, the facial feature information data will not be timely protected and effectively relieved, which will result in the risk that personal information will be illegal leak, spread and infringed by others at will.

3.3. Potential risks of property rights and interests

Face information is a kind of compound civil rights, which not only carries personal rights such as privacy and portrait rights, but also indirectly carries certain property attributes. According to the verification and payment of face authentication loans by five state-owned banks and the face authentication of e-commerce platforms, such as Alipay and JD.COM to obtain higher shopping credit line, the importance of face biometric information is noticeable. However, while using face recognition technology to provide efficient and convenient services, we should also pay attention to the potential risk. There are many cases that didn’t concern prevent their face information has suffered huge property lost. For example, in the case of "Wei real estate fraud case" in Nanning, Guangxi Zhuang Autonomous Region in 2020, Wei used the face-brushing function of the real estate registration integrated service platform APP to verify the face recognition function, and successfully transferred the victim real estate to third party before the victim detected it. It can be seen that, to a certain extent, face recognition technology implicitly has the risk of indirectly infringing citizens' legitimate property rights and interests.

4. Suggestions on regulating the hidden risks of face recognition technology

At present, except for some legal norms about the definition of personal information, there is no specific legal norm to regulate the face recognition technology in China. The Civil Code gives clear guidelines on the concept, scope and relationship between privacy and personal information. However, the relevant provisions concerning access authority and application process of face recognition technology, punishment and remedy are still relatively vague. Therefore, it is necessary to make it clear and improve it on this basis.

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4.1. Formulate strict procedural regulations on access and application of face recognition technology

In recent years, the application of face recognition technology has extended and covered all industries. This trend imply that the face recognition mode will replace the traditional manual verification mode in the future. Face recognition technology provides convenient and efficient services for our daily life, but it also means that our daily privacy can't be hide and is becoming more and more "transparent". Therefore, in order to regulate the hidden dangers brought by the above-mentioned face recognition technology effectively, the following two aspects can be considered.

First of all, formulate strict and clear application access regulations. The local grass-roots public security organs and other communities should jointly establish an access procedure system for strict evaluation, examination, approval and filing of the subjects who installed face recognition technology equipment for the first time. At the same time, grass-roots community personnel should be authorize to check the purpose and reasons of the collectors who installed face recognition equipment for the first time, so as to reduce the infringement disputes caused by aimless use of face recognition equipment and protect against face recognition technology abused.

Secondly, formulate a strict informed-consent mechanism and implement to make sure user’s right to know. All of the face information collector shall not arbitrarily violate the informed-consent right of users when collecting face information. And the particularity of the collecting way shall not be the grounds for defense of infringed users personal information. If collectors seek to collect user's information beyond the scope, for the part beyond the range, they must first be granted. Otherwise, it shall be deemed as illegal collect and the administrative organ can impose certain penalty according to the seriousness of the case and the degree of social impact.

4.2. Improve the punishment measures and remedy provisions to regulate the abuse of face recognition technology

With the face recognition technology widely used, this technology is no longer a unique product of the rich. It appear in streets, shopping malls and even vending machine. It is obvious that a widely used with no limited is abused. As a response, while the legislation defines the connotation and boundary of "abuse ", "personal privacy" and "personal information" in face recognition technology, further improve in the definition of civil, administrative and criminal legal responsibilities for the abuse of face recognition that infringes on other people's privacy, face information and other sensitive information shall be concerned. Before formulating the provisions of legal culpability, we should first refine the specific regulatory measures for the abuse of face recognition technology, and authorize relevant departments to conduct daily inspections and investigations on the units or individuals using face recognition technology. Secondly, we should improve the administrative enforcement or administrative and criminal punishment measures for illegal acts such as abusing face recognition technology to infringing on privacy. And increase the criminal cost of criminal suspects and defendants, so as to prevent the abuse of face recognition technology. On this basis, under the concept of "where there is a right, there is a remedy", we should also improve the self-remedy mechanism for the users suffer the abuse of face recognition technology. Because in an equal civil subject, the person who uses and applies face recognition technology is in an advantageous position compared with the other party, and the other party is not easy to detect it. When the other party's personal information rights are infringed, it is often difficult to take protective measures to safeguard their legal rights because of the difficulty of proof collecting. Therefore, it should be stipulated in the judicial procedure that when one party's legal information, privacy and other rights are infringed, the collector shall be required to bear the burden of inversion of proof. That is, the party who uses and stores the face information undertakes the duty to prove that it is reasonable and legitimate to use the recognition technology, and the information it collect and stores has not been leaked, abused or infringed on the relevant rights of citizens. In this way, the abuse of face recognition technology to infringe on user's personal information can be resisted to the maximum extent, and citizens' personal privacy and related property rights can be comprehensively prevented and protected.

4.3. To further guide the self-discipline of individuals, enterprises and industries

Whether it is legal supervision or industry norms, the most important core is that individuals, enterprises and industries themselves achieve a high degree of self-discipline, consciously safeguard citizens' privacy, information, property security and other rights, and create a good atmosphere of law-abiding from top to bottom. Therefore, local governments at all levels should, on the basis of perfecting the applicable authority and scope of application, punishment and remedy mechanism of face

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information infringed, further intensify the publicity of laws and regulations such as the authority, responsibility, standards and relief of the users of face information infringed through newspapers, radio, television and the Internet, and guide individuals and industries to strengthen the safety management and self-discipline of face recognition information data, so as not to abuse and collect other people's face features and other related information at will, and make sure that the collected face features and other related information will not be infringed. At the same time, enterprises and industries should further strengthen employees' legal awareness training, improve employees' awareness by carrying out legal quality activities, and make relevant laws and regulations such as face recognition information and data security into their minds, so as to put an end to any illegal collection, forced collection and data abuse.

5. Conclusion

In recent years, face recognition technology has been well developed and promoted. With its unique characteristics and advantages, it is convenience and has greatly improved the efficiency of work such as finance and social management. It brings new opportunities to the society, at the same time, it also ushered in new challenges. Under the background of artificial intelligence, big data and cloud computing, the abuse of face recognition technology can be seen everywhere at present. It is urgent to perfect and clarify the regulations of face biometric information and protect citizens' compound basic rights. Therefore, with the continuous improvement of the legislation of face recognition technology in China and the continuous research and discussion of many scholars, it is believed that in the near future, the relevant regulations on access, application process, punishment and remedy of face recognition technology will be steadily advanced, and various potential risks will be effectively resolved and lifted.

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