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Technology-neutral Illusion: The Ethical and Social Challenges in the Age of Artificial Intelligence

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Abstract

The doctrine of technological neutrality posits that technology itself lacks moral value and it is only the use by humans that bestows value upon it. However, this perspective overlooks the social context of technology itself, as well as the political, economic, and cultural factors involved in its research, development, and application. In fact, technology not only reflects the value orientations of designers and users but also embodies the social structure and human behavior of a certain stage. Especially in the era of artificial intelligence, technology possesses the capability to operate autonomously, and the autonomous operation of technological products can present the value defects at the design stage in a scaled manner, leading to systemic biases and injustices. This paper analyzes the purpose of technological design and the power manipulation reflected in technological code, demonstrating that technology is not neutral and does not imply justice. Technology needs to be supervised and regulated by ethics, law, society, and other aspects to safeguard human interests and dignity.

Keywords

Technological Neutrality,Technological Justice,Algorithms, Social Justice,Artificial Intelligence

1. Introduction

"Technology is neutral, not a good or bad itself." This is a common saying about the neutral value of technology. In daily life, the" kitchen knife theory "is the most widely spread:" knife / gun can kill, can save people, the key is in whose hands ".

On closer examination, this cognition defaults to two premises: first, it regards the technology products as the technology itself; second, people can control the technology products.

Furthermore, the core argument of the value of technology lies in its view that technology is passive and will not act actively, and only the behavior of active people will have value.

However, technology does not show his neutrality, and certainly not that it is value-neutral or harmless.

In terms of attributes, knives and guns represent a system: it is one of many products emerged after the development of iron and steel technology, which reflects the participation of metallurgical technology in

human history -- The development of metallurgical technology is a historical process that individuals can not control. The only knife or gun in can control is the one in their hands. That means, even before the age of artificial intelligence, in a broader sense, technology is free of human control.

After the advent of the era of artificial intelligence, technology products have had the ability to operate independently. When a kitchen knife or a gun is enhanced by an updated technology and becomes an automated and intelligent tool, whether individuals can fully control the technology products may also be revisited.

2. Theoretical basis and controversy of technology neutrality

The value attribute of the technology is usually regarded as the criterion of judging whether the technology is neutral. Regarding the different cognition of value, which also derived two positions: technical neutrality and technology theory of value.

According to the view that technology itself is neutral or value neutral, there is no good or evil, and the value of technology comes from the social application of technology. (Yang Shufan, 2006) This view regards technology as a tool. "What impact technology has and what purpose it serves are not inherent in technology itself, but depend on what people do with technology".(Emmanul G.Mesthene, 1970)

At the same time, the theory of technical neutrality regards people as the subject and the value as given by people. Technology has value only when people use it. Therefore, as a pure means, technology is only related to the way people use it. (Ye Xiaoling, 2012)

Correspondingly, the technical theory of value holds that this view ignores that technology itself is the result of human creation and the embodiment of human will and goal. Chinese scholars Xu Liang (2004) believes that technology is not just a method and means, but the carrier of the value of people in its design, a series of invention, has been the inventor's values, beliefs, habits, technology in content and form embodies the political, cultural and ethical rich connotation, embodies the social values at that time. (Xu Liang,2004)

Herbert Marcuse (Herbert Marcuse) and Jurgen Habermas (Jurgen Habermas), the representatives of the Frankfurt School, and other scholars have systematically criticized the theory of technology. In their view, technological rule has been reduced to a tool of rule and control, an ideology that serves politics. That is, technology is used to serve its own interests, and it is also inevitably controlled by ideology. (Jurgen Habermas, 1999)

In the era of artificial intelligence, the problem of technology value neutrality has become more prominent and urgent. Algorithms, computing power and data, as the three cornerstones of ARTIFICIAL intelligence, are no longer just specific technologies, but also important variables in the social power operation system. （Zhang Aijun, 2019）

However, the data needs to take into account whether the data source, quality, processing and other factors are affected by technical factors such as data collection, storage and analysis. By analyzing the different characteristics and dimensions of computer intermediary communication (CMC) technology, the scholars and others of Zhao Yong (CMC) found that CMC technology is not an irrelevant or harmless tool, but a technology with different influence and effect.

Lao Dongyan (2021) takes the delivery rider trapped in the algorithm as an example. From the perspective of social operation, it reveals that technology not only involves the scientific and technological system, but also acts on the real society, which depends on what kind of reference frame is adopted. It also

points out that, at least in the legal system, technology neutrality is impossible. Xing-hua liu (2022) in combing the global technology company monopoly digital technology to the traditional media, advertising, the impact of democratic politics and conspired with state power of technical political hegemony, also draw the approximate conclusion: the more depth hit the "digital connection" technology, the connection involved more group, the more difficult to maintain technical neutrality.

Technology is difficult to be neutral, or seemingly neutral technology is becoming a weapon to erode social justice, does not mean that we should give up the pursuit of justice, on the contrary, it highlights our classic politics, citizens' demands and desire for justice —— technology must serve the society, not the other way around.

Therefore, it is necessary to regulate the technology. By analyzing the advantages and challenges of the principle of technology neutrality (PTN), Pukainin and Verlini (2021) show that PTN is not an insignificant or harmless principle, but a principle of great significance and influence. Because technology isn't just built with data, it also depends on which data we choose to use and which data we ignore. These choices have nothing to do with power, profit and efficiency, and they are our basic morality as human beings.

3. The Paradox of Motivation from the Perspective of Technology Neutrality

Historically, each emerging technology was born and developed in specific social, political, economic, cultural and other backgrounds, and they reflect the problems and needs faced by designers and users in these backgrounds. In reality, each existing technology is operated and applied under specific interest groups and conflicts of interest, which are restricted and affected by these interest groups and conflicts of interest. In these two dimensions, technology reflects the stage value orientation of designers and users, and also affects the process of social history and the direction of human behavior.

In the 1970s, the Canadian scholar Dallas, (Dallas Smythe) visit China, and from Beijing university philosophy and professor of economics department debate, professor of Peking University in railway, for example, told, "technology itself is no class attribute, although they may be used to serve the interests of a specific class", in their view, railway ideology is neutral: " before liberation it serve imperialism, but will also serve the republic. "

But Smythe noted, " This statement precludes the intent and ideological effect of developing railroads." Because in the 19th century, the railways that were built in China, as in Asia, Latin America and other parts of Africa. Accordingly, he believed that "the route designed by the railway and its subsequent direction would of course contain ideological consequences". (Dallas Sless, 2014)

In this example, we can see that the railway is regarded as a neutral and independent infrastructure by Chinese scholars, but ignores the fact that the technology reflects the intended device in a specific time and space to achieve the purpose of resource allocation -- This is a highly political decision-making process.

During the Industrial Revolution, the railway, as an infrastructure, was ostensibly neutral, but in reality it was the artery of the empire to expand its interests. In the information age, another, more controversial infrastructure, the neutrality of the -- Internet, is also increasingly becoming the focus of controversy.

The so-called "net neutrality" was originally aimed at network cloud providers, which required network operators to remain neutral and not favor or discriminate against any application service(Wu&Tim,2005). But with increasing technology, the "net neutrality" debate is no longer limited to this (Zou Jun, 2015), but covers all technologies in the upstream and downstream industries around fixed or mobile networks.

Similarly, the rise of artificial intelligence technology has largely overturned the traditional ethical frameworks. A typical example is that for TikTok in the US, which is accused of accessing and using user data without their consent.

This is similar to the challenges of AIGC technology in data processing, as AIGC technology relies on complex algorithms, especially machine learning and deep learning algorithms, to generate or create content. These algorithms usually need to learn from a large amount of data patterns and rules, and the knowledge to generate new text, images, audio or video content, which also triggered the political entity of citizens 'privacy and data security abuse concerns —— related lawsuit shows that OpenAI's big model Chat-GPT was suspected of illegal obtain the about 300 billion words from the Internet, including books, articles, websites and posts, even including personal information without consent.

According to the flywheel effect(ALEX W.PALMER, 2022): the more users the algorithm gets, the more content it can learn, and the higher chance of attracting more users. And more users mean more data, more data means more "smarter" algorithms; and more "smarter" algorithms mean more users.

No matter how tech giants defend themselves, the fact is that in order to make big models "smarter", tech companies tend to break through ethics in their initial training data.

From "railway neutrality" to "algorithm neutrality", they all show that technology does not exist in the world aimlessly and nonsense, but is created by human beings according to their own values and interests, and has endowed the technology with a certain value orientation and goal orientation in the process of creation. As scholar Hu Yong (2023) pointed out, technology is directional, which points to a specific direction by increasing selection or changing the process.

Therefore, the human will and goal hidden or exposed behind it cannot be ignored when analyzing the technology.

4. AIGC challenges the society under the technology neutrality controversy

Wu Guosheng (2009) referred to the inherent stipulated value orientation of technology "the logic of technology" and believed that "the logic of technology will force you to do something". Therefore, he believes that technology is not neutral in this sense.

The "logic of technology" is highly consistent with the definition of power: power is a specific individual or group that can enable others to act voluntarily or involuntarily according to their will.

Although power is not necessarily neutral, it is often restricted and influenced by a variety of factors, such as history, culture, politics, economy, law and so on. Similarly, the exercise and distribution of power may have problems of bias, conflict of interest, and threat of violence, resulting in unjust and unreasonable consequences.

Take algorithmic technology as an example, it acts as a social power, including the power represented or executed by the algorithm itself, and the power exerted or changed by the algorithm on other subjects or entities(Kitchin.R, 2017). Therefore, it may also exist in the unfair and unreasonable results caused by the exercise and distribution of power.

Specifically, algorithm as power refers to the algorithm itself is a manifestation of power, it can reflect or implement the will, goals, values or interests of some subjects or entities, and have an impact on other subjects or entities. Taking the content recommendation system as an example, the algorithm can control users such as information filtering according to the intention or benefit of the designer or user (Noble, S.U,

2018).

Perceptual control is a powerful means of information filtering. Once technology controls the flow of information, especially with the help of the "pseudo-neutrality" coat of technology, it can affect the audience's understanding of right and wrong, justice and fairness, and can shape concepts, norms and customs, and even reshape the boundary of politics and behavior.

Today's mainstream social platforms have a sophisticated set of content audit algorithms to identify users and content compliance. But, it first on the Internet different identity of the users, determine which identity can use which words, can not use which words -- we can often see, some specific nouns, seems to be the privilege of a specific authentication body, once the ordinary users can not be used, light tip error, not to be published. The heavy account was banned, nowhere to appeal.

The algorithm acting on power will have an impact on the existing or new power relations in the society. It can enhance or weaken the power of some subjects or entities, and can also change or create a new power structure or power mechanism (Pasquale, F. ,2015). For example, during the COVID-19 prevention and control period, the status of the public's travel code and health code determines the scope of their travel, and even the space and time of their free activities. Once they move outside the prescribed scope, they will be punished by law including but not limited to law.

Therefore, during the epidemic prevention phase, the public will repeatedly review their electronic certificate status to determine their compliance space; When using social media, they will speculate whether there are "inappropriate" words to prevent the loss of communication —— is based on the legal rights granted by the Constitution and laws.

It is not difficult to see that in these two scenarios, technology minimizes the labor of people's thinking through power and operation power, so that users can gradually give up their position and thinking in their induced preferences, and become the "voluntary" executor of technical power.

5. AIGC challenges and ethical challenges under the technology neutrality controversy

"If it treats everyone the same, then it is just." This idea stems from the universal enlightenment idea that, in the public sphere of politics, differences between people should be seen as irrelevant. This ideal has gradually evolved into a contemporary belief that the rules between people and between groups should be just (Iris Marion Young, 2014).

On the face of it, code offers an exciting prospect for justice, because it can enforce impersonal, objective, and unemotional rules. It can perfectly implement the "rules" of "science" and realize the real sense of "rationality".

However, reason does not mean neutrality. Further, even if it is neutral, the neutrality cannot be regarded as just. Because justice involves distribution and recognition. Allocation and recognition mean correcting existing problems. Neutrality often means allowing this status, while efficient algorithms may replicate, consolidate and reinforce it.

Communication scholar Oscar Gandy put forward the concept of "rational discrimination", which does not need class or racial hatred, or even unconscious prejudice, it only needs to ignore the existing prejudice. Therefore, under the large-scale digital automatic decision-making tools, the original prejudice, discrimination and authoritarianism in the value system are also learned and imitated by machines with higher efficiency (Virginia Eubanks,2021).

In this scenario, two equal attributes of the algorithm technology are involved, namely, the equality of the algorithm input and the equal effect of the algorithm. The former refers to whether the algorithm itself treats different inputs, outputs or participants fairly, namely whether the algorithm is biased or discriminated, and whether these deviations or discrimination are reasonable or justified. Because these codes written in machine language, like legal stripes written in human language, are inevitably influenced by the subjective desire and value orientation of the creator -- a structure of prejudice (Friedman, B. & Nissenbaum, H., 1996). Prejudice will be institutionalized over time, and gradually acquire the "orthodox" status that may be called "habit", "law", "and" people ". Before the digital age, the change was gradual, and now, it could be fluid.(Casey O'Neill,2020)

The latter refers to the result of the operation of the algorithm, whether different groups or individuals are fairly affected in the society, that is, whether the algorithm causes unequal consequences that are unfavorable to some groups or individuals, and whether these unequal consequences are acceptable or can be improved (Eubanks.V ,2018).

At the same time, this also brings the justice thinking of algorithm technology, that is, whether the algorithm is conducive to or harmful to the realization of social justice in the society. It is not hard to see that sometimes justice and neutrality seem to be contradictory: because many times, neutrality puts objectivity on injustice, and it allows things to get worse. But justice requires us that discrimination between different groups is necessary for--This is the basis of affirmative action, and it should also be the basis of all of our efforts to avoid algorithmic injustice.

6. Establish a complete technical supervision and standardization mechanism

In the era of artificial intelligence, technology has the ability to operate autonomously. This means that technology is no longer entirely dependent on human control and guidance, but can make decisions and act based on its own rules and algorithms built in or learned. In this way, the independent operation of technology products will present the value defects existing or produced at the beginning of the design or in the learning process in terms of scale, speed and intelligence.

These value defects will cause systematic deviation and unfairness in the independent operation of technology products. For example, there are problems of over-squeezing riders, depriving their labor rights and intensifying their risk exposure; discrimination, misjudgment and invasion of privacy against non-white skin color, non-male gender and non-young age groups; and information filtering of users in the content recommendation algorithm.

These questions all show that, here, technology ultimately creates unjust and even unjust results.

Therefore, when enjoying the convenience and efficiency brought by technology, we also need to be vigilant and prevent its risks and hazards. Therefore, it is necessary for us to establish an ethical, legal, social and other aspects of the technical supervision and standard mechanism.

First, on the ethical level, it is necessary to establish that scientists and engineers should abide by the principles of scientific ethics and professional ethics, fully consider human interests and dignity in the design and development process, and avoid or reduce the potential negative effects as far as possible.

Second, on the legal level, we need to establish perfect laws and regulations and system arrangement, the technology research and development, communication, application and so on each link to clear specification and constraints, at the same time, also need to establish a flexible legal application and interpretation mechanism, the changing technology and innovation of timely adaptation and update, and the

new legal problems caused by technology.

Finally, and the most importantly , to let users effectively participation in their data processing, let them to their own data and inferred data meaningful control -- this need necessary guidance of regulations, platform and public regulators to form a commitment -- accountability balance governance mechanism, namely technology platform company to protect the user's privacy rights commitment, due diligence of digital rights to compliance, appear by algorithm abuse, excessive data collection, targeted advertising, etc, will be punished by public regulators (Hu, Y. ,2023).

7. Conclusion

Technology is not neutral, let alone implies justice. Technology is the product of and the tool of social power struggle. Technology not only reflects the value orientation of designers and users, but also shapes the social structure and human behavior. Especially in the era of artificial intelligence, technology has the ability to operate independently. The independent operation of technology products will present the value defects existing or produced at the beginning of design or in the learning process in means of scale, speed and intelligence, resulting in systematic deviation and unfairness. Therefore, when enjoying the convenience and efficiency brought by technology, we also need to be vigilant and prevent its risks and hazards. We need to establish ethical, legal and social supervision mechanisms to protect the interests and dignity of human beings.

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