Fake Beauties, True Inequalities: the Asymmetric AI Dilemmas Faced by the Elderly

In recent years, there has been an increasing number of applications based on artificial intelligence technology, especially in generative AI, which produces large amounts of content daily. Some of this content is not only visually stunning but also incredibly lifelike, providing immense pleasure to viewers. For example, an AI-generated image depicting 'a giant knitted cat sitting next to an old lady' gained huge traction (Novak). Elderly people looking for companionship have particularly enjoyed and found joy in this image. According to Webster's dictionary, beauty is defined as 'the quality or group of qualities in a person or thing that gives pleasure to the senses or the mind,' and these AI-generated contents indeed fit this definition of beauty. Such fictitious yet beautiful content is widespread on social media platforms used by the elderly.

On the other hand, in residential communities or on internet platforms, there are always cases of elderly people being deceived. For instance, in 2022, a well-educated retired woman in the UK was swindled out of £37,000 by a man she had never met before (Garlick). Despite her extensive experience in thwarting scams and having repelled many scammers before, she fell into a trap due to a handsome photo. 'He was very dishy, casually smartly dressed: nice jeans, proper shoes. Just the sort of man I liked,' she recalled upon seeing the photo for the first time. Additionally, the passing of her husband left her longing for new connections, and her empathy toward the man's apparent hardships in life further drew her into the meticulously laid trap. Moreover, nowadays, when searching for news using the keywords 'grandparent scam,' one can see elderly people from all around the world experiencing similar scams. In these scams, strangers on the phone mimic the voices of grandchildren, exploiting the love and longing that grandparents have for their grandchildren. Consequently, elderly individuals easily fall prey to the schemes orchestrated by the callers. There's an organization in Nigeria called the 'Yahoo Boys' (named because these elderly people often have Yahoo email accounts) that specifically targets elderly people for scams. Recently, the mastermind behind these schemes was sentenced to 20 years in prison (Livengood).

The events described above share several commonalities. Firstly, elderly individuals are the targets of the scams. In addition, the scammers all use images of 'beauty' that are appealing or recognizable to the elderly as bait, luring them into traps. Moreover, AI plays a significant role in this process, as scammers use AI to create images and voices that cater to the preferences of the elderly. According to data from the Internet Crime Complaint Center(IC3) , individuals aged 60 and above lost over $724 million to scams in 2022, surpassing the total losses of all other age groups combined. Among these scams, romantic schemes and grandparent scams utilize content produced by AI, with Deepfake technology amplifying the effectiveness of these deceptions. Further analysis of this from three perspectives is in the following paragraphs.

From filter to deepfake: the exacerbation of inequity

Since humans have had art, various techniques have been created to embellish objects, such as adjusting the proportions of heads and bodies in sculpture to make the figures more imposing and using lighting and shading techniques in oil painting to highlight central figures. Because specific groups, societies, and cultural backgrounds shape the ideas and standards of beauty rather than being objective truths, the pursuit of beauty is actually a construction of privilege. With the development of digital technology and artificial intelligence, people's methods of processing and manipulating beauty have changed over time, leading to changes in their understanding of beauty.

With the rise of social media, various special effects filters have become an important means to attract users (Smith). One of the earliest internet social platforms to use filter effects was Instagram. Compared to Photoshop filters, there are several differences: first, greatly improved usability; ordinary people can easily use hundreds of filters and see various effects online; second, low cost; no need to purchase professional software; third, filters are integrated into social interactions, making sharing convenient. In this phase, there is a certain level of unfairness manifested in beauty, shaping the embryo of massive unfairness, such as the limited availability of filters suitable for the elderly and the use of filters not being very friendly to the elderly.

After 2017, with the development of deep learning technology, which led to the emergence of generative artificial intelligence techniques. These techniques can be used to replace people in videos or alter their expressions, movements, or voices to make them appear lifelike. At this time, a new term emerged, "Deepfake," which combines deep learning and fake (Westerlund). It refers to the use of deep learning technology to create realistic fake videos, images, or audio. AI manipulates and controls the conventional understanding of "beauty" (Bonvissuto)(Waterman). While we use AI to create beauty, AI has subtly influenced the public's perception of beauty. Beauty is evolving towards a more unified, more utilitarian direction that is easier and simpler to produce. The emergence of this technology has brought significant unfairness to the elderly, manifested in several ways: first, difficulty distinguishing between truth and falsehood: Due to factors such as poor eyesight and limited social interaction, the elderly find it challenging to identify deepfake content and are easily misled by false information. This is evident in the appearance of highly surreal and exquisite images in the social circles of our grandparents. In addition, vulnerability to deception: After encountering a large amount of deepfake content, the elderly are susceptible to privacy breaches and even economic losses, as seen in the example of the Yahoo Boys mentioned earlier. Last but not least, psychological issues: After forwarding some deepfake content, the elderly may face ridicule. Losing trust in society after being deceived can increase feelings of loneliness and lead to more severe psychological problems.

While young people have mastered the shaping of beauty as a skill and established their exclusive social circles, the social injustice that the elderly experience has worsened from a beauty perspective.

Asymmetric commons dilemma in AI era

In recent years, AI has played a significant role in various sectors such as healthcare, environmental protection, and transportation, becoming a public resource akin to electricity. As former Google CEO Eric Schmidt pointed out, the future century is going to be the AI century (Aronson). Stanford University professor Andrew Ng believes that AI, similar to electricity, will permeate every corner of society and become a key force driving future development (Lynch). Some scholars have noted that AI, as a public resource, will encounter issues akin to those in

public resource management, such as the "tragedy of the commons." This refers to situations where individuals pursue their own interests, resulting in damage to the overall interest. Scholars have studied this issue using game theory and have suggested that strengthening cooperation among individuals, imposing moral constraints, and decentralizing power can help manage public resources, including AI, for the benefit of society as a whole (LaCroix and Aydin). However, this research model did not consider the issue of inequality among players in real-world situations.

In the AI era, the dilemma faced by the elderly can be explained by asymmetric game theory (Janssen et al.). Older adults may face asymmetries in the following areas: The first one is technical knowledge asymmetry: many older people may not have received education or training related to AI technology, leaving them at a disadvantage in understanding, applying, and adapting to new technologies. The second one is asymmetry in digital capabilities: older people may lack the skills to use digital devices and the Internet, making it difficult for them to take advantage of the convenience and resources brought by the AI era. The third one is asymmetric information access: older people may not have the same access to information as younger generations, such as social media, online news, etc., which puts them at a disadvantage in understanding and keeping up with the development of AI technology.

From the previous discussion on the challenges faced by the elderly in the era of AI, it is clear that the use of AI as a public resource is distinctly asymmetrical. The elderly are at a disadvantage in the vast system that AI covers. This can be likened to AI being a massive irrigation system that impacts all sectors of society and various groups of people. However, some communities are located upstream and others downstream in this watershed. Evidently, AI companies do not promptly remove upstream waste, such as deepfakes, while the elderly are positioned downstream and receive the least irrigation from AI. Consequently, this debris flows into the communities of the elderly, bringing them misfortune and pain. If no solutions are implemented, these negative effects could backlash against the entire society.

It is possible to analyze the issues faced by the elderly in the AI era using research findings from game theory on asymmetric commons dilemmas. Scholars point out that in asymmetric

commons dilemmas, individuals experience asymmetrical decision-making environments, necessitating the design of appropriate mechanisms and the enhancement of moral sensibilities to enable collaboration among individuals of different statuses, thereby addressing the challenges posed by asymmetric commons dilemmas (Janssen et al.). Scholars also discuss the effects of different incentive mechanisms on cooperative behavior. These mechanisms may include rewards, penalties, reputation, etc. The authors might analyze how these mechanisms impact individual cooperative decisions and how they facilitate the evolution of cooperation in asymmetric commons dilemmas (Janssen and Nathan).

The assumption of consequences and the resolution of dilemmas

As previously mentioned, the current prevalence of fake beauty has brought economic and psychological harm to many elderly people, particularly those who are lonely and experiencing difficult lives. They are more susceptible to such fraud, ultimately leading to a loss of their right to pursue happiness. Such behavior has exacerbated inequalities among different age groups in society and has also fostered negative social attitudes, such as young people mocking the elderly who are deceived.

Just like Stuart Russell mentioned in the book *Human Compatible,* AI has the power to reshape the world, and the reshaping process must be managed and guided in some way(Russell). The players who enjoy the rights to use AI have interests that are not completely aligned, but they all hope to maintain control over AI systems as they become more powerful. As the primary stakeholder in societal affairs, the government should take on the responsibility of regulating AI. By collaborating with companies, AI technology can be used more efficiently to screen for fraudsters and establish corresponding legal and punitive mechanisms to strengthen business oversight and emphasize the necessity of review and accountability. Simultaneously, the government should guide AI to serve vulnerable groups in society, turning it into a truly equitable public resource. For example, in South Korea, there's a beautiful AI companion robot that alleviates the loneliness of the elderly living alone (Atkinson); in Nigeria, an AI artist organizes fashion shows for the elderly, enhancing their sense of happiness and fulfillment in life (Tutton).

Conclusion

Technology should be a tool, not the setter of standards or the controller of aesthetic values. To guide technology towards the greater good, AI developers and users should adhere to the principle that authority overrules business interests and the benefit of society outweighs individual profits. In the shared pursuit by AI firms, governments, and the broader public, let's hope AI to be an ally to our elders as history's noblest inventions—the walking stick, the automobile, and reading glasses—tools that extend care, not impediments to dilemmas or sources of inequalities.

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