Accessibility of AI Technologies for Persons with Disabilities and the Legal Requirements: Assessing the Situation In Ethiopia

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Introduction

Science and technology are playing a noteworthy role in a drastically changing world. The lives of human beings are not only being simplified but also become dependent on science and technology particularly on artificial intelligent technological devices. Such technological devices that operate through algorithms are being applied on private and public sectors either as a self-operating device or through human interference so as to simplify the lives and day to day tasks of human beings. As of today, it is hardly possible to find the tasks of human beings that are beyond the reach of science and technology. Nevertheless, it is not unusual to find artificial intelligent technological devices that are non-inclusive as to some groups of people like persons with disabilities. These artificial intelligent technological devices and systems, while they need to be more supportive and too promising for people with disabilities, in reality, are sometimes found discriminatory or incompatible to be accessed or to access persons with disabilities. These problems are mainly because of some errors, by negligence if not intentionally, during data setting, preparation, learning, model deployment, and implementation of such devices and systems.

Some of such artificial intelligent devices and systems is evidenced in different scenarios like:

- Face recognition based attendance system
- Supermarket intelligent CCTV camera
- HRM system for recruitment
- Diverse remote Chabot technology and many more

The non-inclusiveness of such artificial intelligent devices and systems to access or to be accessed by persons with disabilities is totally in contradiction to the laws and standards of the international system as to the rights of persons with disabilities. Persons with disabilities have the right not to be discriminated against and to avail the advances of science and technologies so as to participate in the socio-economic and political lives equally with others.

Aim of this study

This study aims, assessing some non-inclusive artificial intelligent devices with a particular emphasis in Ethiopia, scrutinizes the operation of such devices as to the rights of persons with disabilities. Doing so, the study reveals the discriminatory nature of some of such devices and the corollary violations of human rights of persons with disabilities. And, it provides the ways forward to be considered.

Problem Statements and Gap Analysis

There are more than a billion people who are living with some sorts of physical, mental, intellectual, or sensory impairments. The significance of AI technologies in easing the lives of such groups of the community with diverse degrees and types of disabilities is beyond question. AI technologies have a dramatic impact on the lives of people with disabilities[1]. However, most AI devices and systems do not yet work properly for persons with disabilities, or worse, may actively discriminate against them [2].

Being convinced of AI's importance and its potential determinant role upon the lives of humans, the Government of Ethiopia has recently established AI Center in the capital, Addis Ababa.[8] Bearing in mind the vital role of AI technologies,[9] the establishment of the Center is a good start and predictive work so that the government deserves praise.

In an attempt to explore the work of the Center on accessibility of its potential AI devices and programs, the authors of this paper had interviewed a staff from the center.[11] In his clarification Mr. Yitayew described that the Center has no special AI assessment concerning persons with disabilities. While disability mainstreaming, including and considering persons with disabilities in all sectors that affect their life, is one of the main tools in the protection of the rights of persons with disabilities[12], the center has overseen it. This neglect of the Center to consider the special needs of persons with disabilities would consequently make AI technological devices and programs that would be developed by the Center to be non-inclusive to address persons with disabilities. And, this is against the fundamental principle of CRPWDs[13] and the rights to accessibility of persons with disabilities in accessing information, communications, and other services including electronic services and emergency services.[14]

Being curious to the concern given for persons with disabilities in Ethiopia in technology affair sectors, we have also tried to assess situation in the Ministry of Innovation and Technology by interviewing the chief officer of the Ministry [15]. As the Director General described, though the Ministry of Innovation and Technology is working hard in adopting and localizing various AI technologies for different services, it has shortcoming in assuring inclusiveness of such technologies as to persons with disabilities. He adds that not only AI technologies but also other technological devices and systems such as ATM banking, SIS systems of Universities, and many other devices and systems are not disability friendly in their operation

Conclusion and Recommendations

The study explored accessibility of AI technological devices in contrast with the standards of AI devices and systems required by the laws as to the rights of persons with disabilities. International human rights laws provide the rights of persons with disabilities not only the right to equality in all spectrums of their lives alike with others but also schemes of special protections so as to enable them fully participate in the socio-economic and political lives. AI devices are the most enabling instruments to persons with disabilities. Persons with disabilities in Ethiopia are not exceptions in experiencing the problems associated with the non-inclusiveness of AI technological devices. Some service providers in the country are using AI technologies. However, some of such AI devices are not disability friendly to access or to be accessed by persons with disabilities.

As required by the standards of technological devices, AI technologies developed both for public and private usage must be accessible for persons with disabilities. Hence, AI developers and designers as well as end users are required to assure compatibility of AI devices for persons with disabilities both at the production and operation stages respectively. And, to this effect, governments owe the duty to ensure the compliance of AI devices with the standards both during its production and operation stages. So, the Ethiopian government, being a party to the international human rights conventions including CRPWD, owes the duty to assure accessibility of AI devices to persons with disabilities in its jurisdiction.

References

References in 14pt font

Homer W Simpson (2013). "Donuts taste good." In: IEEE 13th Internation Conference on Data Mining. IEEE, pp. 405-409

Marge Simpson (2010). "Blue hair looks nice.". In: Nature communications 1, p. 622.

Bart Simpson (2013). "Hello". In: IEEE Simpsons.

Marge Simpson et al. (2013). "Lorem Ipsum." In: Advances in Neural Information Processing Systems 26. Ed. by Christopher J. C. Burges et al., pp. 27–29.