

The world has changed

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Introduction

Information and communication technologies (ICT) and the technologies (ICT) and the COVID-19 pandemic have transformed the way we live and live together.

ICT have modified habits, customs and practices, facilitating access to more modern and efficient services in the new scenario of the information and knowledge society. They have had an impact on the field of health with technological solutions for research, medical services, patient care and administration, thanks to the amount of data that has been administered, thanks to the amount of data that is now being collected and can be analyzed in a timely manner by applications, especially with Artificial Intelligence (AI).

AI was developed in the 50s, but until a few years ago sensors have been created capable of collecting the amount of data that is currently available. The COVID-19 pandemic, a global health emergency, has broken down the cultural barriers that had delayed the intensive use of technological tools in the field of health.

The need to know, prevent a disease by providing quality care has naturally imposed digital health, defined by the World Health Organization (WHO) as the use of ICT for health.

The electronic medical record, teleconsultation, electronic prescription and, above all, AI for research and health care today are

terms that are already common. Because of the benefits they provide to the population, it is the obligation of governments to computerize health care quickly; but since every creation of man always generates risks, and only best practices should be maintained when the pandemic is overcome, it is also mandatory that governments regulate digital health as soon as possible, especially AI establishing ethical limits to its applications.

Despite the significant benefits that the development of technology brings, there is also an exposure to risk to the fundamental rights and safety of individuals due to errors in its development, discriminatory bias or bad faith. Therefore, it must be regulated especially in the proper use of data and in the attribution of liability for damages. Regulation is not a prohibition. It should not be a brake on innovation, but should establish the limits that collaborate with the good use of technology.

Artificial Intelligence

It is a term that encompasses those computer systems capable of detecting their environment, thinking, learning and making decisions, that is, they can work autonomously based on the data they receive and their objectives defined in algorithms¹. AI allows machines to learn from experience, adjust to new contexts, and act similarly to a human.

It is estimated that AI will be as transcendental as a few decades ago was the discovery of the internet, since all productive

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sectors are being influenced by this technology: health, agriculture, industry, commerce; services, education, culture, entertainment, etc.

A drastic reduction in the years needed for nations to double the size of their economies is also expected, depending on each country's ability to implement AI in its infrastructure².

However, just as AI can be a fundamental tool for development, it can also widen the distances between countries and people. Therefore, the implementation of ethical principles is essential and constitutes one of the most relevant elements.

Ethics of artificial intelligence

It is defined as a branch of ethics that analyzes and evaluates the moral dilemmas that arise from the deployment of this technology in society. The adoption of applications capable of making decisions for themselves continues to raise numerous ethical doubts. Public administrations must anticipate and prevent future potential damage, with a culture of responsible innovation for the development and implementation of fair, safe and, consequently, reliable AI systems.

Potential risks

There are possible risks associated with the adoption of AI systems such as: the destruction of jobs, the manipulation, security and vulnerability of software and hardware, intrusion into privacy, increase in the digital divide between countries and people and the erosion of civil society through the manipulation of information, among others.

Biases can appear in AI programming and it is there where ethics plays a crucial role. Just as every person has prejudices, programmers of smart apps can also have them, although they probably will not become apparent until various bugs are accumulated in the system.

Possible solutions

For AI to be reliable and overcome the challenge of risks, the following must be determined:

1. *AI life cycle*. The lifecycle stages of these systems range from research, design and development to deployment and use, through maintenance, operation, commercialization, funding, monitoring and evaluation, validation, end of use, decommissioning and termination³.

2. *Actors*. People who participate in at least one stage of the AI system lifecycle. These can be researchers, programmers, engineers, data specialists, end users, companies, universities, public and private entities, among others. This definition of the above concepts is essential to clearly identify those responsible, whether human or legal persons, in case of damage, in order to generate the trust required by the development of AI.
3. *Human supervision*. An essential requirement for reliability is that, throughout their lifecycle, AI systems are subject to ongoing monitoring by actors, users, institutions and governments, as appropriate.

In cases where decisions are understood to have an irreversible or difficult impact to reverse or may involve life-and-death decisions, the final decision should not be ceded to AI systems and should always be made by a human being.

The European Commission proposes an approach oriented to excellence and trust based on the level of risk that AI could entail, establishing 4 categories and different levels of control for each, ranging from "unacceptable risk", whose applications are prohibited, to "high risk", which requires prior compliance and periodic internal and external controls, to the "limited risk" and "no risk", which must be subject to Voluntary Codes of Conduct^{4,5}.

Finally, the words of Audrey Azoulay, Director-General of UNESCO, are taken up: "The world needs rules for artificial intelligence to benefit humanity."⁶

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