Human Brain
vs.
Super Computer

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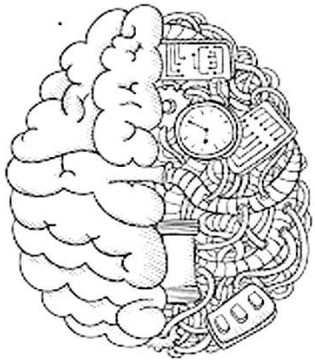

Artificial Intelligence V Natural (human) intelligence-global challenge for the human rights

Abstract: Intelligence can be defined as a general mental ability for reasoning, problem solving, and learning. Because of its general nature, intelligence integrates cognitive functions such as perception, attention, memory, language, or planning. On the basis of this definition, intelligence can be reliably measured by standardized tests with obtained scores predicting several broad social outcomes such as educational achievement, job performance, health, and longevity. A detailed understanding of the brain mechanisms underlying this general mental ability could provide significant individual and societal benefits. Structural and functional neuroimaging studies have generally supported a frontoparietal network relevant for intelligence. Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Particular applications of AI include expert systems, speech recog-

nition and machine vision.AI can be categorized as either weak or strong. Weak AI, also known as narrow AI, is an AI system that is designed and trained for a particular task. Virtual personal assistants, such as Apple's Siri, are a form of weak AI. Strong AI, also known as artificial general intelligence, is an AI system with generalized human cognitive abilities. When presented with an unfamiliar task, a strong AI system is able to find a solution without human intervention. Human intelligence is the intellectual prowess of humans, which is marked by complex cognitive feats and high levels of motivation and self-awareness. Through their intelligence, humans possess the cognitive abilities to learn, form concepts, understand, apply logic, and reason, including the capacities to recognize patterns, comprehend ideas, plan, solve problems, make decisions, retain information, and use language to communicate. Intelligence enables humans to experience and think.

Introduction:

Technological developments have significantly advanced since the 1990's with more significant improvement in the way people perform different tasks. The concept of AI as an area of science was more close to fiction. However, the idea of AI is no longer a fiction but a reality that has become part of our daily lives. Therefore,' machine learning' by use of neural networks that mimic the actual processes of the real neurons, AI allows machines to process complex data and provide accurate information. With the innovations and development of AI, it marks the golden age of AI. As a result, the AI has been the most advanced technology. Hence, it will dominate the focus of technology for many years. It is important to note that with the AI, people's lives have been improved for the better. Notably, integration of AI technology has a great connectedness in improving the people's activities in their everyday life.

Humans have develop the power of computer systems in terms of their diverse working domains, their increasing speed, and reducing size with respect of time. A branch of computer science named Artificial Intelligence perceives creating the computers or machines as intelligent as human beings.

According to father of artificial intelligence, John McCarthy, it is "The science and engineering of making intelligent machines, especially intelligent computer programs". Human Intelligence is defined as the quality of the mind that is made up of capabilities to learn from past experience, adaptation to new situations, handling of abstract ideas and the ability to change his/her own environment using the gained knowledge. Human Intelligence can provide several kinds of information. It can pro-

vide observations during travel or other events from travelers, refugees, etc. It can provide data on things about which the subject has specific knowledge, which can be another human subject, or, in the case of defectors and spies, sensitive information to which they had access. Finally, it can provide information on interpersonal relationships and networks of interest.

Differences Between Artificial Intelligence vs Human Intelligence
Below are the lists of points, describe the key Differences Between Artificial Intelligence and Human Intelligence

Nature of Existence

HI - Human intelligence revolves around adapting to the environment using a combination of several cognitive processes.

AI - The field of Artificial intelligence focuses on designing machines that can mimic human behavior.

Memory usage

HI - Humans use content memory and thinking.

AI - Robots are using the built-in instructions, designed by scientists.

Mode of creation

HI - Human intelligence is bigger because its creation of God. Humans intelligence is the real creator of the artificial intelligence even but they cannot create a human being with superiority.

AI - Artificial intelligence as the name suggests is artificial, little and temporary created by humans.

Learning process

HI - Human intelligence is based on the variants they encounter in life and responses they get which may result in millions of functions overall in their lives.

AI - Artificial intelligence is defined or developed for specific tasks only and its applicability on other tasks may not be easily possible.

Dominance

Artificial intelligence can beat human intelligence in some specific areas such as in Chess a supercomputer has beaten the human player due to being able to store all the moves played by all humans so far and being able to think ahead 10 moves as compared to human players who can think 10 steps ahead but cannot store and retrieve that number of moves in Chess.

Comparison Table :

Human intelligence revolves around adapting to the environment using a combination of several cognitive processes. The field of Artificial intelligence focuses on designing machines that can mimic human behavior. However, AI researchers are able to go as far as implementing Weak AI, but not the Strong AI. In fact, some believe that Strong AI is never possible due to the various differences between the human brain and a computer. So, at the moment, the mere ability to mimic the human behavior is considered as Artificial Intelligence.

Comparison Factor	Human Intelligence	Artificial Intelligence
Energy efficiency	25 watts human brain	2 watts for modern machine learning machine
Universal	Humans usually learn how to manage hundreds of different skills during life.	While consuming kilowatts of energy, this machine is usually designed for a few tasks.
Multitasking	Human worker work on multiple responsibilities	The time needed to teach system on each and every response is considerably high
Decision Making	Humans have the ability to learn decision making from experienced scenarios.	Even the most advanced robots can hardly compete in mobility with 6 years old child. And this results we have after 60 years of research and development.
State	Brains are Analogue	Computers are digital

Also, the utilization of artificial intelligence will surely make life even more convenient for humankind in the years to come and even force humans to evolve their skill sets, it will perhaps never be possible for such machines to completely replace the human resource.

Hence,

Human intelligence > Artificial intelligence

Checks and Balances of Artificial Intelligence

The sectors of government, intergovernmental organizations, civil society, and academia have had their own nascent developments. There may be some momentum for adopting a human rights approach for AI among large tech companies and civil society organizations. To date, there are only a few, albeit significant, number of examples at the United Nations (UN),

Since human rights principles were not written as technical specifications, human rights lawyers, policy makers, social scientists, computer scientists, and engineers should work together to operationalize human rights into business models, workflows, and product design.

Academics should further

examine the value, limitations, and interactions between human rights law and human dignity approaches, humanitarian law, and ethics in relation to emerging AI technologies. Human rights and legal scholars should work with other stakeholders on the tradeoffs between rights when faced with specific AI risks and harms. Social science researchers should empirically investigate the on-the-ground impact of AI on human rights.

UN human rights investigators and special rapporteurs should continue researching and publicizing the human rights impacts resulting from AI systems. UN officials and participating governments should evaluate whether existing UN mechanisms for international rights monitoring, accountability, and redress are adequate to respond to AI and other rapidly emerging technologies. UN leadership should also assume a central role in international technology debates by promoting shared global values based on fundamental rights and human dignity.

Artificial Intelligence and Human Rights

AI has "created new forms of oppression, and in many cases disproportionately affects the most powerless and vulnerable. The concept of human rights addresses power differentials and provides individuals, and the organizations that represent them, with the language and procedures to contest the actions of more powerful actors, such as states and corporations."Human rights are universal and binding, and are codified in a body of international law. Respecting human rights is required of both governments and companies alike, although governments have additional obligations to protect and fulfill human rights.There is an entire system of regional, international, and domestic institutions and organizations that provide well-developed frameworks for remedy and articulate the application of human rights law to changing circumstances, including technological developments. And in cases where domestic law is lacking, the moral legitimacy of human rights carries significant normative power. Violating human rights carries global reputational and political costs, and naming and shaming human rights violators is often an effective tool. Human rights law can address some of the most egregious societal harms caused by AI, and prevent such harms from occuring in the future.

Effects of AI on human rights

The role of AI in facilitating discrimination is well documented, and is one of the key issues in the ethics debate today. To recognize these issues, Access Now partnered with human rights organizations and AI companies to release "The Toronto Declaration" in March 2018. However, the right to non-discrimination is not the only human right implicated by AI.

Because human rights are interdependent and interrelated, AI affects nearly every internationally recognized human right. Below we examine many of the human rights impacted by AI. The rights discussed are largely those embodied in the three documents that form the base of international human rights law, the so-called "International Bill of Human Rights." This includes the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), and the International Covenant on Economic, Social and Cultural Rights (ICESCR). To these, this report adds the right to data protection as defined by the EU Charter of Fundamental Rights. For each implicated human right we discuss how current AI uses violate or risk violating that right, as well as risks posed by prospective future developments in AI. It is important to note that the human rights issues discussed below are not necessarily unique to AI. Many already exist within the digital rights space, but the ability of AI to identify, classify, and discriminate magnifies the potential for human rights abuses in both scale and scope. Like the human rights harms in other uses of technology that leverage data, the harms related to the use of AI often disproportionately impact marginalized populations. That can include women and children, as well as certain ethnic, racial, or religious groups, the poor, the differently abled, and members of the LGBTQ community. The long-established marginalization of these groups is reflected in the data and reproduced in outputs that entrench historic patterns.

Rights to privacy and data protection

Privacy is a fundamental right that is essential to human dignity. The right to privacy also reinforces other rights, such as the rights to freedom of expression and association. AI systems are often trained through access to and analysis of big data sets. Data are also collected in order to create feedback mechanisms and provide for calibration and continual refinement. This collection of data interferes with rights to privacy and data protection. The analysis of data using AI systems may reveal private information about individuals, information that qualifies as protected information and should be treated as sensitive even if derived from big data sets fed from publicly available information.

Right to freedom of movement

The potential for AI to restrict freedom of movement is directly tied to its use for surveillance. In systems that combine data from satellite imagery, facial recognition-powered cameras, and cell phone location information, among other things, AI can provide a detailed picture of individuals' movements as well as predict future location. It could therefore easily be used by governments to facili-

tate more precise restriction of the freedom of movement, at both the individual and group level.

Rights to equality and non-discrimination

AI models are designed to sort and filter, whether by ranking search results or categorizing people into buckets. This discrimination can interfere with human rights when it treats different groups of people differently. Sometimes such discrimination has positive social aims, for example, when it is used in programs to promote diversity. In criminal justice, this discrimination is often the result of forms of bias. Use of AI in some systems can perpetuate historical injustice in everything from prison sentencing to loan applications.

Conclusion:

Human intelligence is a product of millions of years of learning and fine-tuning. Our cognitive skills and abilities are evolved to a point that we can multi-task, respond to new circumstances and changes effectively, adapting to a dynamic environment, handle abstract ideas and complicated tasks, process even vague commands, be flexible and so on.Human intelligence includes interpersonal and intrapersonal intelligence which enables humans to process emotions, make observations, respond to sensitive information, make judgments, creatively solve problems, etc. Both of these are human prerogatives and cannot be mimicked by machines.AI being a replicated version of the human intelligence, will require several times more R&D, instructions and investments to be able to completely mimic the human intelligence or become superior to it. At best, AI can be a powerful tool for humans to use to improve the way the world functions.

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