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Roboethics - Making Sense of Ethical Conundrums

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Abstract

Advances in technology has provided additional benefits to medical treatment. The use of humanoids has been proposed in rehabilitative treatment of children with brain impairment due to autistic-spectrum disorder. However, ethical questions have been raised with regard to the appropriateness of this approach, especially in view of children being considered as vulnerable subjects. This paper suggests that ethical principles need to be referred to in order for this treatment modality is to be considered acceptable.

1. Introduction

During a recent CNN's GPS program (October 9, 2016) which focused on Watson, IBM's super-intelligent machine based on cognitive computing, the host Fareed Zakaria posed this question to his guest, Ginni Rometty, the head of IBM, "Will machines outsmart human?". Ms. Rometty tried very calmly and matter-of-factly to contain the excitement of the interviewer. Machines are never going to make the human dispensable, she insisted. They are definitely not out to destroy jobs. Watson is merely a tool to assist creativity of the human [1].

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Nomenclature

CNN   Cable News Network
IBM   International Business Machine
AI   artificial intelligence
LAWS lethal autonomous weapon systems
ASD   autistic-spectrum disorder
UAV   unmanned aerial vehicles
HGP   Human Genome Project
ELS   ethical, legal and social

However, Watson and other similar artificial intelligence (AI), or more recently augmented intelligence platforms like Wipro's Holmes are expected to assist the human in decision making processes; for instance, coming up with the most enticing trailer of a new movie, the best recipe for a culinary experience, and the most likely diagnosis of a sick person. Cognitive computing systems are to be employed to automate numerous job functions hitherto requiring human participation and intervention. Elsewhere, socially assistive robots are making inroads into rehabilitative medicine and care of the aged [2].

Concerns over the extended, enhanced and possibly autonomous role of super-intelligent machines in the coming years have been raised by none other than Bill Gates, Steven Hawking and Elon Musk, the Chief Executive Officer of Space X, the company that in late 2016 announced to send man to planet Mars within a decade [3]. Quoting Mr Gates, "I am in the camp that is concerned about super intelligence. First the machines will do a lot of jobs for us and not be super intelligent. That should be positive if we manage it well. A few decades after that though the intelligence is strong enough to be a concern. I agree with Elon Musk and some others on this and don't understand why some people are not concerned." [4] Musk, had earlier tweeted the much publicized, "We need to be super careful with AI. Potentially more dangerous than nukes." [5]

In the same vein, Hawking wrote in The Independent in 2014, "Success in creating AI would be the biggest event in human history, unfortunately, it might also be the last, unless we learn how to avoid the risks. In the near term, world militaries are considering autonomous-weapon systems that can choose and eliminate targets [6]. Closer to home in Malaysia IT leader and thinker Tengku Azzman Shariffadeen raised the issue of the ethical perspective of autonomous robots at the Academy of Sciences Malaysia's 10th General Assembly on 24th September 2016 [7].

The 2015 movie 'Eye in the Sky' portrays somewhat the ethical dilemma of launching missiles from a remotely piloted drone from a military base in Las Vegas, to take out a group of suspected suicide bombers in a house in Nairobi, Kenya, without inflicting civilian casualties. Would being far away and somewhat disengaged from the site of the potential carnage have much lesser impact on the conscience of the one pressing the button? Worse, when lethal autonomous weapon systems (LAWS) select and fire targets without human control, who is to be held responsible? What is the ethical code of those who set up the AI algorithm in the system? [8]

Their argument is that technological progress is getting out of hand, and is developing according to its own immanent laws. It would appear that machines are reshaping man to their own images of stiffness, exactness and soullessness. Technology appears to have become so inherent to man so much so that man can be referred to as *Techno sapiens*, rather than *Homo sapiens* [9].

However, there is also a dissenting point of view of this pessimistic approach to technological development. This school of thought argues that the perspective which personifies technology as an autonomous agent with mythological properties is an imagination of humanists who have limited insights into the structure of the technological order. Far from being a toxin endangering man in his humanity, technology in the broad sense of the word, is one of the most fundamental characteristics which defines man within the classification of living things.

Unlike animals, bestowed with some of the most extraordinary instinct of survival in the wild, man largely lacks such a grandiose gift. Furthermore, his survival and well-being cannot depend on instinctive reactions alone. He has to learn and re-learn to react and deal with new, challenging situations all the time. One way to do this, is by creating an artificial, more controlled environment for himself. Within this man-made environment, he is much assisted by the technological milieu, not only to survive but also to prosper.