SHORT COMMUNICATION

Medical Ethics Prototype for Artificial Intelligence Ethics

Nikolaos M. Siafakas MD. Ph.D

Departments of Medicine and Computer Science, University of Crete, Greece.

Corresponding Author: Nikolaos Siafakas, Emeritus Professor of Medicine and Visiting Professor of the Department of Computer Science, University of Crete Room 107, Building of Computer Science, University Campus, Heraklion, Greece 70013.

Abstract

Artificial Intelligence (AI) is the most rapidly advancing science affecting almost all human activities but in the future, it could be a significant threat to Humanity. One way to avoid AI turning against humans is to introduce Ethics and Moral rules into AI science. As Medical Ethics is the best example of human ethics, it is proposed it could be a prototype for the development of AI ethics. A first step could be the establishment of a Hippocratic-like oath for AI scientists, complementary to the development of an internationally accepted Code of Ethical Actions and the establishment of Ethical Committees for AI. In an analogous way to Medicine, this proposal could enhance morality beyond biological consciousness into the future machines.

Keywords: Artificial Intelligence, Algorithm, Morals, Ethic Codes, Ethic Committee, Medical Ethics.

1. Introduction

Experts consider Artificial Intelligence (AI) the third possible cause of humankind extinction, in addition to the Nuclear War and the Climatic Change. (Kaku 2014,Hariri 2017)

AI is the most rapidly advancing science and although today is weaker than the human one, it is predicted that during the next decade (s) it may become equal. (Good 1965, Maravec 1998,Kurzmeil 2014)

When that happens it could be easy to foresee that a SUPER –AI could be developed.(Bostrom2014) An AI well above the average level of human intelligence and although this could be the most significant scientific achievement, many fear that it may be the last one (Dyson1979, Cussins 2018). Humans will no longer be the smarter living beings on planet Earth. If this event occurs, it is extremely difficult to predict with precision the way the 'machine' is going to behave towards the human race. Is it going to continue to be beneficial or turned to become harmful? (Bostrom 2013)

In the last case, it would be the first time in history that humans will not fight humans but one of their products the AI machine!

Therefore, it is of paramount importance to develop solid, safe, and efficient mechanisms (algorithms) to prevent the potentially lethal dangers of Super-AI, before it is too late, and keep AI on the human side.

One way to speed up the global efforts to prevent the possible trajectory of human civilization could be the introduction of Morals and Ethics into the science of AI.

2. Discussion

It is proposed that Medical ethics should become the prototype for the ethics of AI scientists.

2.1 Medical Ethics

The most successful history of human ethics, has three pillars: the Hippocratic Oath, the modern international Ethical Codes, such as the Declaration of Geneva and Helsinki, and the established Ethical Committees.

2.1.1 Hippocratic Oath

It is well known, that the first ethical written document was presented 2500 years ago by the Greek physician Hippocrates to minimize medical malpractice. His famous oath had a tremendous effect not only on medical ethics but became the foundation of modern

moral standards globally. The Hippocratic Oath was based on simple principles emphasizing the personal ethical responsibility of the *'first do no harm'* rule. (Siafakas 2011) The oath despite many modifications and modernizations helped uphold high medical standards and it is still in use by many medical schools in the world.(Kao 2004)

Unfortunately, due to human nature, an Oath is not a panacea, and the Hippocratic Oath was unable to prevent medical crimes during wars (Nazi medical crimes) or unethical research (Tuskegee syphilis study), therefor it has to be complimented with modern written documents universally accepted.

2.1.2 Ethical Codes

Documents such as the Declaration of Geneva and Helsinki, the Nuremberg Code, and the Belmont Report are practical guidelines for practicing medicine, biology, and other life sciences today, especially in experimental research on humans or animals.

2.1.3 Ethical Committees

Finally today all medical research has to be reviewed by ethical committees at various levels, hospitals, universities, and research companies, among others. The role of these committees is to review the proposal using the ethics of the above international ethical codes and the moral ideas of the Hippocratic Oath.

2.2 Digital Ethics

Although the analogy between medical and computer science ethics is not perfect, both have to do with humans and their well-being.(Veliz 2019)

Thus, this proposal argues that we may use similar procedures, like those in Medicine, to implement ethics in AI science such as: A Hippocratic oath for AI scientists, International codes of action, and Ethics Committees.

2.2.1 Hippocratic oath for AI scientists

An oath based on simple principles and taken early in a scientist's career such graduation ceremonies could have the following beneficial effects: Emphasize personal responsibility, Enhance international collaboration (open science), Increase awareness of the potential lethal threats of AI and boost funding for safe use of AI, prevent corrupt practices (data poisoning), protect scientists from malicious employers, prevent medical or genomic malpractice, fight climate change, understanding better fundamental principles and flourish life in the universe.(Siafakas 2021)

2.2.2 International Code of Ethics

There are several international, national, and scientific efforts aiming to produce a universal code of action for AI scientists: the Asilomar conference (Asilomar 2019), and Partnership AI (2019), among others. A rather successful attempt was the European Commission's Ethic Guidelines for Trustworthy AI (2019) but had been criticised as being very vague and quite unbalanced. Another, good effort was the one of the Association for Computing Machinery's Code of Ethics and Professional Contact (ACM 2018) but failed to be adopted worldwide.

It is apparent that till now none of those efforts have reached universal acceptance and thus, Governments, the European Union, and other organizations (United Nations) have recently established specific committees to address these significant issues. International ethical codes to have moral authority should be developed by a panel of extremely highly qualified experts including Technologists Ethicists, experts on risk assessment, Lowers, and members of the public, among others. The code should cover the majority of the significant issues of AI from personal data handling, hacking, malignant algorithms, and cyberwar to issues such as the possible humankind extinction by Super-AI. Such a code if became under the auspices of the United Nations organisation should have the maximum acceptance and implementation.

It is obvious that a Universal Declaration of Ethics in AI practice is urgently needed!

2.2.3 Ethical Committees for AI

So far, there have been very few attempts to form Ethical Committees in AI. Google one of the founders of the digital age, made such an effort and declared an ethical motto 'Don't be Evil' miming the Hippocratic 'first do no harm' but failed to identify and resolve ethical issues. For example, it failed to define 'evil' and it was difficult to implement even its employees. (Start 2019) However, even failed this effort and those of others was a step in the right direction, introducing the ideas of morals and ethics in AI companies. We have to keep in mind that business cooperations are driven by market criteria and codes or ethical committees produced, even of the best intentions, have to be reviewed with scrutiny. In addition, even those of high standards, are addressing ethical issues primarily concerning their relationship with their customers and do not focus on the most significant possibilities that AI may act against humanity and it may be the cause of human extinction.

It is obvious, that before ethics committees were established, the International Ethics Code for AI had to be accepted globally, because only an Ethical Committee could function, implementing rules and consequences if not followed.

As in biological science, similarly, Ethics committees may play a significant role in educating AI scientists on moral matters, providing ethical consultations, and keeping informed of the major developments

Finally, no project AI should go out to the world without having been assessed by a team of well-qualified scientists, and advising the Ethics committee which of course should make the final decision (Veliz 2019).

3. Conclusion

AI could be a significant threat to the human race and is of paramount importance to develop safe guardian models to avoid this from happening. One way to speed up this procedure could be to introduce Ethical rules into AI and acquaint AI scientists with moral principles for 'ethical algorithms' to be produced in the future. Since Medical ethics are the most successful story in human ethics it is proposed AI ethics follow the same way using a Hippocratic-oath for AI scientists, developing a universally accepted Code of Ethics, and establishing Ethical Committees for AI, where and when needed.

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