AN ETHICAL EVALUATION OF ARTIFICIAL INTELLIGENCE FROM A CATHOLIC MORAL PERSPECTIVE

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Abstract

Artificial intelligence (AI) has advanced at an unimaginable pace in recent years, influencing every aspect of human life. Artificial intelligence (AI) refers to a system or software that can simulate intelligent human behaviour, do instantaneous computations, solve problems, and evaluate new data based on previously assessed data. Even it is used in every spere of human life, "This technology has the power to impact the future of the industry and human beings, but it is a double-edged sword." When it is not used responsibly and ethically it can bring ruin to the world rather than blessing to the world. So the nations make strict rules and regulations for the implementation of AI in various work-fields and so the Church also expresses its concern for the unresponsible use of AI in work areas which can create a lot of ethical issues. Anything which does not uphold the value of human life and the dignity of human life cannot be accepted by the Catholic Church. Thus, this article elaborates on certain ethical issues of using AI while without denying its immense possibilities.

Keywords: Artificial intelligence, Ethics, technology, intelligence, computers, healthcare

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Introduction

Artificial intelligence (AI) is advancing at an unimagining pace in the recent years and it influences every spere of human life. Artificial intelligence (AI) is a term applied to a machine or software which holds the capability of "simulating intelligent human behavior, instantaneous calculations, problem-solving, and evaluation of new data based on previously assessed data."[1] Today AI permeates every aspect of life. That is why Dariush D Farhud, Shaghayegh Zokaei, argues in their article, "AI heavily influences many industries and fields, including agriculture and farming, manufacturing and production, autonomous vehicles, fashion, sports analytics and activities, healthcare, and the medical system."[2] Even it is used in every spere of human life they further warn that, "This technology has the power to impact the future of the industry and human beings, but it is a double-edged sword."[3] Naik, Hameed etc. also raise the same ethical concern about the AI. They perceive the following legal and ethical issues related to the advancement of AI "privacy and surveillance, bias or discrimination, and potentially the philosophical challenge is the role of human judgment. Concerns about newer digital technologies becoming a new source of inaccuracy and data breaches have arisen as a result of its use."[4] A study by the Capitol Technological University also identifies one danger of AI; "As technologists, ethicists, and policymakers look at the future of AI, ongoing debates about the control, power dynamics, and potential for AI to surpass human capabilities highlight the need to address these ethical challenges in the present." [5] It is because of its ethical challenges Both UN, European

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[1] Amisha, Malik P, Pathania M, Rathaur VK. (2019). Overview of artificial intelligence in medicine. J Family Med Prim Care, 8:2328–2331,DOI PMC free article, PubMed, Ethical Issues of Artificial Intelligence in Medicine and Healthcare – PMC.

[2] Dariush D Farhud, Shaghayegh Zokaei, "Ethical Issues of Artificial Intelligence in Medicine and Healthcare," Iran J Public Health,. 2021 Nov; 50(11): i–v. doi: 10.18502/ijph.v50i11.7600.

[3] Dariush D Farhud, Shaghayegh Zokaei, "Ethical Issues of Artificial Intelligence in Medicine and Healthcare."

[4] Naik N, Hameed BMZ, Shetty DK, Swain D, Shah M, Paul R, Aggarwal K, Ibrahim S, Patil V, Smriti K, Shetty S, Rai BP, Chlosta P and Somani BK (2022) Legal and Ethical Consideration in Artificial Intelligence in Healthcare: Who Takes Responsibility? *Front. Surg.* 9:862322. doi: 10.3389/fsurg.2022.862322

[5] Capitol Technology University, Laurel, "The Ethical Considerations of Artificial Intelligence," Capitology Blog, https://www.captechu.edu/blog/ethical-considerations-of-artificial-intelligence.

Union and many nations are taking significant steps to understand and mitigate these challenges to harness AI's immense potential.[6]

The recent development of AI in "healthcare has literally changed the medical field, including imaging and electronic medical records (EMR), laboratory diagnosis and treatment, augmenting the intelligence of the physicians, new drug discovery, providing preventive and precision medicine, biological extensive data analysis, speeding up processes, data storage and access for health organizations."[7] However, the use of AI in the field of Medicine is also faces various ethical and legal challenges. In this connection the warning given by Donum Vitae is remarkable; "Science without conscience can only lead to man's ruin"[8] In connection this article tries to provide a comprehensive view on the ethical consideration of AI, focussing on human dignity, privacy of the person, bias, transparency, accountability, etc. In other words, we discuss here the implications of AI in the value system of the society giving emphasis to the Catholic moral values. The Catholic Church, with its rich tradition of moral theology and social teaching, offers valuable insights for the ethical evaluation of AI. This essay explores the intersection of AI ethics and Catholic teaching, focusing on key principles such as the dignity of the human person, the common good, solidarity, and the principle of subsidiarity.

What is AI?

Before going to the meaning of Artificial Intelligence, it is good to know what is intelligence. Intelligence can be defined as the capacity for learning, reasoning, problem solving and decision making. If these capacities are earned by computers and machines, then we call it artificial intelligence. The same concept is expressed by Nicolas Sabouret in other words. "Artificial intelligence is sometimes presented as a new revolution. It seems possible to provide machines with self-awareness, to make them capable of thinking for themselves, even to surpass us."[9] Computer works normally according to the preplanned given programs. When a computer does something which

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[6] Capitol Technology University, Laurel, "The Ethical Considerations of Artificial Intelligence."

[7] Dariush D Farhud, Shaghayegh Zokaei, "Ethical Issues of Artificial Intelligence in Medicine and Healthcare."

[8] Congregation for the Doctrine of the Faith, *Donum Vitae*, §2.

[9] Nicolas Sabouret, *Understanding Artificial Intelligence*, Boca Raton, CRS Press, 2020. 1.

is not preplanned in it, it is called the artificial intelligence in computers. In other words, an AI system learns the rules (function) through training data (input) exposure. From this inference we may conclude that AI is the capacity of a computer program to execute tasks associated with human intelligence, such as reasoning and learning. It also includes processes such as adaptation, sensory understanding, and interaction. Artificial Intelligence (AI) has rapidly transformed various sectors, including healthcare, finance, education, and more. But further Sabouret warns us that "This is a fascinating perspective, but it's also troubling."[10] But we have to remember one thing, even our forefathers welcomed every advancement (industrialization, computerisation) with a mix of fear and enthusiasm. But in the case of AI as Nicolas further points out, there is a possibility of "human be replaced by a human creation." For some people AI can be a "devil's machine," but for others, it an option not to depend on human beings for our work and the creation of a positive atmosphere "where no one would have to work any longer."[11] Artificial Intelligence is broad term which can be divided into General Artificial Intelligence and Artificial intelligence System. General artificial system is generally in the theoretical level in which comprehend, acquire, and apply information exactly like human intellect. Artificial intelligence system are developed for specific tasks like picture categorization, speech recognition etc.[12]

Definitions of AI

Artificial Intelligence can be broadly defined as creation of computers and machineries in such a way that it can substitute human intellect. The European Commission, defined AI as "AI refers to system that display intelligent behaviour by analysing their environment and taking some actions – with some degree of Autonomy- to achieve specific goals. AI based system can be purely software based, acting in the virtual world or AI can be embedded in hardware systems.[13] The definition clearly makes sure of one thing, it is the possibility of a machine to think like human intelligence. Angelo

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[10] Nicolas Sabouret, *Understanding Artificial Intelligence*, 1.

[11] Nicolas Sabouret, *Understanding Artificial Intelligence*, 2.

[12] Stuart J. Russel and Peter Norvig, *Artificial intelligence: A Modern Approach*, 4th ed., Hoboken: Pearson, 2021, 4,5.

[13] Communication from the Commission to the European Parliament, The European Council, The Council, The European Economic and Social committee and the Committee of the Regions on Artificial Intelligence for Europe, Brussels, 1, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0237.

Chakkanattu in his article, Artificial Intelligence: Human Natural Machine Intelligence of Evolution, ask two questions whether "can machine act intelligently?" and "can machines Really think?" He is also sceptical about the capacity of the machine to have feeling or do they actually feel emotions?[14] Coursera staff also gives almost the same definition; "Artificial intelligence (AI) is the theory and development of computer systems capable of performing tasks that historically required human intelligence, such as recognizing speech, making decisions, and identifying patterns. AI is an umbrella term that encompasses a wide variety of technologies, including machine learning, deep learning, and natural language processing (NLP)."[15] From the above definitions and explanations, we may conclude that AI is nothing but the machines think like human being, and they sometimes posses more intellectual capacity than human being. They even possess the abilities to correct themselves for their mistakes. Or it is the "Science and engineering of machines with capabilities that are considered intelligent by the standard of human intelligence."[16]

Types of AI

Generally, we divide AI as Strong AI (General AI) and week AI. "**Strong AI** is essentially AI that is capable of human-level, general intelligence. In other words, it's just another way to say "artificial general intelligence." **Weak AI**, meanwhile, refers to the narrow use of widely available AI technology, like machine learning or deep learning, to perform very specific tasks, such as playing chess, recommending songs, or steering cars. Also known as Artificial Narrow Intelligence (ANI), weak AI is essentially the kind of AI we use daily."[17] But there are other divisions of AI by different authors. For example, Professor Arend Hintze of the University of Michigan speaks of 4 types of AI. They are (a) Reactive Machine, which is the basic type of artificial intelligence. It reacts only according to the given program. And they may not be able to perform beyond the limited context. For example, playing chess, etc. (b) Limited memory machines

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[14] Angelo Chakkannattu, "Artificial Intelligence: Human Natural Machine Intelligence of Evolution," *Asian Horizon,* Vol.14,3(September 2020), 563-587.

[15] Coursera, "What is Artificial Intelligence, Definition, Uses and Types," https://www.coursera.org/articles/what-is-artificial-intelligence.

[16] Peter G. Kirchlaeger, "Artificial Intelligence and the Complexity of Ethics," *Asian Horizon,* Vol.14,3(September 2020), 587-600, 588.

[17] Coursera, "What is Artificial Intelligence, Definition, Uses and Types," https://www.coursera.org/articles/what-is-artificial-intelligence.

which possess only a limited understanding of the past event. They can better in reacting with the given situation than the previous one. Example for such machine is self-driving cars. (c)Theory of mind machines are the previous form of artificial general intelligence. It has the capacity to understand the existence of other entities within its world. (d) Self-aware machines have the capacity to understand the world, other and itself. Currently, they are only a possibility.[18] Some other divisions of AI which is commonly used are, Natural Language Processing (NLP) (eg. Alexa, Siri, Google, Generative AI (GAI) the capacity to make a novel after reading thousand novels, or draw a picture after seeing many pictures, (eg. Chat GPT, Bard, etc. Dany (for picture) Generative test recognizing AI, Computer Vision AI (face recognizing and image recognising AI, Eg. AI Camera, Robotic AI, Speech recognition AI, Explainable AI and Planning and scheduling AI.

Catholic Teaching on AI

Even though AI is relatively a new subject for many, the possibility of AI was imagined in many old films. Alan Turing and John McCarthy, gave the first seed of AI in 1950 itself. [19] The increase in the speed of the computers (1990 to today the speed has been increased by 10,000 fold) and the widespread use of Social Media propelled the advancement of AI in the present years. The Church always move along with the development of science and it gives ethical guidance to the science. That is why even in the beginning of the fast technological advancement through the document *Donum Vitae*, the Church accepted service of science and technology to the human kind. But it warns that, it will be useful for man only when he places it at his disposal to promote integral development for all. Further, it states, rapid development of science and technology must respect human life and human dignity. And it clearly states that science and technology must be at the service of human person.[20] The same principle can be applied to AI too. AI must be at the service of the human person and AI without conscience can lead to man's ruin.

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[18] Arend Hintze, "Understanding the Four Types of Artificial Intelligence," Michigan State University, https://www.govtech.com/computing/understanding-the-four-types-of-artificial-intelligence.html#:~:text=There%20are%20four%20types%20of,of%20mind%20and%20self%2Dawareness.

[19] Alan M. Turing, "Computing Machinery and Intelligence," Mind 59, no. 236(1950), 433-460.

[20] Congregation for the Doctrine of the Faith, *Donum Vitae*, §2.

As per the Christian ethics and teachings of the Church technology in itself is not an evil. They also teach that, technology is morally neutral and can become a true good for humanity provided we use it for the service of the person. If we do not use it with responsibility, it can also do a lot of harm to the society. That is why Pope Benedict XVI in his encyclical *Caritas in Veritate*, one full chapter elaborately explains the advantages and disadvantages of technology. In Caritas in Veritate no. 69, he writes "Technology enables us to exercise dominion over matter, to reduce risks, to save labour, to improve our conditions of life. It touches the heart of the vocation of human labour: in technology, seen as the product of his genius, man recognizes himself and forges his own humanity." Whatever he applies to technology can be applied to Artificial Intelligence as AI is the present technological development. What is more important for Catholic teaching is that technology should be scrutinized in the light of faith and it should be exercised without curtailing the human dignity. Always it should be at the service of human being.

Pope Francis on AI

In November 2020, Pope Francis in the month of November 2020, invited all Catholics to pray that robotics and artificial intelligence remain always at the service of human beings — rather than the other way around. [21] Pope Francis in his address to the G7 in June 2024 says "We would condemn humanity to a future without hope if we took away people's ability to make decisions about themselves and their lives, by dooming them to depend on the choices of machines. We need to ensure and safeguard a space for proper human control over the choices made by artificial intelligence programs: human dignity itself depends on it."[22]

In the Post-Synodal Apostolic Exhortation *Christus Vivit*, Pope Francis perceives the danger of youth addicted to the digital world. He recognized the opportunities provided by the Social medias and AI, for better communication, to access information, to respond against the

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[21] Jonah McKeown, What Does the Catholic Church Say About Artificial Intelligence? CNAWorld June 15, 2022, https://www.catholicnewsagency.com/news/251552/sentient-ai-heres-what-the-catholic-church-says-about-artificial-intelligence.

[22] Address of his Holiness Pope Francis, 14, June 2024, Puglia, https://www.vatican.va/content/francesco/en/speeches/2024/june/documents/20240614-g7-intelligenza-artificiale.html.

violation of human rights, the power to spread the gospel values etc. But at the same time he warns about the danger of being chained by the digital world, without entering in relation to others. (*Christus Vivit* 86, 87). Digital media can expose people to the risk of addiction, isolation and gradual loss of contact with concrete reality, blocking the development of authentic interpersonal relationships." (*Christus Vivit* 88, 90). Pope Francis also warns the world against the falsehoods on the internet "If the Internet represents an extraordinary possibility of access to knowledge, it is also true that it has proven to be one of the areas most exposed to disinformation and to the conscious and targeted distortion of facts and interpersonal relationships, which are often used to discredit."[23]

General Ethical Issues Related to AI

As we have seen above, AI is a powerful tool for the recent times, which can become a blessing for humanity. It can highly influence all areas of human life, like agriculture, business, societal life, healthcare, etc. But at the same time there is a continuous debate among the scientists, sociologists, ethicists and legal authorities about whether AI "fits within existing legal categories or whether a new category with its special features and implications should be developed."[24] The application of AI in healthcare practice has enormous promise to improve healthcare, but it also poses ethical issues that we must now address. To fully achieve the potential of AI in healthcare, four major ethical issues must be addressed: (1) informed consent to use data, (2) safety and transparency, (3) algorithmic fairness and biases, and (4) data privacy are all important factors to consider.[25] With this introduction, we go through the different ethical issues related to AI.

1. Ethical Issues Related to Healthcare

The Indian Council of Medical Research gives strict guidelines for the research, development and use of AI in healthcare field and these guidelines are oriented to innovators, developers, technicians,

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[23] Pope Francis, "Message for the world day of Communications 2019," LIII World Communications Day, 2019 - "We are members one of another" (Eph 4,25). From social network communities to the human community | Francis.

[24] Naik N, Hameed BMZ, Shetty DK, Swain D, Shah M, Paul R, Aggarwal K, Ibrahim S, Patil V, Smriti K, Shetty S, Rai BP, Chlosta P and Somani BK (2022) Legal and Ethical Consideration in Artificial Intelligence in Healthcare: Who Takes Responsibility?

[25] Gerke S, Minssen T, Cohen G. Ethical and legal challenges of artificial intelligence-driven healthcare. *Artif Intell Healthcare.* (2020) 295–336. doi: 10.1016/B978-0-12-818438-7.00012-5.

hospitals, doctors and healthcare professionals as well as to the Ethical Committee.[26] ICMR presents the above mentioned ethical risks in the application of AI in health care. They are (a) Autonomy- Informed consent is a process of communication between a patient and health care provider, which includes decision capacity and competency, documenting informed consent, and ethical disclosure.[27] The patient has all the right to get the necessary information from the health provider. It can adversely be affected in the application of AI in healthcare. (b) Data Privacy and Security – this is another area in which ethical issues can be arise with AI. Access to the unauthorized person to the personal data of the patient is very common in India and even in the western countries. With the use of AI in healthcare, there are more chances of violations against the use of patient data. (c) Lack of responsibility – the robotic healthcare is open with the coming of AI in the medical field. The doctors may swift away from their responsibility in case some thing wrong with the patient. Establishing clear frameworks for the liability related to AI based treatment is very difficult. (d) Bias – Since AI is working based on algorithms, there can be some sorts of bias on the basis of the training it has already achieved. It can adversely affect the diagnosis, treatment and care of the patient. (e) Access and equity – another important issue that can arise in the implementation of AI in healthcare is a potential division of the people as rich and poor. It may deny healthcare access to the poor and marginalized. There are still many other ethical issues related to the use of AI in healthcare such as trustworthiness, accountability, optimization of data quality, accessibility, fairness principles discrimination, etc.

2. Human Replacement

The ethics, whether secular or religious, always respect human dignity. Human being should not be at the service of the technologies, where as the technologies must be at the service of human beings (Donum Vitae, 2). By the commencement of Strong AI or Super AI, there is a possibility that machine-intelligence surpasses human intelligence and it can become a danger for the human being itself. As we have already seen earlier, all the Church teachings take a human

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[26] "Ethical Guidelines for Application of Artificial Intelligence in Biomedical Research and Healthcare prepared by DHR-ICMR Artificial Intelligence cell," https://www.icmr.gov.in/ethical-guidelines-for-application-of-artificial-intelligence-in-biomedical-research-and-healthcare.

[27] Informed Consent: American Medical Association (AMA). https://www.ama-assn.org/delivering-care/ethics/informed-consent.

centered approach that prioritizes the needs and well-being of individuals over mere technological advancement. AI systems should be designed to enhance human capabilities rather than replace or diminish them. But there is always a danger of the replacement of human beings in the advancement of AI. There should be strict rules and regulations with regard to the use of AI which is already promulgated by many nations.[28]

3. Job Displacement

The machines have replaced human beings in the labour field during the time of Industrialization but it was a necessity in the European context as they lacked a work force. But it is not the case in the developing countries where unemployment is a severe problem. The wide spread use of robots, and AI loaded machineries can take away the jobs of many people in the unorganized sector and it can increase the gap between poor and rich. AI may create many job opportunities but people in the unorganized sector may be trained in this line. Chat bots and virtual assistants may take over the job opportunities of many. The Church which stays with the labour force from its very beginning and writes vigorously for the rights of the labours through its social documents always respects human dignity and promotes fair labour practices. As automation increases, the need for retraining and support for affected workers becomes paramount.

4. Decision-Making

"When the setting or context changes, AI systems can fail unexpectedly and drastically. AI can go from being extremely intelligent to extremely naive in an instant. All AI systems will have limits, even if AI bias is managed. The human decision-maker must be aware of the system's limitations, and the system must be designed so that it fits the demands of the human decision-maker."[29] People often tempt to believe in the accuracy of the machine, and do not doubt its failure. This sort of failure will be repeated in areas, such "as criminal justice, where judges have modified their decisions based on risk assessments later revealed to be inaccurate."[30] As When AI systems are

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[28] "Communication from the Commission to the European Parliament…"

[29] Naik N, Hameed BMZ, Shetty DK, Swain D, Shah M, Paul R, Aggarwal K, Ibrahim S, Patil V, Smriti K, Shetty S, Rai BP, Chlosta P and Somani BK (2022) Legal and Ethical Consideration in Artificial Intelligence in Healthcare: Who Takes Responsibility?

[30] Mannes A. Governance, Risk, and Artificial Intelligence. *AI Magazine.* (2020) 41:61–9. doi: 10.1609/aimag.v41i1.5200.

involved in decision making in healthcare, criminal justice or job recruitment, it can be biased according to the interest of the person who created the program. But here the emphasises on transparency and accountability in any decision making. AI should augment human judgment, not override it, ensuring that moral considerations remain at the forefront.

5. The Common Good

"Pope Francis has applauded the benefits of technology and artificial intelligence, when used for the common good, but has warned against using AI unethically or irresponsibly."[31]The Catholic social teachings place human being over technological development. Technology must be used for the betterment of the common-good and it should help the people to reach their highest potential. One of the hidden dangers of AI is that, it may replace human being and the common interest of the society instead of serving humanity and society. The ethicist should respond to this danger and help to accomplish the wish of the commission to the European Parliament, "Together, we can place the power of AI at the service of human progress."[32] The AI must be used for the common good such as healthcare innovations, strategies to mitigate environmental issues, promote solidarity, etc.

6. Bias and Discrimination

Another issue related to AI systems is the presence of the biases in their training data. This raises ethical concerns about fairness and justice. The Church's commitment to social justice demands that AI systems be scrutinized for discriminatory practices and designed to promote equity. AI system should be able to promote solidarity, welfare of all human beings, specially the marginalized and vulnerable, global access of its benefit, and collaborate development. It should be able to fight against inequality and promote equality. But there is a danger of bias and discrimination in the deployment of AI in many of our work fields.

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[31] Deborah Castellano Lubov, Pope Francis urges ethical use of artificial intelligencehttps://www.vaticannews.va/en/pope/news/2023-03/pope-francis-minerva-dialogues-technology-artificial-intelligenc.htm.

[32] "Communication from the Commission to the European Parliament…"

7. Human Dignity

The Church always upholds the God given human dignity in taking any ethical decisions. Pope Francis Pope Francis, in his 2024 Message for Peace, says, "I would therefore encourage you, in your deliberations, to make the intrinsic dignity of every man and woman the key criterion in evaluating emerging technologies; these will prove ethically sound to the extent that they help respect that dignity and increase its expression at every level of human life."[33] Further in the same message he lamented in these words, "It is a source of concern to me that evidence to date suggests that digital technologies have increased inequality in our world." The sanctity of life theory upholds the equal dignity of every person irrespective of any deformities, due to the creation of human being in the image and likeness of God (CCC 1700,1702). Any technology that diminishes the dignity of human being is ethically not acceptable for the Catholic Church. The strong AI or the Super AI, which is only a possibility right now, may surpass the human intellect and may replace even human intellect. The deep fake videos, which are already a possibility, can tarnish the dignity of a human being by being used it according to the interest of the creator. Even the data collected by the AI machines can be used by unauthorized persons and use it for criminal purposes and to diminish the dignity of their opponents. Church always stands for the technological developments that uphold the inherent dignity of all human beings.

Conclusion

The Indian Express Daily on 1 November 2024 published the danger of "AI generated Cyber Attacks." In this article the author Uma Kannan speaks about the worries of the Chief Information security Officers, and the dangers to the business world due to the AI generated Cyber Attacks. We are going to live in a world where AI is widely used and we will be unable to live without AI generated machineries. Healthcare sections will be more dependent on AI generated instruments and machineries. Thus, AI is a super idea that can enhance the life of every human being, helping the person in agriculture, offices, transportation, health, etc. But at the same time, it can become a great danger to the human being as well as humanity when it is not

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[33] Address of his Holiness Pope Francis, 14, June 2024, Puglia, https://www.vatican.va/content/francesco/en/speeches/2024/june/documents/20240614-g7-intelligenza-artificiale.html.

used ethically and responsibly. An ethical guidance to the use of AI applications in our work are will empower human being to achieve greater goals for the betterment of humanity and the world. For the better use of AI there should be an ongoing dialogue among technologists, ethicists, political leaders, and religious leaders is essential. The Church's rich moral tradition offers a guiding light, encouraging us to pursue technological advancements that uplift humanity and contribute to a more just and equitable world.