

**THE MORAL IMPLICATIONS AND
ETHICAL CONSIDERATIONS OF
DEVELOPING AND DEPLOYING
ARTIFICIAL INTELLIGENCE
TECHNOLOGIES**

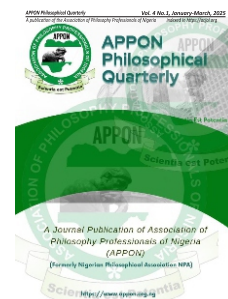
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ABSTRACT

Artificial Intelligence (AI) technologies are being rapidly developed and deployed today. This has raised significant moral and ethical concerns. This paper, using analytic and critical methods, acknowledges the benefits of Artificial Intelligence in our society, such as an increase in efficiency, analysing complex data, functioning 24 hours, improving education, to mention a few. Still, as the saying goes, there are two sides to every coin. Though the increase brings many benefits, there is a growing concern about its moral/ethical implications, such as the impact on labour or job displacement, economic inequality, privacy and data protection. These must be addressed by developing policies, establishing ethical guidelines and regulations to prevent the misuse of AI technologies, investing in education and training, and safeguarding individual rights and freedoms, thereby emphasising the importance of balancing technological advancements with ethical principles in the development and deployment of Artificial Intelligence.

Keywords: Moral Implications, Ethical Considerations, Developing, and Deploying Artificial Intelligence

INTRODUCTION

A TikTok video caught my attention, highlighting that the world undergoes significant transformations approximately every five years. This means the world we navigated during our undergraduate and graduate studies is vastly different from the one we inhabit today. As technology advances, we're constantly adapting to new developments and ways of life. This perpetual evolution applies not only to the world but also to human growth and transformation. Currently, we're witnessing rapid progress in Artificial Intelligence (AI), underscoring the dynamic nature of our

world and ourselves.

Since 1951, when Christopher Strachey's checkers program at the University of Manchester's Ferranti Mark I computer finished a whole game, artificial intelligence (AI) has advanced significantly. IBM's Deep Blue defeated chess master Garry Kasparov in 1997, and the company's IBM Watson won Jeopardy in 2011. Since then, generative AI has led the most recent phase of AI development; in 2018, OpenAI released its first GPT models. As a result, OpenAI created ChatGPT and the GPT-4 model, which has led to the development of numerous AI generators that can process

queries and produce relevant text, audio, images, and other types of content.

Today's 21st-century men and women are raising questions about the relevance of the human person in the face of these technological developments, which include machine learning, deep learning and natural language processing (NLP).¹ People live in fear due to the rapid pace of technological advancements. Today, we can talk about the explosion of technological developments. Today's world is battling with concerns about Artificial Intelligence (AI). The development of Artificial Intelligence (AI) is affecting the world of information and communication. If one opens the browser or any of the social media platforms, Ask Meta AI, Ask Me, etc., pops up. These changes affect everyone positively or negatively.

This paper acknowledges these changes, especially the positive changes such as an increase in efficiency, analysing complex data, functioning 24 hours, improving education, among many other things. Though the increase brings some benefits, there is a growing concern about its moral/ethical implications, such as the impact on labour or job displacement, economic inequality, privacy and data protection, and “this leads inevitably to deeper questions about the nature of human beings, our distinctiveness and the future of

the species *homo sapiens* in the age of artificial intelligence. How can we remain fully human and guide this cultural transformation to serve a good purpose?”² One can further ask if humans need this level of technology in our society. “It depends, if humans opt for a faster and more effective way to complete their work and to work constantly without taking a break, yes, it is. However, if humankind is satisfied with a natural way of living without excessive desires to conquer the order of nature, it is not”.³

Even though humanity has always sought faster, easier, more efficient and convenient ways to complete tasks, as a result, the pressure for continued development drives people to search for novel and improved methods of doing tasks. History demonstrates this tendency. As *Homo sapiens*, we learned that tools could ease many of the difficulties associated with daily life and that, with the help of these inventions; humans could perform tasks more efficiently, effectively, and intelligently. The drive for human advancement is the ability to invent new things. Today, we live much easier and more relaxed lives thanks to the advancement of technology. Since the dawn of civilisation, human society has used tools, and advancement depends on them. Humans in

¹ Machine learning is a subfield of artificial intelligence that uses algorithms trained on data sets to create models that enable machines to perform tasks that would otherwise only be possible for humans, such as categorising images, analysing data, or predicting price fluctuations. Today, machine learning is one of the most common forms of artificial intelligence and often powers many of the digital goods and services we use every day. Deep learning is a method that trains computers to process information in a way that mimics human neural processes. Deep learning is a branch of machine learning that is made up of a neural network with three or more layers. Input layer: Data enters through the input layer. Hidden layers: Hidden layers process and transport data to other layers. Output layer: The final result or prediction is made in the output layer. Neural networks attempt to model human learning by digesting and analysing massive amounts of information, also known as training data. They perform a given task with that data repeatedly, improving in accuracy each time. It's similar to the way we study and practice to improve skills. Natural language processing (NLP) is a form of artificial intelligence (AI) that allows computers to understand human language, whether it be written, spoken, or even scribbled.

² Pope Francis, (2024). “Artificial Intelligence and the Wisdom of the Heart: Towards a Fully Human Communication”. Message of His Holiness for the 58th World Day of Social Communications. Dicastero per la Comunicazione. Libreria Editrice Vaticana

³ Michael Cheng-Tek Tai, (2020). “The impact of artificial intelligence on human society and bioethics”. *Tzu Chi Medical Journal* 14;32(4):339-343. doi: 10.4103/tcmj.tcmj_71_20. PMID: 33163378; PMCID: PMC7605294.

the twenty-first century do not have to work as hard as their ancestors did in earlier times. All is well and should be well for these AI. “Still, as human technology continued to advance in the early 1900s, Aldous Huxley warned in his book *Brave New World* that humanity might enter a future in which the development of genetic technology would result in the creation of monsters or superhumans”.⁴ Pope Francis in his message on the '58th World Day of Social Communications' said that

a century ago, Romano Guardini reflected on technology and humanity. Guardini urged us not to reject “the new” in an attempt to “preserve a beautiful world condemned to disappear”. At the same time, he prophetically warned that “we are constantly in the process of becoming. We must enter into this process, each in his or her own way, with openness but also with sensitivity to everything destructive and inhumane therein.” He concluded: “These are technical, scientific and political problems, but they cannot be resolved except by starting from our humanity. A new kind of human being must take shape, endowed with a deeper spirituality and new freedom and interiority.”⁵

Conceptual Definition and Capabilities of Artificial Intelligence (AI)

There are many definitions of this concept. So, this paper, out of the many definitions, has this to say.

Artificial intelligence (AI) is a technology that enables computers and machines to simulate human learning, comprehension, problem-solving, decision-making, creativity and autonomy. Applications and devices equipped with AI can see and identify objects. They can understand and respond to human language. They can learn from new information and experience. They can make detailed recommendations to users and experts. They can act independently, replacing the need for human intelligence or intervention (a classic example being a self-driving car).⁶

In the words of Rupen, “Artificial intelligence (AI) is an imitation of human cognitive processes with the help of machines”.⁷ It is “a field of science concerned with building computers and machines that can reason, learn, and act in such a way that would normally require human intelligence or that involves data whose scale exceeds what humans can analyse”.⁸ It could also be described as “a set

⁴ Mahmoud Nawal, “A Study in Aldous Huxley's Novel *Brave New World* as A Scary Vision of Science in the World of the Future – A World beyond Humanity and Religion. *International Journal of Religion*”. Vol.5. 10.61707/4j12j128. (2024): 1.

⁵ Pope Francis, “Artificial Intelligence and the Wisdom of the Heart: Towards a Fully Human Communication”. Message of His Holiness for the 58th World Day of Social Communications. Dicastero per la Comunicazione. Libreria Editrice Vaticana (2024).

⁶ Cole Stryker & Eda Kavlakoglu, (2024). “What is artificial intelligence (AI)?”. Retrieved from <https://www.ibm.com/topics/artificial-intelligence>. Sourced 14/09/2024.

⁷ Rupen Chatterjee, “Fundamental concepts of artificial intelligence and its applications”. *Journal of Mathematical Problems, Equations and Statistics*, 01(02):13-24. (2020): 13

⁸ <https://cloud.google.com/learn/what-is-artificial-intelligence>. Google LLC is an American multinational corporation and technology company focusing on online advertising, search engine technology, cloud computing, computer software, quantum computing, e-commerce, consumer electronics, and artificial intelligence

of technologies that enable computers to perform a variety of advanced functions, including the ability to see, understand and translate spoken and written language, analyse data and make recommendations, and more”.⁹ Furthermore, “Artificial intelligence (AI) is a branch of computer science. It involves developing computer programs to complete tasks which would otherwise require human intelligence. AI algorithms can tackle learning, perception, problem-solving, language understanding or logical reasoning”.¹⁰ Artificial Intelligence is capable of the following:

Predicting and adapting, AI uses algorithms that discover patterns from huge amounts of information. Makes decisions on its own, AI is capable of augmenting human intelligence, delivering insights and improving productivity. In continuous learning, AI uses algorithms to construct analytical models. From those algorithms, AI technology will learn how to perform tasks through innumerable rounds of trial and error. AI is forward-looking, AI is a tool that allows people to reconsider how we analyse data and integrate information, and then use these insights to make better decisions. AI is capable of motion and perception.¹¹

Algorithm

An algorithm is a series of instructions used to complete a task or resolve an issue. Although computers usually carry out

algorithms, humans also use them daily. In reality, we are adhering to an algorithm every time we perform a specific sequential action, such as tying our shoelaces or preparing coffee in the morning. Also, a mathematical procedure takes a finite number of steps to solve a problem in computer science. Search engines, music-streaming services, navigation systems, and other systems and applications rely on algorithms, which are an essential part of any computer program.¹²

Developing and Deploying

Deployment refers to making the developed software available to clients or users. It entails setting up databases, configuring servers, and ensuring that the program functions properly in a production environment. Deployment concentrates on making the software available to users, whereas development concentrates on creating and enhancing the software. For a software product to be delivered successfully, both phases are essential. Both are crucial stages of the software development lifecycle, development and deployment. The process of developing a software application entail adding new features, functionalities, and enhancements. To make sure the software satisfies the intended requirements, testing, debugging, and code writing are the steps involved.¹³

Types or Forms of Artificial Intelligence (AI)

While AI has made an impact on virtually every industry, its significance and applications vary greatly across different sectors. Thus, it is necessary to research various forms or types of artificial

⁹ Ibid.

¹⁰ Ziyad Saleh, “Artificial Intelligence Definition, Ethics and Standards.” BUE. (The British University in Egypt). Retrieved from <https://www.researchgate.net/publication/332548325> (2019): 3

¹¹ Ziyad Saleh “Artificial Intelligence Definition, Ethics and Standards.” BUE. (2019): 4.

¹² Nikolopoulou, Kassiani, “What Is an Algorithm? | Definition & Examples”. Scribbr. Retrieved from <https://www.scribbr.com/ai-tools/what-is-an-algorithm/>. Sourced 14/09/2024. (2023).

¹³ Bit Flip LLC, “Deployment vs. Development” retrieved from <https://thisvsthat.io/deployment-vs-development>. Sourced 10/09/2024. (2023).

intelligence. According to certain books and websites, there are three kinds of AI knowledge. However, other experts, such as Stuart J. Russell and Peter Norvig, suggest four primary areas of artificial intelligence. But Hanif Khan, from the University of Science and Technology of Ha Noi, enumerated seven types of Artificial Intelligence (AI)¹⁴

1. Narrow AI: This is designed to complete very specific actions and is unable to independently learn. For example, natural language processing is a type of narrow AI because it can recognise and respond to voice commands, but cannot perform other tasks beyond that. Some examples of narrow AI include image recognition software, self-driving cars and AI virtual assistants.
2. Artificial General Intelligence: AI designed to learn, think and perform at similar levels to humans.
3. Artificial Superintelligence: AI can surpass the knowledge and capabilities of humans.
4. Reactive Machine AI: AI capable of responding to external stimuli in real time; unable to build memory or store information for the future.
5. Limited Memory AI: AI that can store knowledge and use it to learn and train for future tasks.
6. Theory of Mind AI: AI that can sense and respond to human emotions, plus perform the tasks of limited memory machines.
7. Self-Aware AI: AI that can

recognize others' emotions, plus has a sense of self and human-level intelligence; the final stage of AI.¹⁵

Some Benefits and Widespread Deployment of Artificial Intelligence (AI)

Like all other technologies, artificial intelligence's primary goal is to enable people to live longer, more prosperous, and more satisfying lives. This is positive, so to the extent that Artificial Intelligence (AI) benefits people in these ways, we should be happy and grateful for what it has to offer. Nearly every area of human endeavour, such as archaeology, biomedical research, communication, data analytics, education, energy efficiency, environmental protection, farming, finance, legal services, medical diagnostics, resource management, space exploration, transportation, waste management, and so forth, will probably benefit from increased intelligence. One specific example of how AI is helping agriculture is that certain pieces of machinery now have computer systems that can detect weeds visually and apply precisely the right amount of herbicide to them. This reduces exposure to these chemicals, which benefits human health as well as the environment by lowering the use of chemicals on crops.¹⁶ A few more benefits are listed as follows:

It enhances efficiency and productivity. AI systems can automate repetitive tasks, analyse vast amounts of data quickly, and perform complex computations with remarkable speed and accuracy. This increased efficiency and

¹⁴ Hanif Khan, "Types of AI | Different Types of Artificial Intelligence Systems". Retrieved from foss.guru.com/types-of-ai-different-types-of-artificial-intelligence-systems". 9. 50. Sourced 07/09/2024. (2021).

¹⁵ Sunny Betz & Brennan Whitfield, "7 Types of Artificial Intelligence". Retrieved from <https://builtin.com/artificial-intelligence/types-of-artificial-intelligence>. Sourced 07/09/2024. (2024).

¹⁶ Brian Patrick Green, "Artificial Intelligence and Ethics: Sixteen Challenges and Opportunities". Markkula Centre for Applied Ethics, Santa Clara University. Retrieved from <https://www.scu.edu/ethics/all-about-ethics/artificial-intelligence-and-ethics-sixteen->. Sourced 14/09/2024. (2020).

productivity can lead to cost savings, improved decision-making, and optimised resource allocation”.¹⁷

Under healthcare, AI applications in the medical field have the power to revolutionise patient care, drug discovery, diagnostics, and personalised medicine. AI-powered tools can help with early disease detection, forecast treatment results, and help medical professionals diagnose and treat patients more accurately. It also improves customer experience through Chatbots and virtual assistants driven by AI. It can offer customised recommendations and individualised customer support based on each user's preferences and behaviour. This increases user satisfaction, expedites interactions, and improves customer satisfaction.

It helps in financial services and fraud detection, education and personalised learning. AI is capable of providing intelligent tutoring systems, customising educational experiences, and modifying course materials to meet the needs of individual students. This gives students the freedom to study at their own speed, get individualised help, and use educational materials that suit their learning styles.¹⁸

Existing Ethical Frameworks and Regulatory Measures for AI

While ethical concerns regarding artificial intelligence (AI) are valid, this paper acknowledges that several international

bodies, governments, and institutions have proactively developed frameworks to guide the responsible development and use of AI technologies. These initiatives provide a moral and legal foundation for balancing innovation with human rights and societal values. Some of them are:

The European Union's AI Act of 2021 represents the first comprehensive legal framework for regulating Artificial Intelligence (AI). It classifies AI systems by risk levels and imposes strict controls on high-risk applications, such as biometric surveillance and predictive policing.¹⁹

The OECD Principles on AI, adopted by over 40 countries, emphasise the importance of transparency, accountability, safety, and respect for human rights in Artificial Intelligence (AI) design and use.²⁰

IEEE's²¹ Ethically Aligned Design framework offers guidelines to developers and engineers on integrating ethical considerations, such as privacy, agency, and fairness, into technical processes.²² Also, in 2021, UNESCO made a Recommendation on the Ethics of Artificial Intelligence, which calls for ethical impact assessments, inclusion of diverse voices, and safeguards to ensure that AI promotes human flourishing globally.²³ These frameworks, though not yet universal, show that ethical regulation is not absent; it is evolving and adapting alongside the technology itself.

Examples of Immoral Uses of AI and Preventive Ethical Codes

Despite the existence of these frameworks,

¹⁷ Umair Ejaz & Olaoye Godwin, “Ethical Considerations in the Deployment and Regulation of Artificial Intelligence”. ResearchGate. Retrieved from <https://www.researchgate.net/publication/378070372>. Sourced 14/09/2024. (2024).

¹⁸ Ibid.

¹⁹ European Commission, "Proposal for a Regulation laying down harmonised rules on artificial intelligence". Artificial Intelligence Act. Retrieved from <https://eur-lex.europa.eu>. Sourced 13/06/2025. (2021).

²⁰ OECD, "Recommendation of the Council on Artificial Intelligence". Retrieved from <https://oecd.ai/en/dashboards/policy-initiatives/AI-CPL-REC-2019>. Sourced 13/06/2025.

²¹ IEEE means the Institute of Electrical and Electronics Engineers.' (2019).

²² IEEE, "Global Initiative on Ethics of Autonomous and Intelligent Systems". Ethically Aligned Design, First Edition. IEEE. (2019).

²³ UNESCO, "Recommendation on the Ethics of Artificial Intelligence". Retrieved from <https://unesdoc.unesco.org>. sourced 13/16/2025. (2021)

the unethical use of AI technologies in various sectors reveals gaps in implementation and enforcement. Below are notable cases:

Deepfakes and Disinformation: “Deepfakes are videos, pictures or audio clips made with artificial intelligence to look real. They can be used for fun, or even for scientific research, but sometimes they are used to impersonate people like politicians or world leaders, in order to deliberately mislead people”.²⁴ Thus, AI-generated deepfakes have been employed to disseminate false political content, manipulate elections, and produce non-consensual pornography. For instance, deepfakes have impersonated public figures during election campaigns, undermining trust in media and jeopardising democratic processes. To prevent this, a strict ethical code emphasising digital consent, authenticity verification, and media literacy could mitigate these harms.

Algorithmic Bias in Criminal Justice: Artificial Intelligence AI tools like the COMPAS algorithm have been found to exhibit racial bias in predicting recidivism rates, often flagging Black defendants as high-risk more frequently than white defendants.²⁵ In order to prevent this, codes ensuring fairness auditing, transparency, and diverse training datasets could help eliminate such bias.

Artificial Intelligence (AI) Surveillance and Human Rights Abuses:

Facial recognition technologies powered by Artificial Intelligence (AI) have been used to monitor and repress ethnic minorities. To resolve this, “an ethical framework grounded in human dignity, freedom of expression, and data privacy could prevent such abuses”.²⁶ These cases underscore the need not only for ethical codes but also for enforceable mechanisms that ensure accountability in the deployment of AI technologies.

Moral and Ethical Implications of Artificial Intelligence (AI) Development

Many are happy over the rapid development of Artificial Intelligence (AI), while some are worried over its implications for humanity. Artificial Intelligence and machine learning technologies will certainly continue to change society. There is no doubt that these potent new technologies have the potential to both improve and disrupt human lives. As presented by Brian Patrick²⁷ It means that this “social transformation will have a profound ethical impact. As the externalisation of human intelligence, artificial intelligence (AI) gives us access to all that humanity already possesses, both good and bad. There is a lot on the line. At this pivotal point in history, we must carefully consider how to move forward or else we run the risk of strengthening the darker rather than the lighter aspects of our nature”.²⁸

Why are ethical issues with AI arising

²⁴ BBC, “Deepfake technology: What is it, how does it work, and what can it be used for?” Retrieved from <https://www.bbc.co.uk/newsround>. (2024).

²⁵ J. Angwin, et al., Machine Bias. ProPublica. Retrieved from <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>. Sourced 13/06/2025(2016).

²⁶ Human Rights Watch " China's Algorithms of Repression: Reverse Engineering a Xinjiang Police Mass Surveillance App". Retrieved from <https://www.hrw.org/report/2019/05/01/chinas-algorithms-repression/reverse-engineering-xinjiang-police-mass>. (2019).

²⁷ Brian Patrick Green is the director of Technology Ethics at the Markkula Center for Applied Ethics.

²⁸ Brian Patrick Green, “Artificial Intelligence and Ethics: Sixteen Challenges and Opportunities”. Markkula Centre for Applied Ethics, Santa Clara University. Retrieved from <https://www.scu.edu/ethics/all-about-ethics/artificial-intelligence-and-ethics-sixteen-> Sourced 14/09/2024.(2020).

now? Neural²⁹ Network-based machine learning (ML) is developing quickly for three reasons: first, the size of data sets is increasing dramatically; second, computer power is increasing dramatically; and third, Machine Learning (ML) algorithms are getting better and more people that are talented are writing them. Centralization of power characterizes all three of these trends, and as they say, “with great power comes greater responsibility.”³⁰

In discussing the potential impact of AI on human values and ethics, in their article, Stefanini³¹ says, “AI’s ethical and moral implications and impending singularity are complex and multifaceted. While these technologies can potentially bring significant benefits, such as increased efficiency and productivity, they pose substantial risks, such as job losses, privacy concerns, and existential threats”.³² It touches on various aspects of society including individual rights. Artificial intelligence (AI) development and deployment entail some issues and concerns that must be resolved to guarantee ethical and responsible Artificial Intelligence (AI) practices. Here are a few of them:

Bias and Fairness: One major ethical challenge in AI decision-making is ensuring fairness. Biases that are present in their training data may be unintentionally maintained or even made worse by Artificial Intelligence (AI) systems. This may result in people being treated unfairly because of their socioeconomic background, gender, or

race.

One of the interesting things about neural networks, the current workhorses of artificial intelligence, is that they effectively merge a computer program with the data that is given to it. This has many benefits, but it also risks biasing the entire system in unexpected and potentially detrimental ways. Already algorithmic bias has been discovered, for example, in areas ranging from criminal punishment to photograph captioning. These biases are more than just embarrassing to the corporations which produce these defective products; they have concrete harmful effects on the people who are the victims of these biases, as well as reducing trust in corporations, government, and other institutions which might be using these biased products.³³

Transparency and Privacy Concerns: Can we truly comprehend how the technology operates and collect data on its operation once we have established that it performs as intended? Ethical analysis always depends on getting the facts first—only then can evaluation begin.³⁴ Artificial Intelligence (AI) often relies on vast amounts of personal

²⁹ A neural network is a method in artificial intelligence that teaches computers to process data in a way that is inspired by the human brain. It is a type of machine learning process, called deep learning, that uses interconnected nodes or neurons in a layered structure that resembles the human brain. Also referred to as Artificial neural networks (ANNs) or deep neural networks, neural networks represent a type of deep learning technology that’s classified under the broader field of artificial intelligence (AI). Kinza Yasar. “What is a Neural Network? Definition, Types and...”. TechTarget. Retrieved from <https://www.techtarget.com>n...> Sourced 16/09/2024.

³⁰ Ibid.

³¹ Stefanini is a global company with more than 35 years of experience digitally transforming businesses for today’s dynamic environment.

³² Mario Fialho, “The Moral and Ethical Implications of Artificial Intelligence”. Stefanini. Retrieved from stefanini.com/en/insights/articles/the-moral-and-ethical-implications-of-artificial. Sourced 17/09/2024. (2023).

³³ Brian Patrick Green, “Artificial Intelligence and Ethics: Sixteen Challenges and Opportunities”. (2020).

³⁴ Ibid.

data to learn and make decisions. This raises concerns about surveillance, consent, and the right to privacy. Balancing innovation with privacy rights is crucial. “As machines become increasingly sophisticated, they can collect and analyse vast amounts of data about individuals, including their preferences, behaviours, and even their emotions. The data could be for various purposes, from targeted advertising to predicting individuals' future behaviour”.³⁵

It turns out that with some machine learning techniques, such as deep learning in neural networks, it can be difficult or impossible to understand why the machine is making the choices that it makes. In other cases, it might be that the machine can explain something, but the explanation is too complex for humans to understand. For example, in 2014, a computer proved a mathematical theorem, using a proof that was, at the time, at least, longer than the entire Wikipedia encyclopedia. Explanations of this sort might be true explanations, but humans will never know for sure.³⁶

Accountability and Responsibility: “When AI systems make decisions, it can become unclear who is responsible for those decisions — is it the developers, users, or the AI itself? This complicates legal and moral accountability, particularly in cases of harm or error”.³⁷

Unemployment or Job Displacement: The automation of jobs through Artificial

Intelligence (AI) can lead to significant economic shifts and job losses in certain sectors. While some argue the emergence of Artificial Intelligence (AI) will increase job opportunities, others raise a concern “that as machines become increasingly sophisticated, they will begin to replace human workers in a wide range of industries”.³⁸ For example, in supermarkets, store clerks will not be needed anymore as digital devices can take over human labour. Replacing the human workforce could result in significant job losses, particularly in sectors heavily reliant on manual labour, such as manufacturing and agriculture. This raises ethical questions about the responsibility of companies and governments to retrain and support affected workers. It raises a concern about “how humanity will spend its time and what makes a life well-spent. What will millions of unemployed people do? What good purposes can they have? What can they contribute to the well-being of society? How will society prevent them from becoming disillusioned, bitter, and swept up in evil movements such as terrorism...”.³⁹

Autonomy and Control: As AI systems become more autonomous, there are concerns about losing human control over critical decisions, especially in areas like healthcare, the military, and law enforcement. Maintaining human oversight is essential to ensure ethical use..⁴⁰

Impact on Relationships: Integrating AI into daily life can affect human relationships and social structures. For instance, reliance on AI for companionship or support can alter traditional social interactions and emotional connections.⁴¹

³⁵ Mario Fialho, “The Moral and Ethical Implications of Artificial Intelligence”. Stefanini. Retrieved from stefanini.com/en/insights/articles/the-moral-and-ethical-implications-of-artificial. (2023).

³⁶ Brian Patrick Green, “Artificial Intelligence and Ethics: Sixteen Challenges and Opportunities”. (2020).

³⁷ OpenAI, “Discussion on the Moral and Ethical Implications of Artificial Intelligence”. Personal communication. (2023).

³⁸ Mario Fialho, “The Moral and Ethical Implications of Artificial Intelligence”. Stefanini. (2023)

³⁹ Brian Patrick Green, (2020)

⁴⁰ OpenAI, “Discussion on the Moral and Ethical Implications of Artificial Intelligence”. Personal communication. (2023).

⁴¹ Ibid.

Manipulation and Misinformation: AI can be used to create deepfakes or spread misinformation, leading to potential manipulation of public opinion and erosion of trust in information sources. Addressing this misuse is vital for maintaining a healthy democratic society.⁴²

Access and Inequality: Not everyone has equal access to AI technologies, which can exacerbate existing inequalities. Ensuring equitable access to AI's benefits is an important ethical consideration.⁴³

Long-term Consequences: The development of highly autonomous AI raises existential questions about the future of humanity. Issues such as the potential for superintelligence and its implications for human existence need careful consideration.⁴⁴

Regulation and Governance: Establishing effective regulations and ethical guidelines for AI development and deployment is crucial. This involves collaboration between governments, industry leaders, and ethicists to create frameworks that prioritize human welfare.⁴⁵

Moral Deskilling & Debility: We will lose experience in making decisions if we allow machines to take over our decision-making abilities. For instance, airline pilots are familiar with this phenomenon: although the autopilot can handle every aspect of flying an aircraft, including takeoff and landing, pilots purposefully decide to manually control the aircraft during critical situations (such as takeoff and landing) to retain their piloting abilities. We should be aware that humans may get worse at certain skills because one of the uses of AI will be to either help or replace humans in making certain types of decisions (e.g., spelling, driving, stock trading, etc.). In its extreme form, AI will make us less competent in

politics and ethics if it begins to make those decisions for us. Just when we think we have the most power and are making the most important decisions, we could be impeding or reducing our moral development. This implies that ethics education and research are more crucial than ever. We ought to ascertain how AI can improve our instruction and training in ethics. When our technology does finally force us to make difficult decisions and solve problems—choices and problems that may be, our ancestors could have solved, we should never allow ourselves to become deskilled and crippled at ethics, or else future humans might not be able to do it.

Isolation and Loneliness: The state of affairs is dire because loneliness can kill. It is detrimental to public health and destroys the very foundation of society, which is a human relationship. Technology has been linked to so many negative social and psychological trends, such as loneliness, isolation, depression, stress, and anxiety that it is easy to forget that things could be different, and were quite different only a few decades ago. This is evidence of the crisis of loneliness that our society is experiencing. For instance, a recent study found that "200,000 older people in the UK have not had a conversation with a friend or relative in more than a month". While "social" media, smartphones, and artificial intelligence may seem like solutions, in reality, they are the main sources of loneliness because they force people to stare at screens rather than each other. Strong interpersonal ties, exactly the kind that is being displaced by addictive, frequently AI-powered technology, do help. Giving up electronics and establishing meaningful in-person relationships can help reduce loneliness. Stated differently: caring.⁴⁶

In addition to what has been discussed so

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Brian Patrick Green, "Artificial Intelligence and Ethics: Sixteen Challenges and Opportunities". (2020).

far, Pope Francis has raised some ethical questions in his paper cited above as follows: How do we protect the integrity and professionalism of information and communication professionals as well as users everywhere in the world? How can the interoperability⁴⁷ platforms be guaranteed? How do we enable businesses that develop digital platforms to accept their responsibilities about content and advertising in the same way as editors of traditional communications media? How can the standards that govern the functioning of algorithms for de-indexing and indexing, as well as search engines that can add or remove individuals, viewpoints, histories, and cultures, be made more transparent? How can the transparency of information processing be ensured? How can we determine the authorship of texts and the verifiability of sources that are hidden behind the veil of anonymity? How can we tell whether a picture or a video is depicting something real or just a simulation of it? How can we avoid having just one source, which would encourage the use of a single algorithm-based approach? Alternatively, how can we foster an atmosphere that is appropriate for upholding pluralism and illustrating the intricacy of reality? How do we make technology this potent, expensive, and energy-intensive sustainable? And how can we make it available to developing nations as well?

Conclusion

Man is, by nature, an insatiable being. This captures the idea that human desires, aspirations, and pursuits often extend beyond fulfilment. It also signifies that the pursuit of progress and improvement implies that new ways of doing things are inherent in human nature. As individuals and

society evolve, so too do their goals and aspirations, leading to an ongoing quest for betterment. Man's earliest technology was the Stone Age. Narratives show that it was not easy for humans at that level, although they thrived to survive. Today, technology has advanced to the level of Artificial Intelligence (AI). While Artificial Intelligence holds immense potential to improve lives, its development and deployment must be guided by strong ethical frameworks. Continuous dialogue among technologists, ethicists, policymakers, and the public is essential to navigating the moral landscape and ensuring that Artificial Intelligence (AI) serves humanity positively and equitably. To present a fair and informed analysis of AI ethics, this paper has recognised both the dangers of misuse and the existing global efforts to promote responsible use of Artificial Intelligence (AI). While concerns about exploitation, bias, and loss of privacy are legitimate, so too are the intentions of researchers, policymakers, and developers who seek to harness AI for the common good.

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