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Artificial Intelligence: Threats and Opportunities

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Abstract

The present paper is a modest attempt to discuss Artificial Intelligence. The term "artificial intelligence" was coined more than 65 years ago, but recently we have begun to realize all the benefits of AI, machine learning, and deep learning in our everyday lives. Artificial intelligence is one of the popular innovation & transformative technologies of our time, with the potential to change every aspect of our lives. While some people fear that AI could threaten humanity, others believe it represents an unprecedented opportunity for growth and progress. The study addresses the problem of to influence and implications of artificial intelligence in the public service sector. The growing demand for efficiency and effectiveness has led governments to explore AI as a solution to meet citizens' needs more quickly and efficiently. The importance of this study lies in the potential advantages and threats associated with the use of Artificial Intelligence in public service. AI has the capacity to process large amounts of data rapidly and accurately, enabling governments to make informed decisions and improve service delivery. This study is descriptive. This paper focuses on an extensive study of secondary data collected from reference books, publications, various national and international journals and articles, newspapers, and web blogs that focused on Artificial Intelligence. This paper focuses on studying the threats and opportunities of Artificial Intelligence in various fields like security, democracy, and Public Service. We will explore in this paper the potential impacts of AI on society.

Keywords: *Artificial Intelligence, Democracy, Public Service, Security*

Introduction

Artificial Intelligence is the branch of computer science that deals with the intelligence of machines where an intelligent agent is a system that takes actions that enhance its possibilities of success. It is the study of ideas that make it easy for computers to do the things that make people seem smart. The central principles of Artificial Intelligence include such as reasoning, knowledge, planning, learning, communication, perception, and the ability to move and manipulate objects. It is the scientific innovation of making smart devices, in general, smart computer programs.[1]

Artificial Intelligence has a history much longer than is commonly understood, in areas from science and philosophy ranging back to early Greece[2], but its modern iteration owes much to Alan Turing[3] and a conference at Dartmouth College in 1956 where the term "Artificial Intelligence" was formally coined and defined by John McCarthy at the time as "the science and engineering of making intelligent machines". Russel and Norvig alluded to it as "the birth of artificial intelligence."[4] According to Professor John McCarthy, "Artificial Intelligence is concerned with methods of achieving goals in situations in which

the information available has a certain complex character. The methods that must be used are related to the problem presented by the situation and are similar whether the problem solver is human, a Martian, or a computer program."[5] UNESCO considers AI systems as "Technological systems which can process information in a way that takes after clever behavior."[6] Extensively study has humans programmed machines to behave smartly but at present, we emphasize machines that can learn, at least somewhat like humans do.[7]

Artificial intelligence (AI) is characterized as the intelligence of a machine or computer that enables it to mimic or imitate human capabilities. AI uses various technologies that prepare machines to sense, understand, act, plan, and learn with human-like levels of intelligence. On a very basic level, AI systems perceive environments, recognize objects, contribute to decision-making, solve complex issues, learn from past experiences, and replicate patterns. These capabilities are combined to achieve assignments like driving a car or recognizing faces to unlock device screens.[8]

Artificial Intelligence Technologies Used in Government

There are numerous ways in which the average technology consumer interacts with artificial intelligence technologies in their daily lives, but most people do not realize what technologies use AI. Here are some examples of artificial intelligence technologies that governments can use to improve public sector services.[9]

Task automation: Chatbots are one of the popular examples of AI since they are simply coded to send messages based on rules about how they should interact with users. A chatbot is defined as a computer program that replicates and processes human discussion (either written or spoken), permitting humans to connect with advanced gadgets as if they were interacting with a genuine person.[10]

Government authorities connect with the public every day to resolve their inquiries. By substituting these authorities, AI chatbots can efficiently automate interactions, and allow workers to focus on more complex errands. They provide an all-inclusive information base for citizens with multilingual support and collect citizen feedback on a large scale.[11]

Healthcare and disease spread prevention: Artificial intelligence in healthcare has attained a few breakthroughs in medical science, from initial disease recognition and prevention to clinical decision support.

Artificial intelligence allows real-time tracking of patients' well-being. This incorporates examining weight, height, heart rate, stress levels, blood glucose, etc., and bolstering this data to AI healthcare systems, which can inform specialists of any conceivable dangers. Governments can use AI to deliver effective health services to citizens. For occasion, during the COVID-19 pandemic, AI impacted the detection and control of the COVID-19 infection.

Epidemiologists have continuously worked to try to understand how infections spread to be able to predict and optimistically avoid them. Artificial intelligence is making this easier. This is an instance where it is easy to see how artificial intelligence easily allows for faster progress in data examination and prediction modeling than humans may do alone. AI could be an important tool in the fight against pandemics and diseases in global public health.

Processing Large Amounts of Data: All state-owned offices deal with a lot of official procedures. Manual data record or verification exhausts a lot of time and resources, making it challenging to deliver quick facilities to the public. A Governing magazine report (Governing Exchange, a research arm of Governing) found that 53% of local government authorities cannot finish their work on time due to low operational competencies alike data collection, manual paperwork, and reporting. As a result, their assignment excesses keep heaping up, causing more delays in administration workflows.[12] AI-based cognitive technologies, such as speech recognition, rule-based systems, automated translation, and computer vision, can automate government tasks at phenomenal speed, volume, and scale.

Preventing Cyber-attack : AI in cyber security signifies the use of machine learning algorithms and intelligent systems to detect, thwart, and analyze cyber threats. Unlike traditional security measures, AI-driven systems can learn and adapt, making them exceptionally effective against sophisticated cyberattacks.[13] Government organizations sit on top of analytical public and defense data. This makes them a target for cyber-attacks. Any interruption in government databases affects national security and harms the public's trust.

AI in government workflows allows administrations to anticipate or minimize cyber-attacks. Using AI in government organizations:

- Monitor unusual network activity and entry points
- Improve the accurateness of interruption detection systems
- Automate system strengthening and security updates
- Identify potential data liabilities and fortify access limitations to critical data
- pretend cyber-attacks in controlled environments to identify system susceptibilities

AI, security, and safety: AI is anticipated to be expanded more in crime deterrence and the criminal justice system**,** as enormous information sets may be handled quicker, prisoner flight risks assessed more precisely, and crime or even terrorist attacks anticipated and avoided. It is previously used by online platforms to identify and respond to illegal and improper online behaviour. In military matters, AI may be used for defence and attack strategies in hacking and phishing or to target key systems in cyber warfare.[14]

Smarter policymaking: Governments and policymakers can use Artificial Intelligence to conduct citizen-centric keen policymaking. AI technologies offer advanced analytics on public information, allowing policymakers to recognize emerging issues related to their provinces and constituents.

Researchers Arnaboldi and Azzone[15] have emphasized two noteworthy advantages of analytical data in policymaking:

- Expanded effectiveness and adequacy in policy planning as it is easier to understand expectations and target major issues
- Quicker recognition of transforming societal trends that allows for the alteration of policies appropriately

Government organizations and administrations deal with extensive amounts of data every day. AI-powered data analytics instruments empower governments to extract important insights from this data, supporting evidence-based decision-making. By utilizing advanced algorithms and machine learning techniques, AI in government services facilitates the identification of patterns, correlations, and trends within large datasets. This will help government agencies formulate effective policies, allocate resources efficiently, and address emerging challenges with deftness.[16]

Strengthening Democracy: Democracy could be made stronger by utilizing data-based investigation, preventing propaganda and cyber-attacks, and ensuring an approach to eminence information. AI could also maintain diversity and openness, for instance by justifying the possibility of prejudice in hiring decisions and using analytical data instead. Shrewdly public administration supports indorsing the effectiveness of rights and comprehensive technological development to ensure the digital dignity of the citizen.[17]

Threats and Challenges of Artificial Intelligence

Public-use technologies demand a better level of responsibility and compliance with procedures than technologies created by the private division. Here are some major challenges and threats in embracing Artificial Intelligence in government.

Underuse and Overuse of Artificial Intelligence: Underuse of AI is considered a major threat. Underuse might infer from public and commercial distrust of AI, lack of initiative, deprived infrastructure, low investments, or, since AI's instrument learning is dependent on data, fragmented digital markets. Overuse can moreover be risky. investing in AI applications that demonstrate not to be valuable or applying AI to tasks for which it is not suited, for instance using it to clarify complex societal problems.

Transparency Challenges: Imbalances of approach to data may be misused. For instance, based on an individual's online behaviour or other data and without their acquaintance, an internet

seller can use AI to anticipate somebody is willing to pay, or a political campaign can adapt their message. Another transparency issue is that now and then it can be unclear to individuals whether they are collaborating with AI or an individual.

The challenge of fairness and equality: AI inclination has long been a challenge for specialists. AI models can show predisposition based on diverse characteristics, raising questions about the fairness and integrity of the government. For occurrence, a facial recognition security and surveillance system used by a government organization may mischaracterize a citizen, leading to wrong legitimate activity against them.

The challenge of privacy: Collecting huge amounts of citizen data may be met with complaints from citizens concerned with protecting their identities. For example, contact tracing and self-reporting applications raised a few genuine healthcare privacy protection concerns during the COVID-19 pandemic. In expansion, most government offices outsource the advancement of AI techniques, which leads to sharing citizen information with third-party firms. Moreover, it is challenging to develop the consent of each person. AI can be controlled, hacked, or manipulated, resulting in noteworthy damage to citizens' privacy and security. This may happen, for instance, if a hacker gains access to an AI system that controls citizens' private data, such as financial information or health data.[18]

Threats of AI to fundamental rights and democracy: The consequences that AI produces depend on what data it uses and how it is designed. Both data and design can be intentioned or inadvertently one-sided. For instance, a few significant aspects of an issue might not be programmed into the algorithm or might be programmed to reflect and imitate structural biases. In expansion, the usage of numbers to signify complex social reality might make Artificial Intelligence seem genuine and precise when it is not. In case not done accurately, AI seems to lead to decisions manipulated by data on ethnicity, sex, and age when contracting or terminating, advertising loans, or indeed in criminal procedures. AI may extremely influence the proper protection and data assurance. For instance, used in face recognition tools or for online tracking and profiling of people. In expansion, AI empowers combine pieces of data a person has given into unused data, which can lead to results the person would not anticipate.

AI has already been answerable for creating online echo chambers based on a person's past online behaviour, displaying only content an individual would like, rather than making an environment for pluralistic, similarly approachable, and comprehensive public debate. It can even be used to create tremendous realistic fake videos, audio, and photos, known as deepfakes, which can present financial risks, damage reputation, and challenge decision-making. This may lead to partition and polarization in the public sphere, control decisions, and manipulate elections. AI could also play a role in damaging freedom of assembly and protest as it could track and profile people connected to certain beliefs or activities.

Lack of Motivation: Government employees are acclimated to their existing workflows. Their existing traditional administrative culture does not encourage a research and development-based environment which is critical for AI adoption.

AI Impact on Jobs: The use of AI within the working environment is expected to result in the elimination of many occupations. Although AI is also expected to create and make better employment, education, and training will have an important role in preventing long-term unemployment and ensuring a skilled workforce.

Safety and Security Risks: AI applications that are in physical contact with people or integrated into the human body may pose safety risks as they may be ineffectively designed, hacked, or misused. Ineffectively regulated use of AI in weapons might lead to loss of human control over dangerous weapons.

Conclusion

Artificial Intelligence is an effective innovation with the potential to both advantage and damage society. It is important to be aware of the potential negative impacts of AI, but it is also important to recognize the many opportunities that it presents. By developing and implementing AI technologies sensibly, we can make a future in which everyone benefits.[19] Artificial Intelligence can be applied to improve decision-making. AI is

used to analyze large amounts of data and identify patterns that humans would miss. This data can then be used to make better results about the whole thing from product development to promotions. AI can be expanded to personalize experiences for customers, students, and patients. This can lead to improved satisfaction and loyalty, which can drive growth. AI can be used to automate many tasks that are currently performed by humans. It can reduce costs.

AI holds immense potential for improving administrative services. With innovative AI tools, government agencies can speed up administrative procedures, costs reduction, save time, and deliver faster and smoother services to the public and citizens. There are many challenges in adopting AI in the Public Sector. Administrative offices must start building an AI culture and raise employee mindfulness. Governments can start with pilot projects and, at the same time, pass legislations that encourage sustainable AI appropriation in the long run. Government organizations must adopt and enforce ethical AI guidelines in different stages of AI maturation to ensure transparency, contestability, responsibility, and accountability. However, most public-sector AI initiatives are underfunded and understaffed to execute proper AI guidelines effectively.

Artificial Intelligence needs to be applied effectively and responsibly in government departments, only then will it have a positive impact on the healthcare, education, energy, economic, and public sectors. However, without clear governmental policies, AI could endanger or jeopardize the well-being of citizens. Therefore, policymakers need to consider the potential risks of adopting artificial intelligence in the public sector and the adequacy of security measures to protect individual privacy and ensure adequate treatment.

References

1. Saini, N. (2023). Artificial Intelligence & It's Applications. *International Journal for Research Trends and Innovation IJRTI*, Volume 8, Issue 4, pp. 356-360.
2. Dennehy, D. (2020). Ireland post-pandemic: Utilizing AI to kick-start economic recovery. Bostan: *Cutter Business Technology Journal*, 33 (11), pp. 22-27.
3. Turing, A.M. (1950). *I-Computing machinery and intelligence.* Mind. LIX, pp. 433-460. Online available: https://academic.oup.com/mind/article/LIX/236/433/986238
4. Russell, S.J. and Norvig, P. (2020). *Artificial Intelligence: A Modern Approach*. 4th ed. London: Pearson Online available: https://dl.ebooksworld.ir/books/Artificial.Intelligence.A.Modern.Approach.4th.Edition.Peter.Norvig.%20Stuart.Russell.Pearson.9780134610993.EBooksWorld.ir.pdf
5. McCarthy, J. (1988). Mathematical logic in artificial intelligence. *Daedalus*. 117 (1), pp. 297-311. Online available: https://www.jstor.org/stable/20025149
6. UNESCO. (2020). *First version of a draft text of a recommendation on the ethics of artificial intelligence.* Pp. 4. Online available: https://unesdoc.unesco.org/ark:/48223/pf0000373434
7. https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url
8. https://www.spiceworks.com/tech/artificial-intelligence/articles/what-is-ai/amp/
9. https://www.v7labs.com/blog/ai-in-government
10. https://www.oracle.com/in/chatbots/what-is-a-chatbot/
11. https://www.v7labs.com/blog/ai-in-government
12. https://www.governing.com/archive/gov-time-usage-survey-government.html
13. https://autogpt.net/ai-and-cybersecurity-protecting-digital-assets/
14. https://www.europarl.europa.eu/news/en/headlines/society/20200918STO87404/artificial-intelligence-threats-and-opportunities
15. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7327742/
16. https://www.hellotars.com/blog/top-10-applications-of-artificial-intelligence-in-government-services/
17. Corvalan, J.G. (2018). Digital and intelligent public administration: transformations in the era of artificial intelligence. *A&C Revista Direito Adm. Const.*, 18 (71), pp. 55-87.
18. https://apolitical.co/solution-articles/en/artificial-intelligence-in-public-service-benefits-risks-and-what-to-expect-in-the-future
19. https://www.linkedin.com/pulse/ai-threat-opportunity-manoj-gupta