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Artificial Intelligence and Indian Legal System.

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Abstract

Artificial intelligence (AI) has the power to positively impact our environment in a variety of ways, including bettering healthcare and education and boosting productivity. But there are also worries about the hazards and unfavourable effects that could arise from using AI. These hazards include the possibility of prejudice, a lack of openness, joblessness, malevolent use, excessive dependence, and more. AI has the potential to have major negative effects on society, such as greater inequality and privacy invasion, if it is not controlled. National and international action is being taken to control the detrimental effects of artificial intelligence on society. This study demonstrates both the advantages and disadvantages of artificial intelligence for society. This paper's primary goal is to express concern about India's current legal framework's inadequacy in light of the impending detrimental effects of artificial intelligence. Therefore, this research explores both the potential benefits and drawbacks of artificial intelligence in society.

Keywords: Artificial Intelligence (AI), Impact, Society, Laws, Algorithms.

1. INTRODUCTION

One of the most revolutionary technologies of the twenty-first century is artificial intelligence (AI), which is upending economies, social norms, and entire industries. Artificial Intelligence has great potential to improve productivity, stimulate creativity, and tackle difficult problems in a variety of fields since it can replicate human intelligence processes. The goal of artificial intelligence, a quickly developing branch of computer science, is to build machines that are capable of carrying out tasks that normally call for human intelligence. Learning, reasoning, problem-solving, perception, and language comprehension are some of these tasks. Artificial intelligence is now a ubiquitous presence in our modern world, influencing every facet of daily life, business, and society.

"Artificial Intelligence (AI) is the study of agents that receive precepts from the environment and perform actions. Each such agent implements a function that maps percept sequences to actions, and this function is implemented by the program running on the agent's computer."[1]

Over several decades, there have been notable advancements in algorithms, computing power, and data availability that have shaped the evolution of artificial intelligence. The idea of a "universal machine" that could execute any computation was first put forth by pioneers like Alan Turing in the 1940s and 1950s, and this is where artificial intelligence got its start.[2] Turing also created the well-known Turing

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[1] Stuart J. Russell and Peter Norvig (ed.), *Artificial Intelligence A Modern Approach* (Pearson Education, Inc., New Jersey 2010).

[2] S.K. Dhaswin Kumar, R. Vikash, S.M. Mohith, " Evolution of Artificial Intelligence" 4 *International Journal of Research Publication and Reviews* 678-686(2023).

Test, which assesses a machine's level of intelligence. John McCarthy coined the term "Artificial Intelligence" in 1956 to refer to a branch of computer science that aims to create computers that exhibit human-like behaviour.[3]

In the 1960s and 1970s, Alain Colmerauer created the computer-oriented language Prologue, and Marvin Minsky and Seymour Papert published Perceptrons, which illustrates the limitations of simple neural nets.[4] Ted Shortliffe gave an example of how rule-based systems, sometimes referred to as the primary expert system, can be used for knowledge representation and assumption in medical diagnosis and therapy. The first computer-controlled car that could manoeuvre through perplexing obstacle courses on its own was created by Hans Moravec.[5]

1. Application of Artificial Intelligence

Healthcare: Artificial intelligence (AI) algorithms are used to analyse medical images, including CT, MRI, and X-rays, to help radiologists diagnose illnesses and find abnormalities. Personalised healthcare interventions are made possible by its models, which evaluate patient data to predict disease risk, patient outcomes, and treatment responses. Additionally, by predicting drug-target interactions, identifying viable drug candidates, and optimising molecular structures, it speeds up the drug discovery process. AI systems manage resources, automate administrative work, and improve patient flow to maximise efficiency and minimise expenses in hospitals.[6]

Finance: Artificial intelligence (AI) algorithms analyse transaction patterns, spot anomalies, and flag questionable transactions for further examination in order to detect fraudulent activity in real-time. In order to optimise profits and reduce risks, AI-driven trading algorithms evaluate market data, spot trading opportunities, and quickly execute trades. In order to make accurate lending decisions, its models evaluate creditworthiness by examining credit histories, financial data, and behavioural patterns. In order to maximise risk management tactics, its systems assess financial risks by examining market trends, economic indicators, and portfolio data. Chat bots driven by AI can handle account management duties, respond to consumer inquiries, and offer tailored financial advice.

Expert System: Expert systems are a subset of artificial intelligence applications that mimic human decision-making in a particular field. Expert systems' ancestor was a programme named DENDRAL, which was created in 1965 at the Stanford Research Institute. It could examine data about chemical compounds to ascertain their molecular structure, just like a human chemist.[7] Later, in the mid-1970s, a programme named MYCIN was created with the purpose of assisting medical professionals in the diagnosis of bacterial infections. It is frequently called the original true expert system.[8]

Education: By customising content, tempo, and assessments to meet the needs and learning preferences of each individual student, AI-powered adaptive learning systems enable personalised learning

[3] Aishwarya, Gadde & Satyanarayana, *Contemporary Evolution of Artificial Intelligence (AI): An Overview and Applications.* 10.3233/ATDE220731 (2022)

[4] Rahul H. Ner, "Evolution and Revolution in artificial Intelligence (AI)" 11 *International Journal of Advanced Research in Science, Communication and Technology* 125-129 (2020).

[5] *Ibid.*

[6] Prof. Athanasios Valavanidis, "Artificial Intelligence (AI) Applications: The most important technology we ever develop and we must ensure it is safe and beneficial to human civilization" *available at:* 369914014_Artificial_Intelligence_AI_Applications_The_most_important_technology_we_ever_develop_and_we_must_ensure_it_is_safe_and_beneficial_to_human_civilization_I. (Last Visited on 10 April 2024).

[7] Shukla Shubhendu, Jaiswal Vijay, "Applicability of Artificial Intelligence in Different Fields of Life" 1 *International Journal of Scientific Engineering and Research*, 28-35(2013).

[8] *Ibid.*

experiences. Its tutors help students in a variety of subjects with individualised instruction, feedback, and support, which enhance learning outcomes and engagement. Through the analysis of student responses, AI algorithms automatically grade assignments, quizzes, and exams, giving teachers and student's immediate feedback. It encourages self-directed learning and mastery by recommending educational materials, tools, and activities based on each student's learning objectives, learning style, and areas of strength and weakness.

Retail: Recommendation engines driven by AI examine consumer behaviour, past purchases, and preferences to offer tailored product recommendations and improve shopping experiences. In order to maximise supply chain and inventory management, its models forecast product demand by examining past sales data, industry trends, and outside variables. Artificial intelligence (AI) systems analyse sales data, supplier performance, and lead times to optimise inventory levels, reorder quantities, and storage locations in order to reduce stock outs and overstocking. By anticipating demand, spotting inefficiencies, and streamlining the logistics, purchasing, and distribution procedures, its algorithms improve supply chain operations. Its image-based search engines let customers look for products, making it easier to find what they're looking for and improving e-commerce experiences.[9]

Automotive: AI has completely transformed the car business, improving convenience, efficiency, and safety in the process. It is essential to the advancement of self-driving or autonomous cars. These vehicles can sense, perceive, and interact with their surroundings without the assistance of a human driver because to the utilisation of sensors, cameras, radar, and lidar systems along with AI algorithms for control, perception, and decision-making. Autonomous driving technologies are being actively developed by companies such as Tesla, Waymo, and Uber. In cities, traffic flow is optimised and congestion is decreased with the help of AI. In order to improve traffic flow and reduce travel times, traffic management systems use artificial intelligence (AI) algorithms to analyse real-time traffic data, modify the timing of traffic signals, and give drivers dynamic routing information.

Agriculture: AI technology can be applied to many different tasks, including as pest and weed management, airborne surveillance, proximity sensing, distant sensing, harvesting, and advisory services. In Andhra Pradesh, India, Microsoft is now providing advice services, such as sowing and fertiliser usage, to 175 farmers. This strategy increased yield per hectare by 30% on average as compared to the prior year. Harvest technologies, like Harvest Croo, have produced an automated berry-picking device that uses artificial intelligence (AI) to simulate human thought.[10]

Defence: Almost all military applications involve artificial intelligence, and military research institutions are projected to increase funding for R&D to create new and more sophisticated forms of AI. The current state of AI technology has great promise for national security. For instance, cyber protection and satellite imagery analysis might both gain a great deal from machine learning technology's existing automated capabilities.[11] Overall, AI is revolutionizing the defense sector by enhancing capabilities across the spectrum of operations, from intelligence gathering and decision-making to combat and logistics. However, it also raises ethical and strategic concerns, such as the potential for autonomous weapons to make life-and-death decisions without human intervention.

[9] Dr. Cihan Cobanoglu, Dr. Valentina Della Corte, Artificial Intelligence in Retailing, (USF M3 Publishing 2021).
[10] A. Bagchi, "Artificial intelligence in agriculture" *available at:* https://www.mindtree.com/sites/default/files/201804/Artificial%20Intelligence%20in%20Agriculture.pdf. (Last Visited on 11-04-2024).
[11] Shaila Kamath and Ramesh Pai, "A Study on the Impact of Artificial Intelligence on Society" 10 *International Journal of Applied Science and Engineering* 31-39 (2022).

2. Impact of Artificial Intelligence on Society

The subject of artificial intelligence is expanding rapidly and is having a significant impact on how we work, live, and communicate. Self-driving cars and personal assistants like Siri and Alexa are just two examples of how artificial intelligence (AI) is already changing our daily lives and raising the bar on what's possible. But the quick development of AI also prompts questions about how it will affect society and what might happen if it is widely used. Artificial intelligence (AI) is being used more and more to tackle challenging issues, automate repetitive chores, and enhance human abilities.[12]

AI-driven automation has the potential to eliminate jobs, especially in jobs that need repetitive tasks that AI is better at performing. Communities and workers may experience financial hardship as a result of this displacement. Large volumes of personal data are frequently collected and analysed by AI-driven systems, which raises worries about privacy invasion and unauthorised surveillance. Violations of individual rights and privacy may result from the misuse or improper treatment of this data. A greater reliance on AI-powered platforms for communication and entertainment can cause people to become more reclusive and cut off from social connections in person. Interpersonal connections and mental health may suffer as a result of this.

One major concern was the possibility of using AI for malicious intent, including cyber-attacks or disinformation campaigns. Keeping AI technology from being used maliciously is still a major concern. According to the report, if AI systems are not developed and used responsibly, they may reinforce prejudice and discrimination. Algorithm bias has the potential to worsen social injustices and propagate prejudices, which can have an impact on a range of spheres of life, including criminal justice and work prospects.[13]

AI itself raises new concerns as well as societal ones because, once trained and taught to accomplish a task, it may potentially grow to such an extent that humans are powerless to stop it, leading to unanticipated issues and consequences. When an AI has all the required algorithms installed, it can function independently and disregard instructions from its human operators.[14]

3. Artificial Intelligence in Law Industry

As a result, there is a great need for the legal sector to improve their performance with modern technologies. While most industries today have increased their efficiency and effectiveness due to the use of modern technologies, the legal sector has not benefited from this development, and instead continues to rely on antiquated technologies and file handling systems.

The legal industry is among the many that have seen an increase in the integration of artificial intelligence (AI). Its tools are capable of effectively sorting through large volumes of legal papers, statutes, case law, and regulations to give lawyers pertinent information. It can detect important words, possible hazards, and irregularities in contracts automatically, which can speed up the contract review process. This minimises the time and resources required for contract management responsibilities by assisting attorneys and legal teams in reviewing contracts more quickly. These systems are capable of analysing case history to forecast results, evaluate risks, and offer legal strategy recommendations.

[12] Yeabtsega Behailu, "The Impact of Artificial Intelligence on Society", 5 *International Research Journal of Modernization in Engineering Technology and Science*, 3120-3125 (2023).
[13] *Ibid.*
[14] Shaila Kamath and Ramesh Pai, "A Study on the Impact of Artificial Intelligence on Society" 10 *International Journal of Applied Science and Engineering* 31-39 (2022).

Federal, state, and local law enforcement are the three main divisions in US law enforcement, according to John Charles. All of the institutions started using expert systems in the 1980s to improve their performance.[15] The European Commission for the Efficiency of Justice (CEPEJ) confirms that machine learning applications that are specifically designed to solve a single problem are the only uses of AI in the judiciary. It says:

"In most occasions, the objective of these systems is not to reproduce legal reasoning but to Identify the correlations between the different parameters of a decision and through the use of machine learning, to infer one or more models. Such models would be used to 'predict' or 'foresee' a future judicial decision"[16]

European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and Their Environment was adopted by the European Commission on the Efficiency of Justice. At the 31st CEPEJ plenary meeting (December 3–4, 2018) in Strasbourg, this charter was approved. The public and private parties in charge of creating and implementing artificial intelligence services and systems that process data and decisions from courts are the target audience for the charter. Public decision-makers in charge of developing, auditing, or utilising these tools and services, as well as the legal or regulatory framework, are also affected.

Even the Indian judiciary has begun to demonstrate how artificial intelligence has affected its operations. The Supreme Court of India has published the Supreme Court Vidhik Anuvaad Software (SUVAS), an official artificial intelligence (AI) tool that allows legal documents and orders written in English to be translated into nine vernacular languages. This is the first step our court has taken in terms of artificial intelligence.[17] Moreover The Supreme Court of India also recently introduced the Supreme Court Portal for Assistance in Court's Efficiency (SUPACE), a technology that gathers pertinent data and legal precedents and provides it to judges.[18] The results will be tailored to the particular requirements of the case and the judge's mentality. Researchers at IIT Kharagpur have created an AI-assisted system that can interpret court orders and judgements.[19] Additionally, it makes use of machine learning to detect legal infractions. Our country's top court has released an app that will allow residents to authentically access cases, judgements, vital circulars, display boards, and a multitude of other crucial information with just one click, thanks to support from the National Informatics Centre.[20]

4. Indian Laws for Artificial Intelligence

While India does not have any explicit legislation pertaining to data privacy, personal information is protected under Sections 43A and 72A of The Information Technology Act. It offers a right to compensation for unauthorised disclosure of personal data, just like GDPR. The Supreme Court of India ruled in 2017 that the right to privacy is guaranteed by the Indian Constitution and is a basic right. An estimated 957 billion US dollars, or around 15% of India's present total value, would be added by AI by 2035. Artificial intelligence will affect everyone's life in some way in the years to come. In 2018, the

[15] John Charles, "AI and Law Enforcement", 13 *IEEE* 77-80 (1998).
[16] European ethical charter on the use of artificial intelligence in judicial systems and their environment, 2018 p. 29
[17] Harshul Gupta, "Scope of Artificial Intelligence as a Judge in Judicial Sector", 2 *Indian Journal of Law, Polity and Administration* 1-14(2021).
[18] Navneet Kaur, Manpreet Kaur, "Role of artificial intelligence in the Indian courts" 6 *International Journal of Law, Policy and Social Review*,17-20 (2024).
[19] Harshul Gupta, "Scope of Artificial Intelligence as a Judge in Judicial Sector", 2 *Indian Journal of Law, Polity and Administration* 1-14 (2021).
[20] *Ibid.*

Policy Commission, NITI Aayog, introduced a number of AI application initiatives.[21] Four committees on Information Technology and Ethics were established by the Ministry of Electronics to investigate and expose different ethical issues related to AI. A Joint Parliamentary Committee is now debating the Personal Data Protection Bill 2019 (PDP Bill), which is based on a draft data protection statute. Once a bill is passed by both houses of parliament, it becomes a law. In India, the use of AI is expanding more quickly than the development of laws governing it. AI technology is already being used by businesses to up skill their employees.[22]

5. Conclusion

Artificial intelligence offers previously unheard-of chances for creativity, efficiency, and advancement, and it signifies a paradigm shift in human civilization. However, overcoming difficult ethical, social, and technological obstacles is necessary to realise its full potential. Through the promotion of interdisciplinary collaboration, transparency, and human values, we can effectively leverage the transformative potential of artificial intelligence to build a future that is more sustainable, equitable, and prosperous for all.

Modern legal frameworks are making it more and more necessary to integrate artificial intelligence (AI) in courts, especially to handle the issue of pending cases. Artificial intelligence holds promise for increasing overall productivity, reducing backlogs, and expediting legal processes. However, this recently developed idea resembles a sword with sharp blades on both sides. Artificial intelligence's use in the legal system needs to be carefully considered. Meanwhile, improper application of AI systems may pose serious risks to the principles of justice. The primary sources of bias are those resulting from the algorithm construction process and pre-existing bias in historical data. In this situation, discrimination becomes a concerning problem.

There is no denying that artificial intelligence, with its intelligent devices, is changing the world. Although technology offers previously unheard-of advantages in terms of effectiveness and convenience, it also poses difficult moral decisions and ethical issues that require serious thought. It is crucial to establish a balance between innovation and accountability as society continues to incorporate AI into numerous fields, ensuring that AI contributes to a better, more equitable world. The way AI is regulated in India will influence how the nation views the entire AI ecosystem. India does not have a viable legal system to handle the growing demands of artificial intelligence and the risks associated with it. It is imperative that the government convene with all relevant parties to establish a mutually agreeable framework for regulating artificial intelligence.

[21] Antara Roy, "Artificial Intelligence With Law In India" 12 *IJCRT* 2320-2882 (2014).
[22] *Ibid.*