Artificial Intelligence and the Judiciary: Exploring the Technological Landscape of Law

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Abstract:

A computer system capable of doing activities that would normally need the intellect of a human being is referred to as Artificial Intelligence. Machine learning, which entails gathering the rules and knowledge for utilizing the data, is the engine that drives Artificial Intelligence systems. Considering that Artificial Intelligence is founded on the data service sectors, it has become very popular and essential in recent years. Artificial Intelligence is a transformative technology that is having a positive impact on our lives. Additionally, it actively contributes to our daily activities by serving as an indication for meetings and offering recommendations for articles and news that align with our interests. It not only alters the way people interact with the digital environment but also how they interact with one another, both in their professional endeavours and within socio-economic organizations. The use of Artificial Intelligence in the legal sector has transformed this traditional activity by offering revolutionary developments in the realm of legal research and teaching. To guarantee a beneficial influence of Artificial Intelligence, it is essential for all stakeholders to actively engage in discussions about Artificial Intelligence. This article aims to investigate the potential benefits of incorporating Artificial Intelligence technology into the legal sector. The study further examines the disadvantages of integrating Artificial Intelligence into the legal system as well as investigates its implications, the legislation that governs its use, and the potential challenges that may arise.

Keywords: *Artificial Intelligence, Machine Learning, Law, Judiciary, Justice.*

Introduction

Artificial Intelligence is a globally developing concept in information technology. In its simple terms, it means the development of machines capable of solving problems more intelligently. It is a branch of computer science that works on the evolution of machines that can do anything like a human being. The ability of a computer or machine to engage in activities that would normally need the intellect of a human being is referred to as Artificial Intelligence.

These machines are far ahead of regular machines. Artificial Intelligence is more efficient in problem-solving and decision-making. It can do things like interpreting speech, playing games, identifying patterns, developing self-driving cars, etc. where human being uses their cognitive mind. John McCarthy introduced the term Artificial Intelligence in 1956 during the inaugural Academic Conference dedicated to the subject. (Nilsson, 2009) He defined Artificial Intelligence as, "It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence. But Artificial Intelligence does not have to confine itself to biologically observable methods." (McCarthy, 2003) He also discussed the origins of the term. Although Artificial Intelligence shares the objective of utilizing computers to understand human intelligence, it is not constrained to methods that are perceptible from a biological standpoint. In his perspective, there was no such thing as a "solid definition of intelligence that does not depend on relating it to human intelligence."

Like any other sector of human life, Artificial Intelligence is useful for the judiciary or the justice delivery system. Technological evolution in the legal sector will ensure speedy and accessible justice for everyone. The influence of Artificial Intelligence is becoming more relevant in the Indian court, as it has emerged as a disruptive force in a variety of different industries. It is possible that the incorporation of Artificial Intelligence technology into the Indian court system would result in the simplification of procedures, the enhancement of efficiency, and the improvement of ingress to justice.

Diverse forms of Artificial Intelligence

Artificial Intelligence may be primarily classified into two groups depending on its capabilities and functions. These are:

Based on Capabilities:

There are three types of Artificial Intelligence based on its capabilities,

1. **Narrow AI:** Narrow Artificial Intelligence can perform limited tasks. It is mostly used and currently available. This Artificial Intelligence cannot perform beyond its limited field. It is also known as weak Artificial Intelligence. Apple's Siri, Alexa, playing chess, image recognition, e-commerce site etc. are some of the examples of narrow Artificial Intelligence.

2. **General AI:** General Artificial Intelligence is also known as strong Artificial Intelligence. General Artificial Intelligence can think like a human being. It is a representation of the cognitive abilities of the human brain. It is focused to things in which human being is capable. Self-driving cars are one of the examples of strong AI. Research has still been continued on general or strong Artificial Intelligence and undoubtedly, it will bring a drastic change in human life too.

3. **Super AI:** It is considered the strongest development in the field of Artificial Intelligence. It is more intelligent than general Artificial Intelligence. Super Artificial Intelligence is a form of Artificial Intelligence that is capable enough of super-passing human intelligence. It shall have its thinking and cognitive skills.

Based on Functions:

1. **Reactive Machines:** Reactive machines cannot store past experiences. It only focuses on current actions. It is a basic type of Artificial Intelligence.
2. **Limited Memory:** Limited memory Artificial Intelligence can store some data for a limited period. It can use those data on experiences in future actions.
3. **Theory of Mind:** This kind of Artificial Intelligence can understand human beings emotions, sentiments, and thoughts. It is not yet completely developed in the field of Artificial Intelligence.
4. **Self-awareness:** The form of self-awareness Artificial Intelligence still exists only hypothetically. It will be smartest enough to understand the beyond ability and will also have its own needs, emotions, and benefits.

Stages of Evolution of Artificial Intelligence

Artificial Intelligence is considered as a gift of the era of information technology. However, the notion is not wholly novel. The foundation of this system is built upon a wealth of knowledge spanning more than two millennia, including philosophy, logic, mathematics, theories of reasoning, cognitive psychology, and languages. (Russell & Norvig, 2010) But practically, it came as a direct impact of the Second World War. In the year 1956, it became a specific area of study in the Dartmouth Summer Project. It was considered as the first project of research on Artificial Intelligence. A brief detail of the stages of the evolution of Artificial Intelligence is as follows-

Early Enthusiasm (1956-75)

The Dartmouth Summer Project in 1956 did not provide any significant advancement. However, it did contribute to the emergence of the term 'Artificial Intelligence' and facilitated the connection between prominent intellectuals, so shaping the trajectory of the subject for many years to follow. (McCarthy et al., 2006)

The first Artificial Intelligence Winter (1974-80)

After the first wave of enthusiasm, work on Artificial Intelligence development had gone through a dormant period which is also known as the winter period of Artificial Intelligence. In this period, progress slowed down and the funding for Artificial Intelligence initiatives was curtailed.

The Second Artificial Intelligence Spring (1980-87)

Fortunately, this period witnessed an active progress in Artificial Intelligence development. In this period expert systems were developed. It is a system of programs that use predefined rules to provide answers or solutions within a limited area of specialized knowledge. (De Spiegeleire et al., 2017) This software imitated the decision-making processes of a human expert, which were programmed into a formal logical language. (Taeihagh, 2021).

The Second Artificial Intelligence Winter (1987-93)

Once again, a winter came in the evolution of Artificial Intelligence. It was caused all because of an outsized expectation that could not be met. The government agencies, private companies, and the scientific communities had their contradictory opinion on Artificial Intelligence development due to which the progress was interrupted.

Sustained Artificial Intelligence Spring (1993-2011)

After the winter season of Artificial Intelligence development, it focused on solving specific problems or applications. In this period gradual progress was seen in the evolution of Artificial Intelligence. It not only started to accomplish its centuries-old objectives but also managed to infiltrate both the technological sector and several parts of everyday life gradually and inconspicuously. (Russell & Norvig, 2010)

Revolution of Artificial Intelligence (2011- present)

The revolution of Artificial Intelligence development has been seen in these recent years. This success of Artificial Intelligence depends on various factors which include advancement in neuroscience as well as computer science. Additional noteworthy factors include the rise in accessible computing power and faster networks, the utilization of cloud infrastructures, the expansion of the Internet of Things and Big Data, and particularly the availability of extensive open-source datasets (occasionally derived from social-media networks) for training and testing large-scale machine learning networks. (Nazre & Garg, 2017) All the recent development made in the field of Artificial Intelligence comes under this period of evolution of Artificial Intelligence.

Unveiling the Impact of Artificial Intelligence on the Indian Judiciary

The impact of Artificial Intelligence on the Indian Judiciary has been significant and has presented both opportunities and difficulties. Artificial Intelligence can optimize legal procedures, augment decision-making, and increase the availability of justice by using technologies such as predictive analytics and algorithms for legal research. Nevertheless, apprehensions around unfairness in Artificial Intelligence algorithms, safeguarding data privacy, and the eventual obsolescence of certain legal occupations have also appeared. As the Indian Judiciary adapts to this technological transition, it must conscientiously evaluate the ethical, social, and legal consequences of incorporating Artificial Intelligence into its functions to guarantee fair and transparent administration of justice.

The pros of integrating Artificial Intelligence in the Indian Judiciary:

Artificial Intelligence can be used in the process of due diligence. Due diligence is a method of investigation of facts that needs several hours of tiresome work. Before establishing a fact in the court, the lawyers must do research on the facts. The whole process of legal research requires a lot of time and effort. With the help of Artificial Intelligence, the judges and lawyers will be able to conduct legal research more speedily. Artificial Intelligence based systems are efficient enough to provide any relevant data in only a single click. By using

Artificial Intelligence based tools the judges and the lawyers will be able to save a lot of time for legal analysis, negotiation, and strategy making.

Technology prediction is also considered an important benefit of Artificial Intelligence in the legal field. Artificial Intelligence is the smartest machine that humans have ever produced. Therefore, the Artificial Intelligence based system in the legal sector will make a significant development. Artificial Intelligence will help the lawyers and the judges in predicting the cases pending in the court. Artificial Intelligence based machine learning software systems can group a lot of data and it predicts the possible outcome of cases based on those gathered data. This kind of software will aid the judges and the lawyers in doing their work more systematically.

Increasing efficiency and accuracy is another significant advantage of using Artificial Intelligence in the legal sector. By using Artificial Intelligence based algorithms legal research or document review can be done more speedily. It can efficiently analyse a huge number of legal documents and data. This new revolution in the judiciary will boost the overall court procedure and reduce pending cases. It will make the judiciary capable enough for timelier resolution. The addition of the Artificial Intelligence system in the legal sector will increase the quality, efficiency, and consistency of judicial decisions.

The cons of integrating Artificial Intelligence in the Indian Judiciary:

The use of Artificial Intelligence in the legal sector also brings some challenges to the whole legal fraternity. The hesitation of the senior advocates and the judge in adopting these technologies is a big challenge in the revolution in the legal sector. The lawyers have a fear of losing their profession.

Another challenge in the incorporation of Artificial Intelligence in the legal sector is its high cost. It is an expensive system that needs a huge amount of investment, because of that small lawyer and law firms are not being able to afford technologies like Artificial Intelligence.

Lawyers and judges are also facing challenges in the protection of personal data on Artificial Intelligence tools. As we know legal documents contain very sensitive information and even a single negligence will create a huge difficulty in delivering justice. So, legal data security is also a primary responsibility of the service providers. No innocent civilian should suffer for lack of protection in an Artificial Intelligence-based service system.

Lastly, legal accountability of Artificial Intelligence based algorithms is also a challenge to the legal fraternity. The laws shall be made to determine the liability of Artificial Intelligence. No technology should be uncontrolled. There have to be some laws that specifically deal with Artificial Intelligence.

Adoption of Artificial Intelligence in Indian Judiciary

In this technologically advanced world in the 21st century, the impact of Artificial Intelligence can be seen in every sector of life. Its uses have been consistently increasing and the legal sector is not an exception now. It has also influenced the Indian justice delivery system. The judiciary and legal professionals have expressed their approval of the use of Artificial Intelligence in the field of law. It will increase the efficiency of the lawyers and the judges and will help to focus on the cases more strategically.

In recent years, Artificial Intelligence has had a significant influence on the Indian judiciary and justice delivery system. In India, the judiciary is overloaded with pending cases and because of that justice delivery system is somehow lacking. Incorporation of new technologies like Artificial Intelligence will help the judiciary in so many ways. The possible positive impact of the adoption of Artificial Intelligence in the justice delivery system will be considered a remarkable step in the entire history of the Indian judiciary.

Artificial Intelligence can reform the justice delivery system and ensure faster justice for everyone. It will help the courts in reducing the number of pending cases. By using Artificial Intelligence, the quality and consistency of judgment will be improved and access to justice shall be ensured.

The Supreme Court of India has already taken the initiative to adopt Artificial Intelligence in the justice delivery system. In the year 2019, then Chief Justice S.A. Bobde took a remarkable step to include Artificial Intelligence in the judiciary. He took the initiative to launch the Supreme Court mobile application. Chief Justice Bobde, while talking about the application, asserted that an Artificial Intelligence fuelled law translation system will facilitate the quality translation and will further help in improving the efficiency of the Indian Judicial System. (Promila Dhar, 2023) Launching this mobile application was the first step in the adoption of Artificial Intelligence in the Indian judiciary.

The need for the adoption of Artificial Intelligence in legal processes was also felt by the judiciary during the Covid-19 pandemic. The benefits of Artificial Intelligence in legal process were notably recognized at that time. Virtual hearings and online dispute resolution methods were introduced to tackle the issues faced by the judiciary during the pandemic. It was not a temporary solution but a major development in the legal sector. The initiative of taking online hearings and live streaming of court proceedings has been appreciated as a remarkable step towards accessible, transparent, and efficient legal services.

Supreme Court also has launched an Artificial Intelligence enabled assistive tool that is Court Portal for Assistance in Court Efficiency (SUPACE). It is an Artificial Intelligence based digital portal that gathers necessary data, facts, and legal provisions for judges and lawyers. This portal is to strengthen the process of legal research before giving any decision by the judges. It will also help the lawyers in doing legal research more speedily and efficiently. This portal is not for making decisions but for assisting judges and lawyers in the process of decision-making.

Another important Artificial Intelligence based tool that has been used by the Supreme Court is Supreme Court Vidhik Anuvaad Software (SUVAS). It is a translation tool that is machine-supported and trained by Artificial Intelligence. Supreme Court has made this significant development in judiciary with the technical support from the Ministry of Electronics and Information Technology. It is a noteworthy step taken by the Supreme Court to translate the documents of court proceedings and legal papers from English into several vernacular languages of India and vice-versa.

To examine the application of Artificial Intelligence in the field of law, the Supreme Court of India has established an Artificial Intelligence Committee. This committee has primarily focused on identifying the use of Artificial Intelligence technology in the translation of legal documents, assisting in legal research, and automating legal processes. (Lederer, 2020)

These are some of the remarkable steps taken by the Supreme Court of India and it will have a positive impact on the Indian justice delivery system. The application of Artificial

Intelligence from the lower judiciary to the Apex Court will bring tremendous reform in the court proceeding. Judges are the torch bearer of justice and it shall never be denied only because of the lack of technical knowledge of the judges. It will never replace the calibre of the judges and the lawyers but it will assist them in the protection of justice for the needy one.

Artificial Intelligence: A Game-Changer for the Future Law Firms

The legal profession is also being significantly impacted by the fast transformation brought about by Artificial Intelligence. The incorporation of Artificial Intelligence into law firms is fundamentally transforming how legal practitioners operate, engage with clients, and handle their workload. The automation of repetitive operations is a very impactful method in which Artificial Intelligence is transforming the landscape of future law firms. Artificial Intelligence can streamline the task of examining large quantities of documents, detecting any legal hazards and concerns, and producing comprehensive due diligence reports. Also, Artificial Intelligence software can efficiently assess and examine contracts, do legal investigations, and even forecast case results with a superior degree of speed and precision compared to humans. This process automation not only enhances efficiency but also minimizes the possibility of mistakes, enabling advocates to concentrate on more intricate and strategic facets of their tasks.

Furthermore, Artificial Intelligence is transforming how legal information is obtained and used. Artificial Intelligence algorithms can efficiently analyse extensive legal data to extract pertinent facts, furnishing attorneys with important insights and precedents to bolster their claims. This not only simplifies the research process but also empowers attorneys to make more knowledgeable conclusions via thorough data analysis.

Artificial Intelligence is not just affecting internal operations, but it is also revolutionizing how law firms engage with their customers. Artificial Intelligence-driven chatbots and virtual assistants can manage customer queries, arrange meetings, and provide fundamental legal guidance, thus enhancing customer interaction and contentment. In addition, Artificial Intelligence-powered analytics may enhance law firms' comprehension of their customer's requirements and inclinations, enabling the provision of more tailored and efficient legal services.

Although Artificial Intelligence can manage repetitive activities, human legal professionals remain indispensable for duties that need advanced cognitive abilities such as critical thinking, intricate problem-solving, and ethical decision-making. Consequently, attorneys are adapting their jobs to include a more comprehensive comprehension of Artificial Intelligence technology, data analysis, and the ethical ramifications of Artificial Intelligence in the legal field. Legal research can be aided by tools carried by Artificial Intelligence that analyze immense quantities of legal data, such as case laws, statutes, and legal opinions. This will assist lawyers and judges in expediting their decision-making processes and eliminating the need for labour-intensive manual research. The time-consuming tasks of e-discovery, contract review, and background investigation can be simplified with the assistance of Artificial Intelligence.

Nevertheless, the integration of Artificial Intelligence in legal firms also gives rise to significant ethical and regulatory concerns. With the rising sophistication of Artificial

Intelligence systems, concerns around data privacy, algorithmic bias, and the responsibility for Artificial Intelligence-generated judgments become more relevant. To ensure the responsible and lawful use of Artificial Intelligence, future law firms will have to adeptly traverse intricate ethical and legal concerns. Consequently, the incorporation of Artificial Intelligence into law firms is fundamentally transforming the legal profession. Artificial Intelligence is redefining the future of law firms by automating mundane work, improving client interactions, and transforming the role of attorneys. Legal chatbots and virtual assistants may help prospective litigants make better legal decisions and obtain essential legal services more conveniently and cheaply. A bot might give interactive toolkits to find facts for legal notice, file FIR, and estimate success based on facts and law. Although ethical and regulatory issues associated with Artificial Intelligence usage must be addressed, the evident advantages of Intelligence Artificial Intelligence in the legal field must be acknowledged. In the era of rapid Artificial Intelligence advancement, law firms that genuinely embrace and effectively adapt to these technological developments will be optimally positioned to flourish in the digital age.

Conclusion

Artificial Intelligence has become a powerful and influential factor in every sector of our lives, including the legal system. The use of Artificial Intelligence technology in the court has elicited both interest and apprehension. During technological advancement, it is essential to analyse the potential impact of Artificial Intelligence on the legal system, while upholding the principles of equality, accountability, and justice.

Artificial Intelligence might potentially transform the Indian court system by diminishing the accumulation of pending cases and optimizing routine duties like legal research, data analysis, and document review. Nevertheless, the incorporation of Artificial Intelligence in the legal system must be approached with prudence, considering the ethical ramifications of this decision. It is crucial to carefully analyse and handle this integration, taking into account ethical factors and ensuring responsible and transparent use of Artificial Intelligence technology. Through the use of Artificial Intelligence by ethical guidelines, the Indian court can leverage technology to introduce a new era of effectiveness and availability in the management of justice.

Tools controlled by Artificial Intelligence have begun processing data and making it accessible to judges in India's court. When translating legal documents from English to vernacular languages and vice versa, the Supreme Court of India has also been making use of SUVAS, which stands for Supreme Court Vidhik Anuvaad Software. Although Artificial Intelligence has the potential to make the Indian justice system more accessible and efficient, it is yet unable to manage more intricate duties like deal structuring, negotiating, advocacy, and court representation. Due to its lack of emotional intelligence, it is unable to succeed in court like a human lawyer would. So, Artificial Intelligence might lead to lower hourly rates for legal firms. The use of Artificial Intelligence by India's courts is an encouraging development that might lead to better justice for all Indians in terms of accessibility, efficiency, and quality. Artificial Intelligence should not take the place of human judges but rather supplement their decision-making abilities. In conclusion, there are many factors to think about while deciding

how to incorporate Artificial Intelligence into India's judicial system, including advantages, disadvantages, and ethical concerns.

Artificial Intelligence can only be effectively implemented with a balanced approach. Users of Artificial Intelligence must be protected by data protection rules while data is being managed, recovered, or used. With a careful and measured approach to incorporating Artificial Intelligence into the judiciary, India can create a fairer and more accommodating judicial system for all its citizens as it continues to embrace technological innovations.

Works Cited

- De Spiegeleire, S., Maas, M., & Sweijs, T. (2017). Artificial intelligence and the future of defense: strategic implications for small-and medium-sized force providers. The Hague Centre for Strategic Studies.
- Lederer, F. I. (2020). The evolving technology-augmented courtroom before, during, and after the pandemic. *Vand. J. Ent. & Tech. L.*, *23*, 301.
- McCarthy, J. (2003). Problems and Projections in CS for the Next 49 Years. *Journal of the ACM (JACM)*, *50*(1), 73-79.
- McCarthy, J., Minsky, M. L., Rochester, N., & Shannon, C. E. (2006). A proposal for the Dartmouth summer research project on artificial intelligence, August 31, 1955. AI magazine, 27(4), 12-12.
- Nazre & Garg. (2017). A Deep Dive in the Venture Landscape of Artificial Intelligence and Machine Learning.
- Nilsson, N. J. (2009). *The quest for artificial intelligence*. Cambridge University Press.
- Promila Dhar. (2023). India: Role of Artificial Intelligence in Justice Delivery System.
- Russell, S. J., & Norvig, P. (2010). Artificial intelligence a modern approach. London.
- Taeihagh, A. (2021). Governance of artificial intelligence. *Policy and society*, *40*(2), 137-157.