



Role of artificial intelligence in the Indian courts

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Abstract

The growing pendency of cases in the Indian judiciary poses a formidable challenge, with millions of cases awaiting resolution at various court levels. This pressing issue, combined with an increasing workload for judges, has resulted in a slow delivery of justice, raising concerns about the judicial system's efficiency. This paper examines the transformative potential of Artificial Intelligence (AI) and technology in addressing the complexities of the Indian judiciary. Artificial Intelligence (AI) can be used to expedite the resolution of cases by streamlining legal procedures, automating repetitive tasks and improving decision-making. This discussion explores the relationship between technology and judiciary, emphasizing how Artificial Intelligence (AI) can be used in courts to reduce the workload of judges, shorten the time it takes to resolve cases, and improve the effectiveness of the Indian legal system.

Keywords: Courts, artificial intelligence, technology, judges, Indian legal system

Introduction

Artificial Intelligence (AI) has so far marked its presence in the age of rapidly developing technological inventions and developments in a very conscious manner. It has already shown its value in numerous domains, such as medicine by administering treatment during surgeries, logistics in the form of self-driving cars, advertising by tracking consumer purchasing patterns and more ^[1]. Therefore, it will be beneficial to use Artificial Intelligence (AI) in courts to ensure a long-term and efficient justice system. Machines with Artificial Intelligence (AI) are able to reform the ways in which civil or criminal proceedings will take place. It will assist judges and lawyers by reducing the time taken to perform various tasks at different stages of a trial.

India is currently at a pivotal point in the creation of data privacy laws, which will profoundly affect how AI can and will function in the nation. Electronic mail, video conferencing, and many other electronic communication tools are very powerful for exchanging important information between locations and promoting better decision-making. And these are added to legal and other public systems in addition to business groups. Moreover, Indian government, nowadays, is also pushing for digitalization as a means of advancing the nation's development and promoting 'digital India' ^[2]. At the same time, people in India are becoming accustomed to receiving better quality digital services from the government, as most of them work for commercial organizations. Furthermore, this implies that finding more intelligent ways to operate in all fields, such as public services, including the administration of justice, is necessary. The introduction of Artificial Intelligence into the judicial administration would reveal more information, improve the efficiency of the legal system, and relieve the officials of some of their workload.

Meaning of Artificial Intelligence

The concept of AI persisted as long back as the 1950s. The term Artificial Intelligence was founded by John McCarthy in 1956 who was an American computer scientist. John

McCarthy defined Artificial Intelligence as "the science and engineering of making intelligent machines" ^[3].

Following other definitions can be considered to understand the meaning of Artificial Intelligence:

Artificial intelligence is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from experience ^[4].

Artificial Intelligence is the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages ^[5].

Artificial Intelligence is a branch of computer science dealing with the simulation of intelligent behavior in computers ^[6].

Artificial intelligence is a type of computer technology which is concerned with making machines work in an intelligent way, like the way the human mind works ^[7].

In brief, Artificial Intelligence (AI) is a fast-growing area of computer science. The term Artificial Intelligence (AI) refers to the development of computer systems that can perform tasks that normally require human intelligence. These tasks include reasoning, understanding natural language, problem solving, learning, visual perception and speech recognition. The primary objective of Artificial Intelligence (AI) is to create machines or systems that can replicate human intelligence, including the ability to analyze data, make decisions, adapt to new information, and carry out some autonomous tasks. Artificial intelligence (AI) comprises several subfields, such as natural language processing, machine learning, computer vision and expert systems.

3. Objectives of the Paper

- To examine the need of Artificial Intelligence in Indian courts.
- To assess the recent growth of Artificial Intelligence in the Indian legal field.
- To study the role of Artificial Intelligence in courts.
- To identify the challenges associated with implementation of Artificial Intelligence in Indian courts.

4. Why do we need artificial intelligence (AI) in the Indian Courts

In every nation, the judiciary is very crucial to the administration of justice. However, when it comes to the Indian legal system, the situation is appalling because due to country's large population there is a constant rise in institution of cases which has increased the burden on our judicial system. Because of shortage of judges, millions of cases are still pending in all the Indian courts, from the lowest courts to the highest courts and various measures are being taken to address this issue, such as advocating for Alternative Dispute Resolution (ADR) procedure and eliminating unnecessary laws, but it is still unknown that how to use the recently discovered field of artificial intelligence to solve this problem^[8]. The Indian court system exhibits a low level of technological adoption, with all work being completed by hand which ultimately leads to inefficient and delayed justice delivery. Therefore, in addition to traditional solutions, creative thinking is required to bring back the efficacy and efficiency of the justice delivery system and ensure its sustainability. The use of Artificial Intelligence in courts is a great solution to bring down the pendency of cases and also to ensure speedy justice delivery system.

5. Examples of recent growth of artificial intelligence in Indian legal system

1. Supreme Court Vidhik Anuvaad Software (SUVAS)

An official application based on Artificial Intelligence (AI) have been released by the Supreme Court of India to translate legal documents and orders written in English into nine vernacular languages. In terms of Artificial Intelligence, this is the first action our judiciary has taken^[9].

2. Supreme Court Portal for Assistance in Court's Efficiency (SUPACE)

It is also recently launched by Supreme Court of India as a tool that collects relevant facts and laws and makes them available to a judge. It will yield outcomes customized to the specific requirement of the case and the way the judge thinks^[10].

3. The Official Multilingual Mobile Application of the Supreme Court of India

With the help of the National Informatics Centre, our nation's highest court has launched an app that will enable the citizens to authentically access cases, judgements, important circulars, display boards and a plethora of other crucial information with just a single click^[11].

4. E-courts

One of most significant advancements brought about by the judicial reforms is the availability of all pertinent information about court orders and judgements online for

free. The establishment of an E-Court will result in quick disposal of cases, ease of record maintenance, reliability of the evidence recorded and to bring more transparency in the functioning of courts^[12].

5. An Artificial Intelligence System created at IIT-Kharagpur to read Court Orders

An AI-assisted technology that can read court orders and judgements has been developed by IIT Kharagpur researchers. It also uses machine learning to identify laws that are being violated^[13].

6. Kira Systems by Cyril Amarchand Mangaldas

By collaboration with Canadian AI helper Kira Systems, Indian company Cyril Amarchand Mangaldas is now using AI for contract analysis and review^[14].

How artificial intelligence can be helpful for the courts

Artificial Intelligence (AI) has the potential to benefit judges in many ways by improving the general judicial process, efficiency and accuracy, and overall effectiveness. Here are some ways that judges can benefit from Artificial Intelligence (AI):

1. Legal Research and Analysis: AI systems can quickly analyze vast databases of legal precedents, statutes, and case laws to provide judges with relevant information^[15]. This can significantly speed up the legal research process, ensuring that judges have access to comprehensive and up-to-date information when making decisions^[16].

2. Accelerating the delivery of justice: In India, it is observed that the adjudication of a criminal as well as civil trial often takes years. Ultimately, this leads to ineffective and delayed justice delivery. This can be minimized, and by handling more cases at a faster pace, more cases can be handled, and justice can be served to citizens more quickly^[17]. This gives citizens a better experience as they spend less time waiting for decisions that will have a significant impact on their lives and businesses.

3. Predictive Analytics: By examining past case data, AI systems are able to forecast possible case outcomes. One of the biggest problems faced by the judiciary is the volume of cases that are still pending and the lack of judges to decide on those motions. Therefore, to resolve these issues, courts may utilize predictive analytics to show the likely outcomes to the parties involved in a dispute and persuade them to reach an out-of-court settlement^[18]. This will save the court's time as well as assist the parties to avoid the long and complicated trial procedures.

4. Document Review: By highlighting important details and finding relevant information, AI-powered technologies can help with the review of legal documents. This makes it easier for judges to quickly understand the key facts of a case and concentrate on the important points at the time of hearings^[19].

5. Case Management: Judges can better arrange and prioritize their caseload by using AI to expediate case management procedures. Automated systems can help with scheduling, monitoring due dates, and improving workflow management more efficiently^[20].

6. Artificial Intelligence (AI) via Natural Language Processing (NLP): NLP technologies facilitate computer comprehension and interpretation of human language. Judges can use Natural Language Processing (NLP) to help with tasks such as summarizing case documents, analyzing legal arguments, and extracting relevant information from spoken or written statements. For instance, ROSS Intelligence is an AI-driven legal research tool that leverages Natural Language Processing (NLP) to comprehend inquiries in natural language and deliver relevant legal information ^[21].

7. Remote Proceedings and Virtual Courts: Artificial Intelligence (AI) technologies enable secure video conferencing, real-time transcription, and language translation, among other features that make virtual courtrooms and remote proceedings run more smoothly. This is especially important when it comes to circumstances requiring remote hearings ^[22].

8. Decision Support Systems: Artificial Intelligence (AI) systems have the potential to serve as decision support tools by providing judges with relevant information, precedents, and legal analyses to aid in their decision-making process ^[23]. However, it is crucial to stress that Artificial Intelligence (AI) is only an auxiliary tool and that the final decision rests with the judge in all matters.

Challenges

The application of Artificial Intelligence in the legal system brings with it both opportunities and challenges. Although Artificial Intelligence (AI) has the potential to improve efficiency and decision-making, there are several challenges that need to be overcome. Following are the challenges associated with implementing Artificial Intelligence (AI) in courts:

1. Concerns about Bias and Fairness: AI systems may unintentionally reinforce or even worsen biases found in past legal data, raising questions about fairness and bias. AI algorithms may generate biased results, resulting in unfair or discriminatory decisions and violation of fundamental rights ^[24].

2. Absence of Transparency: Many AI algorithms function as “black boxes”, making it difficult for humans to understand how they make decisions. Concerns regarding accountability may arise from AI system’s lack of transparency. The absence of openness may have a direct impact on litigants and can cause trouble for judges ^[25].

3. Information Security and Privacy Risks: It is extremely difficult to ensure the security and privacy of sensitive legal data, especially since malicious actors may be able to take advantage of holes in AI systems.

4. High Resource Requirements and Costs: Development, implementation and maintenance of AI systems can be expensive. For AI solutions to be widely and fairly adopted within the legal system, their affordability and scalability need to be carefully evaluated.

5. Technical Limitations and Errors: Artificial Intelligence (AI) systems are not perfect and are susceptible

to mistakes. It is possible that the AI system will not be aware of legal changes or will interpret legal statutes incorrectly. Moreover, an Artificial Intelligence (AI) system may experience bugs or glitches that lead to inaccurate decisions or predictions, just like any other technology.

6. Acceptance by Judges: The integration of Artificial Intelligence (AI) in legal proceedings is also influenced by judges’ acceptance or rejection of it. Judges who use AI technology these days tend to be younger judges. The senior judges believe that AI technology will not assist judges in handling cases, so they are unwilling to accept it. Some judges think that it is emotionally inappropriate to give cold robots control over litigation cases that require social interaction. Instead of relying on AI technology to make decisions for them automatically, they would much rather spend a significant amount of time making their own decisions ^[26].

Artificial intelligence in legal practice: moral guidelines ^[27]

1. Fundamental Rights: Prioritize fundamental rights when designing and implementing AI services and tools, ensuring compatibility with key principles like privacy, equal treatment, and the right to a fair trial. This means that the development and deployment of AI technologies should align with and safeguard these fundamental rights throughout the entire process.

2. Equal Treatment: Promote equal treatment by preventing discrimination among individuals and groups in the use of algorithms. The data employed by the algorithm can be a source of bias, and the algorithm itself may inadvertently embed prejudices. It is crucial to address both data and algorithmic biases to ensure fair and unbiased outcomes.

3. Data Security: Ensure data security in the processing of judicial decisions and data by employing certified sources and unalterable data. Implement multidisciplinary-designed models within a secure technological environment to enhance the overall robustness of the system.

4. Transparency: Data processing methods must be clear and understandable, with provisions for external audits. Legal precedent now mandates transparency. Users of algorithms are obligated to publicly disclose their choices, data, and assumptions in a comprehensive, timely, and appropriate manner, ensuring accessibility to third parties. This thorough and timely disclosure allows for an assessment of the decisions, data, reasoning, and assumptions, thereby ensuring robust legal protection and enabling judicial review by the courts.

Conclusion

In conclusion, the integration of Artificial Intelligence (AI) in courts, particularly to address the issue of pendency of cases, is becoming increasingly necessary in modern legal frameworks. Artificial Intelligence has the potential to improve overall efficiency, decrease backlogs, and speed up legal procedures. Although e-courts have already been established by the Indian Government, but to handle the volume of case we are currently handling, their reach needs to be further increased. With better case and courtroom

management capabilities, electronic courts offer a more effective and time saving platform for delivering justice. Enhanced case management, data-driven insights for decision-making, and expedited document review are some of the advantages of using Artificial Intelligence in courts. However, issues like biases, data privacy, and the requirement for transparency must be properly handled. To ensure a just, efficient, and technologically sophisticated judicial system that satisfies the demands of our changing legal landscape, it is imperative to strike a balance between utilizing AI's potential benefits and minimizing its drawbacks.

Artificial Intelligence in various domains and its possible application in the legal system would benefit judges and attorneys, who are regarded as pivotal pillars of justice delivery system. Naturally, no technology, no matter how advanced, could ever take the place of a human judge^[28]. However, they could support judges in the decision-making process and ensure that the process of dealing with a large volume of cases does not compromise justice, which could ultimately help to reduce the average duration of a trial. Saving time would inevitably mean better efficiency in disposing of cases, which would ultimately help to reduce the backlog of cases pending in the legal system. Upon completion of this, the admirable goal of guaranteeing the public efficient and long-lasting justice will be accomplished.

References

- Ghanghash MS. Artificial Intelligence in Administration of Justice in India: Challenges and Opportunities, 2022.
- Tiwari RK, Singh A. Digitalization-The New Era of Indian Judiciary, 2022.
- Rajaraman V. John McCarthy—Father of artificial intelligence. *Resonance*,2014:19:198-207.
- Copeland J. Artificial intelligence: A philosophical introduction. John Wiley & Sons, 1993.
- Artificial Intelligence, available at: <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803095426960> (last visited on November 10, 2023).
- Artificial Intelligence, available at: <https://www.merriam-webster.com/dictionary/artificial%20intelligence> (last visited on November 10, 2023).
- Collins H. Artificial intelligence: against humanity's surrender to computers. John Wiley & Sons, 2018.
- Jain P. Artificial Intelligence for sustainable and effective justice delivery in India. *OIDA International Journal of Sustainable Development*,2018:11(06):63-70.
- Harshul Gupta, "Scope of Artificial Intelligence as a Judge in Judicial Sector", *Indian Journal of Law, Polity and Administration*.
- AI PORTAL SUPACE, available at: <https://www.drishtiiias.com/daily-news-analysis/ai-portal-supace> (last visited on November 11, 2023).
- Harshul Gupta, "Scope of Artificial Intelligence as a Judge in Judicial Sector", *Indian Journal of Law, Polity and Administration*.
- Prakash R, Mohanty T, Gupta R, Jain V. ICT in Indian court challenges & solution. *International Journal of Internet Computing*,2011:(1):2231-6965.
- Harshul Gupta, "Scope of Artificial Intelligence as a Judge in Judicial Sector", *Indian Journal of Law, Polity and Administration*.
- Jain P. Artificial Intelligence for sustainable and effective justice delivery in India. *OIDA International Journal of Sustainable Development*,2018:11(06):63-70.
- Sharma B. Impact of Artificial Intelligence on the Legal Industry: Advantages, Challenges, and Ethical Implications, 2023.
- Kabir MS, Alam MN. The Role of AI Technology for Legal Research and Decision Making. *Title of the Journal*, 2023.
- Srivastava SK. AI for Improving Justice Delivery: International Scenario, Potential Applications & Way Forward for India. *Informatica*, 2023, 47(5).
- Jain P. Artificial Intelligence for sustainable and effective justice delivery in India. *OIDA International Journal of Sustainable Development*,2018:11(06):63-70.
- Xu Z. Human Judges in the era of artificial intelligence: challenges and opportunities. *Applied Artificial Intelligence*,2022:36(1):2013652.
- Coglianesi C, Dor LMB. AI in Adjudication and Administration. *Brook. L. Rev.*,2020:86:791.
- Kabir MS, Alam MN. The Role of AI Technology for Legal Research and Decision Making. *Title of the Journal*, 2023.
- Zalnieriute M, Bell F. Technology and the judicial role. *The Judge, the Judiciary and the Court: Individual, Collegial and Institutional Judicial Dynamics in Australia* (Cambridge University Press, 2021), 2020.
- Vijipriya RA. "Critical Study on Artificial Intelligence (AI) in Indian Legal Sectors." *Shanlax International Journal of Arts, Science and Humanities*,2022:9(4):58-64.
- Rocha C, Carvalho J. Artificial Intelligence in the Judiciary: Uses and Threats. *EGOV-CeDEM-ePart* 2022, 183.
- Themeli E, Philipsen S. AI as the Court: Assessing AI Deployment in Civil Cases. *E. Themeli and S. Philipsen, AI as the Court: Assessing AI Deployment in Civil Cases, in K. Benyekhlef (ed), AI and Law. A Critical Overview, Éditions Thémis*, 2021, 213-232.
- Mingsung C, Shuling L. June. Research on the application of artificial intelligence technology in the field of Justice. In *Journal of Physics: Conference Series* (Vol 1570, No. 1, p. 012047). IOP Publishing,2020:1570(1):012047.
- Reiling AD. Courts and artificial intelligence. In *IJCA*, 2020, 11(1).
- Sharma M. India's courts and artificial intelligence: A future outlook. *LeXonomica*,2023:15(1):99-120.