

Algorithmic Justice and the Indian Judicial System: A Critical Legal Analysis of Artificial Intelligence Driven Courtroom Technologies

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Abstract

In digital age, the integration of artificial intelligence algorithms into Indian law enforcement is an important aspect of technological development. These tools are more important than traditional methods for improving the efficiency of the justice system, reducing crime, and predicting recidivism, which are essential to the development of an effective and rational justice system. However, this technological optimism is underpinned by serious concerns about algorithms, discrimination, lack of transparency, and possible violations of privacy. This article analyses the critical analysis of algorithmic justice in the Indian judicial system and evaluates its legitimacy and impact in accordance with the Indian Constitution. It advocated a cautious and rights-oriented approach that would avoid the potential negative impact of these algorithms on fundamental rights protection from a constitutional point of view and ensure that the pursuit of technological efficiency does not undermine fundamental principles of justice, justice, individual freedom and natural justice guaranteed to all citizens.

Keywords: Algorithmic justice, AI in Law, Judicial Discretion, Due process, Supace

Introduction

In digital age, technology is quickly changing all facet of human existence. Algorithms another name for ArtificialIntelligence have grown to be powerful force. Computer programme that resemble human intellect, have problem solving skills and learn their experiences are referred to as artificial intelligence. The legal system is now experience are referred to as AI algorithms. Artificial intelligence in our courts is not just a potential but also a necessity for efficacy and better justice delivery, despite the legal professional's delayed adoption of new technologies. Artificial intelligence are especially appealing for a court system like India which has a lot of problems, especially the large volume unsolved cases. As per the Judicial data grid, in the year of 2026 there are more than 4,78,47,812 cases pending in district court¹ and 63,62,138 cases are pending in High Court² and 92598 cases are in in Supreme court of India.³ This enormous backlog which is brought by various challenges such as inadequate infrastructure and ineffective procedure, unnecessary adjournment, making the proverb "Justice delayed is justice denied" a bitter reality of this scenario. The Supreme Court has incorporated tools such as SUPACE (Supreme Court Portal to Assist Court Efficiency) and SUVAAS (Supreme Court Legal Translation Software) into its system to facilitate the effective implementation of artificial intelligence and the digitization of the court system, and has also launched initiatives such as the e-Courts Mission. These steps demonstrate a strong and clear commitment to using technology to address some of the most pressing challenges facing the judiciary.⁴ However, the integration of Artificial intelligence into the judiciary is a significant transformation that requires a thorough and critical analysis of its implications, rather than simply viewing it as a straightforward

¹https://njdg.ecourts.gov.in/njdg_v3/ accessed on 28/01/2026 at 1:29 P.M.

²https://njdg.ecourts.gov.in/hcnjdg_v2/?app_token= accessed on 28/01/2026 at 1:36 P.M.

³<https://scdg.sci.gov.in/scnjdg/> accessed on 28/01/2026 at 1:37 P.M.

⁴ Abhishek Dixit and Shashank Shekhar, *Artificial Intelligence: Facilitating Legal Eco-System in Courts in India*, 14 RMLNLUJ 254, 258(2022).

technological advancement. The alluring potential of technology often masks serious risks, such as a lack of transparency due to "black box" algorithms and the reinforcement of societal biases, which can jeopardize the fundamental rights to justice and equality.

The better approach is to adopt technology cautiously and thoughtfully, in accordance with the fundamental principles of our judicial system, rather than embracing it completely. This would ensure that algorithms are used as responsible tools rather than as mysterious and all-powerful decision-makers. The issue of black box algorithms, upon which advanced AI systems, particularly those based on machine learning, rely, is one of the biggest hurdles in this field of artificial intelligence. A computational "black box" typically contains the complex connections and calculations that a machine performs to arrive at a decision.⁵ One of the biggest challenges facing the Indian court system is the need for transparency and accountability in delivering well-reasoned judgments. The reasoning behind a judicial decision is as crucial to its legitimacy as the final verdict itself.⁶ This reasoning guarantees accountability, sets a precedent for similar situations in the future, and assures the public that justice is being administered fairly. When an algorithm performs complex calculations for a hearing or determines whether someone has committed a crime without providing a clear, understandable explanation, the entire process is undermined.⁷ This goes against the principles of natural justice because the decision is reduced to a decree from a machine that cannot be challenged.

Indian Judicial System in the Age of AI Algorithms: Conceptual Understanding

Regardless of the specific case before the court, the role of judges and courts is essentially to process information; the parties provide the court with information and facts, the relevant procedures are developed during the course of the case, and the decision is based on that information and those facts. Preparing all the facts does not always involve complex analysis. In many cases, only a general assessment is needed without a full hearing, and some cases are resolved quickly. Standard judgments and dismissals are issued frequently.⁸ Machine learning and artificial intelligence can be used to process large volumes of case data. The e-Courts program, the Indian judiciary has made significant progress in the judicial process by utilizing state-of-the-art artificial intelligence. By allowing electronic filing, the Supreme Court of India has taken a major step in this direction. In addition to options such as case filing, power of attorney, pleadings, e-payments, petitions, and case portfolio management, the Supreme Court now provides lawyers and litigants with 24/7 online access to their cases. Smaller tasks such as notifications and case monitoring, as well as intelligent filtering and case prioritization, can also benefit from this system. In addition, the "Department of Legal Affairs" under "Ministry of Law and Justice" launched the web-based "LIMBS (Legal Information Management & Briefing System)" initiative earlier in 2016.⁹ The application makes it possible to track cases in all High Courts and tribunals. Monitoring a case throughout its entire life cycle is the goal. A web-based software called the "Legal Information Management & Briefing System (LIMBS)" allows for more efficient and transparent tracking of matters involving the federal government of India. It was a project of the "Department of Legal Affairs" of the Ministry of Law and Justice that aims to follow a case's entire life cycle and automate the legal procedure. Additionally, the Apex Court debuted "SUVAAS (Supreme Court Vidhik Anuvaad Software)," an indigenously developed neural translation tool, in November 2019 to translate judicial orders and judgements from English to vernacular languages more quickly and effectively. The Supreme Court then went paperless on all 17 of its benches in 2020 with the use of its software, SCI-Interact. This software

⁵G. Chaudhary, *Explainable Artificial Intelligence(xAI): Reflections on Judicial System*, 4 KUTAFIN L. REV. 872 (2024) <https://doi.org/10.17803/2713-0533.2023.4.26.872-889>.

⁶E. Burdina & V.A. Kornev, *Technologies verses Justice; Challenges of AI Regulations in the Judicial System*, 5 LEGAL ISSUE DIGITAL AGE 113(2024) <https://doi.org/10.17323/2713-2749.2024.2.113.126>.

⁷A. Deeks, *The Judicial Demand for Explainable Artificial intelligence*, SOC. SCI. RES. NETWORK (2019) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440723.

⁸Sh. Kiren Rijiju, *Use of Advance Technology At Courts*, <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1814536>, accessed on 28/01/2026 at 3:04 P.M.

⁹ Supra note 5.

helps judges take computer notes, view files, and attach annexures to petitions.¹⁰The “Supreme Court portal for Assistance in Court’s Efficiency (SUPACE)” was introduced on April 6, 2021, by S.A. Bobde, the Chief Justice of India at the time.¹¹As an artificial intelligence gateway, “SUPACE” has been designed to give a court pertinent information and laws based on the topic under consideration. Its main goal as a research tool for judges is likely to boost the Court’s effectiveness and eventually start to aid in the decrease of case pendency. The Hon’ble Chief Justice of India Mr. Justice Bobde stated that court judgements will not be made via “SUPACE.” It would only be able to gather and analyse data. On another occasion, he underlined that the Indian judiciary’s use of artificial intelligence must be in line with constitutional values. He emphasised the need of making sure AI doesn’t interfere with or compromise Indians legal and constitutional rights.¹²

Harnessing AI Algorithms for Judicial Efficiency: Constitutional Conflicts and Fundamental Rights

The modern digital era’s usage of artificial intelligence algorithms and systems has sparked serious concerns about how to strike a balance between people’ fundamental rights and technical advancement. They guarantee and improve accuracy and efficiency, but they also present issues with prejudice, discrimination, transparency, and privacy. Both law enforcement and the legal system have benefited from the efficiency and effectiveness of AI algorithm technology in preventing and identifying criminal activity. Compared to the conventional techniques judges employ, it has been shown to be more accurate in predicting recidivism. Even if AI technology has advanced significantly, it has also brought up a number of important issues and concerns that jeopardise fundamental rights and the fundamental framework of the constitution.

1. Right to Fair Trial:A fair trial is one that is devoid of prejudice or bias, either in favour of or against the accused, witnesses, or any parties involved in the case. It is predicated on the idea of “*Audi alteram partem*,” which states that each party must have a sufficient chance to make their case. The Honorable Supreme Court upheld the importance of a fair trial in *Zaheera Habibullah Sheikh vs. State of Gujarat*¹³, emphasizing that “*every person has the inherent right to be dealt with fairly in a criminal trial. Denial of a fair trial is as much an injustice to the accused as it is to the victim and society.*”

In *Moti Lal Saraf vs. State of Jammu and Kashmir*¹⁴, The Hon’ble Supreme Court ruled that Article 21 of the Indian Constitution is the original source of the idea of a fair trial. According to Article 10 of the Universal Declaration of Human Rights¹⁵ and Article 14(1) of the International Covenant on Civil and Political Rights, the idea of a fair trial is incorporated in international law and agreements. The assumption of innocence and the right to a free and fair trial are guaranteed by these concepts.¹⁶

The core idea of the right to a fair trial is violated when AI algorithms are created and trained on historical data, such as court records, arrest records, and other public data sources. This results in biases that are applied in certain situations without considering other considerations. The gathered data is put into systems that produce a variety of biases.

¹⁰ Ajmer Singh, “Supreme Court Develops Software to Make All its 17 Benches Paperless”, <https://economictimes.indiatimes.com/news/politics-and-nation/supreme-court-develops-software-to-make-all-its-17-benches-paperless/articleshow/75989143.cms?from=mdr> accessed on 28/01/2026 at 3:20 P.M.

¹¹ Indian Express by express news service, *CJI launches top Court’s AI-driven research portal*, New Delhi. <https://indianexpress.com/article/india/cji-launches-top-courts-ai-driven-research-portal-7261821/> accessed on 28/01/2026 at 3:25 P.M.

¹² Supra note 5.

¹³ (2004) 5 SCC 353

¹⁴ (2006) 10 SCC 56

¹⁵International Covenant on Civil and Political Rights <https://www.ohchr.org/sites/default/files/ccpr.pdf> accessed on 28/01/2026 at 09: 10 P.M.

¹⁶ICCPR Article 14 *Factsheets: Right to equality before courts and tribunals and to a fair trial*<https://ccprcentre.org/ccprpages/iccpr-article-14-factsheets-right-to-equality-before-courts-and-tribunals-and-to-a-fair-trial> accessed on 28/01/2026 at 09: 12 p.M.

2. **Biasness and Discrimination:**The right to equality is defined in Article 14 of the Constitution. The Constituent Assembly sought to guarantee that all people, citizens and non-citizens alike, are treated equally and without prejudice under the law while draughting Article 14.¹⁷It's crucial to remember that prejudice based on caste, race, colour, and other factors has persisted at different levels since ancient times. Because AI algorithms rely on historical data, minorities that have previously experienced discrimination are disproportionately targeted. Therefore, the application of AI algorithms will exacerbate the problem rather than lessen the social evil of prejudice.AI programs transgress natural justice standards in addition to prejudice and discrimination. One facet of natural justice that emphasises the necessity for Article 14 to restore the principles of natural justice is audi alteram partem, or "hear the other side." There is now growing worry that judges may become unduly dependent on statistics and numbers produced by AI, which compromises their ability to make logical decisions in situations where there is a high degree of predictability.Judges may be vulnerable to prejudice in AI results even though they are supposed to serve as gatekeepers and messengers of equality and impartiality. Additionally, there may be a violation of the natural justice norm of reasoned decision-making. A psychological human propensity is bias. It is a truth that the developers or another organization/agency responsible for their development supply the input or training techniques.¹⁸This implies that the algorithm's creators' bias may allow for manipulation. It's also important to note that the AI's decision-making powers are restricted to a binary response; it does not offer a thorough justification. The natural rule of rational decision-making, which is vital to the criminal justice system, may be violated by these AI algorithmic constraints.

3. **Transparency and Accountability:**To put it simply, transparency refers to being readily apparent, identifiable, and accessible. The Supreme Court found that adherence to these principles satisfies the requirements of Articles 14, 19, and 21 of the Constitution, emphasising the importance of openness and transparency in governance.¹⁹*In Reliance Petrochemicals Limited vs. Indian Express Newspapers Bombay (P) Limited*²⁰,The court has determined that the right to know is a fundamental right under Article 21 of the Indian Constitution. The right to know and the compatibility of openness and transparency in decision-making processes have been repeatedly recognized by the courts as stemming from the Golden Triangle of the Constitution. Because AI algorithms are inherently opaque, the Right to Information Act of 2005 may make it difficult to interpret their final outcomes. Transparency is also crucial for protecting civil rights, maintaining public trust, and correcting errors; therefore, all elements of the algorithm, including source code, variable weights, and training data, should be made available for public scrutiny to detect biases and rectify mistakes. Consequently, it is reasonable to expect that the inputs, training data, and techniques used by AI algorithm systems to classify individuals as high-risk or low-risk may be both biased and opaque.²¹Verifying judicial decision-making requires audits of the algorithm's source code, inputs, and outputs.²²The audits should be examined by an impartial review board made up of legal, technical, and statistical specialists, inmates, public defenders, prosecutors, judges, and civil rights organisations in order to guarantee accountability and openness.

4. **Privacy and Data protection Concerns:** Privacy issues are one of the main disadvantage of AI algorithms.In Justice K.S. Puttasawmi vs UOI held that privacy especially informational privacy (including biometrics and other personal data), is a fundamental right under Article 21 of the Indian Constitution.In Maneka Gandhi v. Union of India held that regulations that restrict personal freedom must adhere to Articles 14, 19, and 21. An individual's fundamental rights are occasionally violated when information on them is forcefully gathered without their knowledge or agreement and kept in a database for an indeterminate amount of time. Because AI algorithms lack procedural controls for data retention and deletion and gather, store, transmit, and share data

¹⁷Constituent Assembly Debates on 3 December, 1948, <https://indiankanoon.org/doc/607985/> accessed on 28/01/2026 at 09: 25 A.M.

¹⁸ *Infra* 19.

¹⁹ The Constitution of India, Art. 14, 19, 21 https://ddashboard.legislative.gov.in/sites/default/files/coi/COI_2024.pdf accessed on 28/01/2026 at 10: 12 A.M.

²⁰ (1988) 4 SCC 592.

²¹ P A Mahant, *Implications of the Use of AI Algorithms in the Criminal Justice System from a Constitutional Perspective*, 4.2 JCLJ 1 (2023).

²² *Id*

without individual agreement, they may infringe the right to privacy under Article 21. International legal frameworks like the ICCPR and the Universal Declaration of Human Rights safeguard privacy as a basic human right. In instances like *Auto Shankar*²³, *PUCCL*²⁴, and *R.M. Malkani v. State of Maharashtra*²⁵, courts have affirmed this principle, ruling that individual privacy has to be safeguarded. To safeguard personal information, however, Parliament approved the Digital Personal Data Protection Act, 2023. This Act's main goal is to control the processing of people's personal data that has been gathered in digital or non-digital form and then digitised in order to avoid abuse by specific organisations referred to as "data fiduciaries" under the Act. This contrasts with the General Data Protection Regulation (GDPR) of the European Union, which safeguards personal data even in non-digital forms. Additionally, personal information that has been made publicly available by the data principal or any other individual who is required by law to do so is not covered by the Act.²⁶

5. **Regulatory Approach:** The regulation of AI in legal services presents the BCI with two challenges. The first issue is that there isn't a current, written code of conduct for solicitors that addresses new facets of legal practice. The preamble of the Bar Council of India is predicated on the idea that attorneys will self-regulate. AI algorithms are not specifically covered by any laws, and the Advocates Act of 1961 is thus mute on the matter. The second issue is that this regulation has not been put into practice. These facts unequivocally show that neither the BCI regulations nor any attempts to control lawyers use of technology in transactions whether or not it has anything to do with artificial intelligence have been updated. The BCI ought to oversee whether the results solicitors and law firms give their clients align with the code of conduct.²⁷ The use of AI-based legal tools should not be regulated by the BCI. The BCI shouldn't ignore this as AI-based legal technology nears a turning point. In order to guarantee that attorneys uphold ethical and behavioural norms on behalf of clients and society, the BCI must implement the required legislation and develop a practical regulatory strategy in this context of AI deployment.

Conclusion

In order to successfully navigate the complex tension between AI's undeniable promise of increased efficiency and the unwavering imperative of protecting everyone's fundamental rights and ensuring access to justice, integrating and implementing AI algorithms into the Indian judicial system requires a thorough and meticulous effort along with appropriate research. Artificial intelligence has a fascinating appeal because it can provide breakthrough advantages in fields that have long suffered from systemic delays and human mistake. The Latin proverb "Justice Delayed is Justice Denied" is relevant. One of the most intriguing features of this technology is that certain risk assessment algorithms promise to be more statistically accurate than human judges in predicting the chance of recidivism, which might result in prejudice. However, the core tenets of due process of law are also seriously threatened by this glossy façade of technical neutrality. The "black box" dilemma, in which complicated algorithms underlying workings are so mysterious that even their designers are unable to completely explain how a certain input results in a particular output, exacerbates this issue. Another Latin proverb, "Justice should not only be done, but should manifestly and undoubtedly be seen to be done," is crucial. A legal system that allows an accused person to comprehend and contest the evidence used against them is inherently incompatible with this lack of openness. However, the reaction to a "algorithmic decision" is an intolerable insult to justice and responsibility when a person's freedom is at risk. The answer to this serious problem is not to stop technological advancement or reject these potent instruments completely, but rather to create an all-encompassing, unbreakable system of strong responsibility intended to regulate their creation and application.

²³*R. Rajagopal vs. State of T.N.*, (1994) 6 SCC 632 : AIR 1995 SC 264

²⁴*People's Union for Civil Liberties vs. Union of India*, (1997) 1 SCC 301 : AIR 1997 SC 568

²⁵*R.M. Malkani vs. State of Maharashtra*, (1973) 1 SCC 471 : AIR 1973 SC 157

²⁶Sen, Poulomi, *EU GDPR and Indian Data Protection Bill: A Comparative Study* (April 26, 2021). <http://dx.doi.org/10.2139/ssrn.3834112> accessed on 28/01/2026 at 12: 39 P.M.

²⁷Anirudh Gotety, *Regulating the Ethics of the Unknown: Analysing Regulatory Regimes for AI-Based Legal Technology and Recommendations for its Regulation in India*, 14 NUJS L REV 333, 257 (2021).