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AI IN SENTENCING: CHALLENGES & OPPORTUNITIES

AUTHORED BY - AADYA AMBASTHA

1. Introduction

We all know that the important as well as controversial developments in modern jurisprudence is the intersection of "artificial intelligence" and "criminal justice system". The criminal justice system has long been challenged for ensuring consistency, unbiasness, and fair outcomes in sentencing. Traditional sentencing practices have been criticized for perpetuating systemic biasness in deciding sentencing or trial outcomes of similar offenses as the reliance is totally on judicial discretion. Thus, to deal with such criticism and in order to bring more transparency, jurisdictions worldwide should bring the use of AI-based tools in the criminal system. Such enormous data matrices concerning the history of a case, along with defendant profiles coupled with the list of past record, provide insight into possibilities regarding imprisonment or sentencing recommendations.

This application of AI in sentencing will mark a paradigm shift in the administration of criminal justice system. The AI based algorithms and tools can enhance objectivity and reduce unconscious bias as well as it can ensure consistency for similar cases. Machineries are able to process thousands of cases at once to look for patterns and correlations that might be imperceptible for humans. This technological capability would ensure a better, balanced and evidence-based decisions on sentencing. However, the use of AI in this core component of criminal justice system is a serious cause for concern as such systems can perpetuate historical biases that may exist in sentencing data and amplify them. One such challenge is related to the transparency and due process rights of a defendant and their counsel, where most algorithms have the "black box" nature of AI such that defendants or their counsel would be unable to challenge or even understand reasoning behind AI-generated recommendations. Further questions remain as to how a balance between algorithmic guidance and judicial discretion can best be made in deciding an individual's destiny.

This paper seeks to critically examine the potential benefits of AI implementation in sentencing processes against inherent risks. Through a comprehensive analysis of existing

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implementations, legal frameworks, and empirical studies, I address several key questions: How can AI systems be designed and deployed to enhance rather than undermine judicial decision-making? What safeguards are necessary to ensure transparency, accountability, and protection of defendants' rights? How should the legal system balance efficiency gains of automation against personal principles, fundamental principles of individualized justice?

This research is important beyond academic discourse for at least two reasons. The judiciary increasingly are considering or adopting AI-powered sentencing tools, and there's a deep need to understand their implications. The findings and recommendations from this research may guide some policy decisions and may help shape best practices in the responsible integration of AI in sentencing processes.

This study will examine the present scenario in the application of AI to sentencing, covering current technologies applied in various jurisdictions. The research further explores legal and constitutional concerns that may arise with AI-based sentencing, mainly through due process rights and equal protection issues. Third, it will discuss the technical limitations and flaws of current AI systems, including problems of bias, transparency, and accuracy. This work will pave the way toward an all-round examination of whether AI technology can practically and ethically be implemented in criminal sentencing. The chapters that follow will delve deeper on these issues and how to particularly evaluate the technical criteria, legal framework, empirical data, and policy suggestions. It may also support the growing conversation on artificial intelligence in criminal justice and guide a future that makes use of technology's advantages while maintaining the basic values of justice and human dignity.

2. AI in Sentencing

The idea of using technology and artificial intelligence to forecast crime has been investigated in a number of nations for a long time. Some of these countries include:

USA:

In the 1990s, a corporation named, "Northpointe, Inc." began developing "COMPAS", which is a statistical formula that is used to determine the likelihood that a defendant would commit a crime after being released.[1] COMPAS was formally incorporated into the presentence

[1] "Jackson, Eugenie, and Christina Mendoza." "Setting the Record Straight: What the COMPAS Core Risk and Need Assessment Is and Is Not." *Harvard Data Science Review*, vol. 2, no. 1, Jan. 2020. *hdsr.mitpress.mit.edu*, "https://doi.org/10.1162/99608f92.1b3dadaa."

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investigation (i.e.PSI) report of a defendant in 2012, following years of research. This was when Wisconsin began using COMPAS in its state sentencing proceedings. The COMPAS algorithm calculates a recidivism-risk score between 1 and 10 by taking into account a number of parameters, including the answers that a defendant gives to a long questionnaire.[2] In general, this is done by comparing the characteristics and features of a person to those of recognized high-risk offenders.[3] COMPAS uses this score to determine the likelihood of reoffending, which is classified as low-risk (1 to 4), medium-risk (5 to 7), or high-risk (8 to 10).7 The score is then added to the defendant's PSI report, which is sent to the court who will decide the sentence. As a result, COMPAS's recidivism risk assessment is used to calculate a defendant's sentence, at least to some extent. In addition, the use of algorithms in the courts does more than just answer worries about the number of cases; it also directly tackles the expenses of labour that are linked with human judgment. Systems such as COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) assert that they improve accuracy by speeding up duties that humans would otherwise perform.

Nonetheless, a 2016 research published by the nonprofit news organization "ProPublica" showed that COMPAS had a significant bias against black defendants.[4] Black defendants were more likely than white defendants to be mistakenly judged as having a higher risk of reoffending, and white defendants were more likely than black defendants to be mistakenly judged as having a lower risk of reoffending, according to a study that looked at over 10,000 criminal defendants in Broward County, Florida, who were sentenced using COMPAS scores.[5] Northpointe rejected the findings in a 37-page defense, which was then countered by ProPublica shortly after.[6] Northpointe said, that its ratings were fair since its accuracy rate in predicting recidivism was the same for black and white defendants, approximately 60%.[7] This claim is accurate, and even ProPublica does not dispute that number.[8] However, ProPublica

[2] Mayson, Sandra G. *Dangerous Defendants*. https://www.yalelawjournal.org/article/dangerous-defendants. Accessed 11 Jan. 2025.
[3] Engel, Christoph, et al. "Code Is Law: How COMPAS Affects the Way the Judiciary Handles the Risk of Recidivism." *Artificial Intelligence and Law*, Feb. 2024. *Springer Link*, "https://doi.org/10.1007/s10506-024-09389-8."
[4] Outreach, Research. "Justice Served? Discrimination in Algorithmic Risk Assessment." *Research Outreach*, 19 Sept. 2019, "https://researchoutreach.org/articles/justice-served-discrimination-in-algorithmic-risk-assessment/".
[5] "Mattu, Jeff Larson, Julia Angwin,Lauren Kirchner,Surya", "How We Analyzed the COMPAS Recidivism Algorithm." *ProPublica*, "https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm." Accessed 15 Jan. 2025.
[6] ibid
[7] Lagioia, Francesca, et al. "Algorithmic Fairness through Group Parities? The Case of COMPAS-SAPMOC." *AI & SOCIETY*, vol. 38, no. 2, Apr. 2023, pp. 459–78. *Springer Link*, https://doi.org/10.1007/s00146-022-01441-y.
[8] Hagag, Ben. "The Road to Fairness: Ethics, AI, and the Journey Ahead." *Medium*, 26 June 2024, https://medium.com/@benhagag10/the-road-to-fairness-ethics-ai-and-the-journey-ahead-2a053d919b8d.

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maintained its position that COMPAS was biased since it treated black and white defendants differently when it came to its inaccurate rankings. How is it possible for a score to be both fair and unjust at the same time? The issue is not specifically about race, as COMPAS claims that it does not consider race when calculating its risk score. The researchers claim that the issue is related to differing ideas about what fairness actually means in the first place.[9] According to COMPAS, race is not a consideration in the algorithm it uses. However, it is possible that COMPAS assesses additional elements that operate as substitutes for race, which might result in racial bias in the outcomes. Even data pieces that seem harmless might show bias toward underprivileged groups of people. For instance, think of the location where someone lives. When there is more police presence in areas with a high population of minorities, it frequently leads to an increase in the number of arrests in those neighbourhoods.[10] Because COMPAS is an algorithm based on statistics, it is possible that black defendants may receive disproportionately high-risk ratings simply because of where they reside. It is not always the case that a racist algorithm would be responsible for such prejudices, as algorithms are primarily defined as number crunchers. The issue is that algorithms are educated on data that is generated by people.[11] If the data itself is influenced by historical and structural prejudices, those biases will eventually be mirrored in the output of an algorithm. Algorithms have already demonstrated this problem in other contexts. For example, Google Image searches are skewed by gender stereotyping, targeted adverts are influenced by racial stereotyping, and homosexual stereotyping leads to ludicrous suggestions in Google Play's algorithm.[12]

China:

Chinese AI systems for sentencing are accessible in three different aspects. The Chinese Supreme Court developed a method called "similar case" that uses artificial intelligence to give judges information about punishment in cases that are similar to the one they are now overseeing. AI programs such as "Little Judge Bao" go it a step further by recommending specific penalties depending on the criteria selected by the court. The third type of system alerts

[9] "*Reprogramming Fairness: Affirmative Action in Algorithmic Criminal Sentencing"– Columbia Human Rights Law Review*. https://hrlr.law.columbia.edu/hrlr-online/reprogramming-fairness-affirmative-action-in-algorithmic-criminal-sentencing/. Accessed 01 Feb. 2025.

[10] "Algorithmic Bias Detection and Mitigation: Best Practices and Policies to Reduce Consumer Harms." *Brookings*, https://www.brookings.edu/articles/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/. Accessed 03 Feb. 2025.

[11] ibid

[12] Otterbacher, Jahna. "New Evidence Shows Search Engines Reinforce Social Stereotypes." *Harvard Business Review*, 20 Oct. 2016. *hbr.org*, https://hbr.org/2016/10/new-evidence-shows-search-engines-reinforce-social-stereotypes.

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judges when there are significant differences between the sentence they are proposing and the sentences given in previous instances that are contained in the system's database.[13] Algorithms that are based on big data are the foundation of these systems. They employ mathematical modelling in assessing historical cases and rulings, comparing their textual similarities, isolating characteristics essential to sentence, ranking these aspects, and quantifying them.[14] The "algorithms" group this data and create a list of comparable instances or suggest a punishment by comparing characteristics found in previous cases and determining relevant sentencing regulations. This means that the same input is intended to produce the same outcome. Because artificial intelligence is thought to be free from personal prejudice and extraneous influences, AI systems, seem to be ideal instruments for applying the notion of "same case, same sentence." In China, the use of artificial intelligence is generally seen positively and is supported by those who make governmental decisions. Some judges only use the system as a database, and judges are not obligated to adopt the sentences produced by AI. Nonetheless, it is probable that more AI systems will be developed and employed more frequently in the "Chinese criminal justice system." In addition, objections must be brought to the aim of the Guidelines, which is "same case, same sentence."[15] The search for the "same case" has been deemed pointless since two separate instances can never be precisely the same, just as no two leaves on a plant are ever identical. As a result, the phrase "same case, same sentence" has been attacked for not having defined requirements and has been referred to as a "false proposition" and "a fictional myth of the rule of law."[16] Critics also argue that while determining whether these two cases are "the same," it is important to take into account circumstances that go beyond the criminal act itself, such as the reasons for punishment.[17] Because AI can only operate with criteria that are already in its database, it may misidentify cases that are "the same." Additionally, if courts base their sentencing on new factors, AI takes some time to incorporate these aspects, which means that its conclusions are wrong in the interim. In addition, the number of shared elements and the weight assigned to them are both

[13] Ji, Weidong, and Xi Lin, editors. "Judicial Reform in China: The Status Quo and Future Directions." *Towards the Rule of Law in China: Social Diversification and the Power System*, Cambridge University Press, 2022, pp. 138–256. *Cambridge University Press*, https://doi.org/10.1017/9781108687904.007.

[14] Josef Valvoda, Alec Thompson, Ryan Cotterell, Simone Teufel; "The Ethics of Automating Legal Actors. *Transactions of the Association for Computational Linguistic"s* 2024; 12 700–720. doi: https://doi.org/10.1162/tacl_a_00668

[15] Ulenaers, Jasper. "The Impact of Artificial Intelligence on the Right to a Fair Trial: Towards a Robot Judge?" *Asian Journal of Law and Economics*, vol. 11, no. 2, Aug. 2020. *www.degruyter.com*, https://doi.org/10.1515/ajle-2020-0008.

[16] ibid

[17] Indulia, Bhumika. "Some Anomalies in Law and Justice." *SCC Times*, 25 Apr. 2020, https://www.scconline.com/blog/post/2020/04/25/some-anomalies-in-law-and-justice/.

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crucial for establishing how similar or relevant two situations are to one another. Because the weight of each component is dependent on the specific circumstance, it is not feasible to determine the weight of each factor beforehand. Algorithms are currently unable to offer a complete comprehension of a case, which is necessary in order to determine which element is the most important in a case. Imposing a statement is not the same as solving a mathematical problem. Judges must always make value judgments in order to come up with a fair punishment. For instance, a perpetrator's culpability is determined not only by their reasons but also by the effect of the crime on society. This, in turn, must be evaluated in relation to the societal values that criminal law is intended to defend.[18] Algorithms that are now in use and based on mathematical modeling are not able to take into account value judgments, which are difficult to quantify.[19] In the field of criminal justice, things like gender, age, and socioeconomic position might be considered "pre-existing biases in underlying data." If the criteria are discriminatory, the outcomes "will be doing nothing more than reinforcing the existing... bias in the criminal justice system."

Brazil:

The Supreme Federal Court (STF) and the University of Brasília (UnB) developed the *Victor* Project at the end of 2017. This project is an artificial intelligence that uses machine learning to address and reduce the challenges related to improving efficiency in the judiciary and managing judicial processes more effectively. At first, it was utilized to analyze the unusual requests that were received from all around the nation, particularly in terms of how they were classified in general consequence topics of larger incidence. The name of the project is a memorial to Victor Nunes Leal, a minister of the STF who passed away. He served between the 1960s and 1969 and was primarily responsible for systematizing the STF's jurisprudence in summaries, which made it easier to apply court precedents to appeals.[20] At the outset, a number of issues that needed to be resolved were found, including the database for analysis itself, which took months to complete. It was later noted that a number of procedural papers, including the original petition, defense, and judgment, among others, did not have any

[18] Nishant, Rohit, et al. "The Formal Rationality of Artificial Intelligence-Based Algorithms and the Problem of Bias." *Journal of Information Technology*, vol. 39, no. 1, Mar. 2024, pp. 19–40. *DOI.org (Crossref)*, https://doi.org/10.1177/02683962231176842.

[19] Sarker, Iqbal H. "Machine Learning: Algorithms, Real-World Applications and Research Directions." *SN Computer Science*, vol. 2, no. 3, Mar. 2021, p. 160. *Springer Link*, https://doi.org/10.1007/s42979-021-00592-x.

[20] Sanctis, Fausto Martin De. "Artificial Intelligence and Innovation in Brazilian Justice." "*International Annals of Criminology"*, vol. 59, no. 1, May 2021, pp. 1–10. *Cambridge University Press*, https://doi.org/10.1017/cri.2021.4.

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identification or indexing and were not identified by legal operators. Victor has learned how to sort the papers and divide them into independent PDFs. In other words, he can divide the entire legal procedure, which is included in a PDF, into different sorts of papers, including the original petition, defense, punishment, and appeals, among others. Once the program has been correctly divided into independent files, it organizes and identifies these documents based on their nature, following the standards set by the Supreme Federal Court.[21]

The Socrates 1.0 project was started in May 2019 by the Artificial Intelligence Advisory of the presidency of the Superior Court of Justice (STJ).[22] Socrates, which is operational in 21 ministers' chambers, does semantic analysis of procedural papers. This makes it easier to filter cases, discover related matters, and study decisions that could serve as a precedent for investigation. After then, the Centre for Admissibility and Repetitive Resources, along with the court's artificial intelligence team, developed Socrates 2.0. This upgrade improved the system's ability to meet the key difficulties of the chambers, as it determined the constitutional authorization that was utilized for submitting an appeal. The Athos System, which is an AI-based program, was developed in June 2020. Its purpose is to discover instances that may be filed for judgment under the repeated resources procedure[23] before the draw to the ministers. It keeps track of and identifies instances in which the court's bodies have divergent or convergent viewpoints, cases in which there is a possibility of overcoming or distinguishing qualified precedents, and topics of significant importance. Because of Athos's effectiveness, the STJ worked with second instance courts to ensure that they too used the resource to manage their own precedents.[24] As a result, Athos was established, a project that would be implemented in courts around the nation.[25] In this regard, the STJ also developed e-Juris, which is a tool that extracts legislative and jurisprudential references from the ruling. The Jurisprudence Secretariat uses this technology.

[21] ibid
[22] "Artificial Intelligence Makes Its Mark in the Brazilian Judicial System." *Folha de S.Paulo*, 10 Mar. 2020, "https://www1.folha.uol.com.br/internacional/en/brazil/2020/03/artificial-intelligence-makes-its-mark-in-the-brazilian-judicial-system.shtml."
[23] Habib Lantyer, Victor. "*The Era of Artificial Intelligence in Law: Brazil in a Global Context"*. 4650117, 1 Dec. 2023. *Social Science Research Network*, https://doi.org/10.2139/ssrn.4650117.
[24] *ARTICLE, "Artificial Intelligence, the Brazilian Judiciary and Some Conundrums"*. 3 Mar. 2023, https://webserver07.reims.sciences-po.fr/public/chaire-numerique/en/2023/03/03/article-artificial-intelligence-the-brazilian-judiciary-and-some-conundrums/.
[25] *Project Maps Artificial Intelligence Systems Used by Brazilian Judiciary | Portal FGV*. 10 Oct. 2023, https://portal.fgv.br/en/news/project-maps-artificial-intelligence-systems-used-brazilian-judiciary.

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3. Legal Implications Associated with the Use of AI in Sentencing

Regulatory regimes must find a careful balance between taking advantage of the benefits of AI and protecting rights that are fundamental. Governments and legal institutions must emphasize algorithmic fairness, provide human supervision, and defend the ideals of justice that have long been the foundation of the legal system.

United States of America:

The United States has been regulating artificial intelligence by focusing on various sectors. There is no federal legislation governing artificial intelligence (AI), but many agencies are in charge of regulating AI applications in different industries. For example, the Food and Drug Administration (FDA) is responsible for regulating AI in the healthcare sector, while the National Highway Traffic Safety Administration (NHTSA) is responsible for regulating AI in self-driving cars.[26] It is important to show that AI sentencing procedures are in accordance with current laws and constitutional concepts, and that they do not depend on obsolete precedents that do not reflect modern notions of justice and individual rights.

In the United States, it is essential to follow the Equal Protection Clause of the Fourteenth Amendment (Wilkinson, 1975), which was passed in 1868, in order to make sure that artificial intelligence does not continue to reinforce prejudices that are present in historical data from before the law was enacted.[27] It is also vital to comprehend the many legal standards that have been established, particularly the Administrative Procedure Act (APA). The purpose of this law is to make sure that agencies give a reasonable explanation for their judgments.[28] However, it has been outdated from the day it was published, and it has not been followed. As a result, it is essential to continue implementing this Act in order to ensure that justice and order are maintained while using AI algorithms in criminal justice sentencing.

China:

Chinese policymakers have adopted artificial intelligence in order to decrease bias in

[26] "The EU and U.S. Diverge on AI Regulation: A Transatlantic Comparison and Steps to Alignment." *Brookings*, "https://www.brookings.edu/articles/the-eu-and-us-diverge-on-ai-regulation-a-transatlantic-comparison-and-steps-to-alignment/". Accessed 04 Feb. 2025.
[27] "The New Equal Protection." *Justia Law*, https://law.justia.com/constitution/us/amendment-14/09-the-new-equal-protection.html. Accessed Feb. 2025.
[28] Sunshine, Jason, and Tom R. Tyler. "The Role of Procedural Justice and Legitimacy in Shaping Public Support for Policing." "*Law & Society Review"*, vol. 37, no. 3, 2003, pp. 513–48. *JSTOR*, http://www.jstor.org/stable/1555077. Accessed 11 Feb. 2025.

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sentencing and to achieve the aim of "same case, same sentence."[29] It is important to remember that all artificial intelligence systems have been created by people. They "provide the patterns that already exist in our society, many of which are undesirable and even unknown to many members of society," by filtering, evaluating, and manipulating the supplied data. One of the most important ideas in contemporary legal theory is that only the judge, who is supposed to be impartial, should be responsible for making decisions about whether someone is guilty and what their punishment should be. According to "Article 131" of the Chinese Constitution, courts have the right to "exercise judicial power independently, in accordance with the provisions of law, and not subject to interference by any administrative organ, public organization or individual." This concept is a fundamental part of the criminal justice system, which takes on a new aspect in that artificial intelligence should not interfere with judges' ability to make independent decisions when it comes to sentence. In 2018, the Chinese Supreme Court took a step toward encouraging excellent thinking by publishing the "Guidelines on Strengthening and Standardizing the Analysis and thinking in Adjudicative Instruments". The Supreme Court also mandates courts at all levels to consider the quality of reasoning when evaluating the work of judges. However, because this guideline is primarily concerned with reasoning on legal issues and fact-finding, it is only somewhat relevant to sentence. Furthermore, even if this paper has an internal influence, the way it is written does not establish clear standards for what constitutes effective thinking. Therefore, it is not feasible to evaluate the quality of reasoning based on these guidelines.

Brazil:

Bill No. 2,338/2023, which attempts to establish a national legislative framework for the development, application, and regulation of artificial intelligence systems in Brazil, was approved by the Brazilian Senate on December 10, 2024.[30] The legislative framework lists a set of rights meant to protect organizations or persons touched by artificial intelligence systems. These rights comprise the right to clear, easily available information on the use of artificial intelligence in their interactions with such systems, the right to request reviews of automated decisions made by humans in specific circumstances, the right to non-discrimination—illicit or

[29] "*Artificial Intelligence, Algorithms and Sentencing in Chinese Criminal Justice: Problems and Solutions" - ProQuest*. https://www.proquest.com/openview/4f8df6986cfe259676a78a44db043b39/1.pdf?pq-origsite=gscholar&cbl=33826#:~:text=Some%20AI%20systems%2C%20such%20as,encour%2D%20aged%20by%20policy%20makers. Accessed 11 Feb. 2025.

[30] "AI Bill Approved by Brazil's Senate Faces Expert Criticism." *Abpi*, https://abpi.org/en/newsletter/ai-bill-approved-by-brazils-senate-faces-expert-criticism/. Accessed 11 Feb. 2025.

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abusive—and the right to have direct or indirect discriminating bias corrected.

Furthermore, when looking at the **European Union's** framework, it is important to note that Article 22 (1) of the General Data Protection Regulation (GDPR) says that "The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her."[31]

No explicit legislative framework controlling AI-assisted sentencing exists in **India** at the moment. The present laws and constitutional requirements create a basis for evaluating the moral implications and validity of such technology. "Article 14"[32] (Right to Equality) guarantees across India equal legal protection and equality before the law. Any AI-based sentencing system must satisfy this demand if it is to guarantee that judgments are devoid of bias or prejudice. "Article 21"[33] thus guarantees the defense of these rights as it addresses the right to life and personal liberty. Analyzing the data utilized by artificial intelligence systems in sentencing is absolutely essential since the Supreme Court of India has decided to include the right to privacy as such. "Article 39A" [34](Equal Access to Justice) embodies the fundamental concept that the state has to further justice by providing equal opportunity and free legal assistance. AI sentencing systems have to help to achieve this aim so as to avoid producing inequalities in legal system access.

By addressing issues of cybercrime and online trade, a study of the Information Technology Act of 2000 creates a legal foundation for technological aspect. electronic. Although, it is not specifically related to artificial intelligence, but several relevant provisions exist, most notably Section 43A, which requires that commercial companies handling private data have suitable security policies.[35] Ignoring compliance might lead to responsibility for compensation; similarly, Section 72A[36] penalizes divulging personal data without permission, therefore emphasizing the requirement of data privacy in uses of artificial intelligence.

The Digital Personal Data Protection Act, 2023, was recently enacted to protect and govern

[31] Art 22 (1), "Art. 22 GDPR – Automated Individual Decision-Making, Including Profiling." *General Data Protection Regulation (GDPR)*, https://gdpr-info.eu/art-22-gdpr/. Accessed 11 Feb. 2025.
[32] Article 14, "The Constitution of India, 1950"
[33] Article 21, "The Constitution of India, 1950"
[34] Article 39A, "The Constitution of India, 1950"
[35] Section 43A, IT Act, 2000
[36] Section 72A, IT Act, 2000

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personal data. Artificial intelligence systems rely on personal data to operate, so it becomes even more crucial to defend individuals's right to privacy. Within India's criminal justice system, the employment of artificial intelligence in sentencing can be controlled and evaluated by the constitutional clauses and legislative actions establishing a basic framework.

Now, for understanding the judicial interpretation in this context, the case of ***State v. Loomis***[37] is one example of a court interpretation that tackles the use of artificial intelligence in sentencing. It has grown to be a significant point of reference for the debate on the application of technology inside the criminal justice system. The Wisconsin Supreme Court's ruling in this case brought up important considerations regarding justice, openness, and the role that algorithmic risk evaluations play in determining sentences. Eric Loomis pleaded guilty to the charges against him in 2013. When it came time for him to be punished, the court used "COMPAS" (Correctional Offender Management Profiling for Alternative Sanctions) a risk assessment tool. Designed to evaluate a defendant's chance of reoffending, COMPAS is It does this using several factors like the defendant's age, employment position, past record, and social conduct. Loomis was sentenced to six years in jail and classified as a high risk for recidivism according to the COMPAS research. The usage of COMPAS, according to Loomis, violated his due process rights, therefore he made a petition for post-conviction relief. It was asserted that COMPAS reports only disclose data that is relevant to specific parties, and that the process used to generate the reports constitutes a confidential information. This means that the court's use of COMPAS assessment violated both his right to an individualized sentence. The Wisconsin Supreme Court ruled against Loomis in 2016, although it also acknowledged the risks and issues these assessment tools create as Loomis had noted. The court determined that judges should be careful when employing these types of risk evaluations. It emphasized the need of being open and honest, allowing judges to make their own decisions, and carefully considering any potential biases when employing computational tools in sentencing. Also, in the case of ***Malenchik v. State***[38], the appellant was sentenced to six years in prison, with two years suspended, after pleading guilty to receiving stolen property. The offender appealed his sentence, arguing that (1) the trial court mistakenly took the risk ratings supplied by the Probation Department into account as an aggravating factor and (2) his punishment was not suitable and should be changed. The Indiana Court of Appeals rejected both claims. A petition to transfer and examine the first claim was granted by the Indiana Supreme Court.

[37] 881 N.W. 2d 749 (2016), Wisonsin Supreme Court
[38] 928 N.E. 2d 564 (2010), Indiana Supreme Court

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Consequently, it was concluded that offender assessment tools can assist a trial court in determining appropriate sentences, but they do not take the place of them. Additionally, additional sentencing evidence that independently supported the sentence imposed was the only basis for the trial court's evaluation of the defendant's assessment model results. The sentence was upheld as a result. Additionally, the Punjab and Haryana High Court in India used ChatGPT to decide whether to grant a bail application in the case of *Jaswinder Singh v. State of Punjab*[39]. The application was denied. The verdict itself revealed that ChatGPT's stance is pretty clear: the presumption of innocence is a basic norm, and even in cases of severe assault, bail should not be denied unless there is a strong basis to believe that the defendant is a flight risk. Therefore, it is obvious that the response provided by ChatGPT did not validate the argument that was used, nor did it convince the court to consider an alternative perspective.

4. Challenges and Concerns in AI-Assisted Sentencing

Artificial intelligence (AI) into the criminal sentencing process has fundamentally changed the way judges render decisions. As seen by projects like VICTOR in Brazil and COMPAS in the US, artificial intelligence is being applied in judicial systems all throughout the world more and more. Even if they claim to boost efficiency and justice, these artificial intelligence systems bring difficult questions about obligation, justice, and basic rights, which are discussed as under:

AI and algorithmic bias

Algorithmic bias is a main obstacle to AI's applicability in sentence computation. AI systems taught on past court data can support current institutional biases. For example, the COMPAS system has shown alarming trends whereby black defendants, although in fact not being high-risk, are classified as "high-risk" more often than white defendants. Directly violated by this prejudice is "Article 7" of the Universal Declaration of Human Rights (UDHR)[40] and Article 14 of the Indian Constitution[41], which both upholds the right to equal treatment under the law. These prejudices can be connected to either historical sentencing data including racial, gender, and socioeconomic inequalities or to the natural prejudices in the architecture of the artificial intelligence systems.

[39] "*Jaswinder Singh v. State of Punjab*", CRM-M-22496-2022, order dated 27-3-2023
[40] Article 7, "The Universal Declaration of Human Rights"
[41] Article 14, "The Constitution of India, 1950"

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The Black Box Dilemma: AI

Many times, artificial intelligence sentencing systems seem to be "black boxes," [42]impossible to understand why they produce the results they do. This lack of openness seriously affects due process and judicial integrity. Though courts have clear decision-making processes, many artificial intelligence models lack the openness needed for enough responsibility. "Article 6" of the European Convention on Human Rights (ECHR)[43] gives defendants their right to review and challenge data presented against them. Artificial intelligence systems presenting challenging to understand language might breach this right.

Artificial intelligence's threat to due process rights

Sentencing based on artificial intelligence creates serious issues about defendants' due process rights. Criminal procedures are basically adversarial, hence defendants have rights to challenge the evidence and provide defenses. Although it is difficult to challenge the findings the computers generate, defendants might not have access to the algorithms underlying artificial intelligence systems applied to influence sentence. This is particularly alarming as artificial intelligence systems typically rely on broad data patterns rather than particular circumstances, thereby maybe breaking the basic criminal law principle of customized punishment.

Responsibility and AI Penalties

The use of artificial intelligence in sentencing also raises problems about who is responsible. If an AI system suggests a sentence that is unfair, who is responsible for it? Is it the judge who accepted the recommendation, the programmers who developed the system, or the government that allowed it to be used? As a result, developers should ensure that their algorithms are fair, conduct audits for bias, and make their AI models transparent. Judges should supervise the process and have the final say in sentencing decisions instead of blindly relying on AI outputs. Legislators should pass clear laws that define the acceptable range and limits of AI in sentencing.

Data Privacy and Security Concerns

AI sentencing systems demand several kinds of data, including socioeconomic statistics, criminal records, and mental health assessments. This great data collecting gravely

[42] Hassija, Vikas, et al. "Interpreting Black-Box Models: A Review on Explainable Artificial Intelligence." *Cognitive Computation*, vol. 16, no. 1, Jan. 2024, pp. 45–74. *Springer Link*, "https://doi.org/10.1007/s12559-023-10179-8".

[43] Article 6, "European Convention on Human Rights"

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compromises people's privacy. Should abuse, data breaches, or illicit access to personal data, the defendants' right to privacy might be violated. These liberties abound in "Article 17" of the ICCPR[44] and "Article 21" of the Indian Constitution[45]. To safeguard privacy rights in AI-driven sentencing, sufficient informed consent protocols and data retention limits have to be implemented.

Ethical issues of artificial intelligence in the legal system

Apart from legal problems, the use of artificial intelligence in sentencing raises major ethical questions about the automated decision-making in the criminal justice system. Sentencing calls for complex moral decisions, mitigating circumstances, and social background knowledge as well as Systems of artificial intelligence might oversimplify these features. If we rely too much on artificial intelligence, which would jeopardize the foundations of justice, we run the risk of losing the vital human component of legal decision-making.

Although artificial intelligence can improve the regularity and effectiveness of punishment, it seriously challenges human rights and current legal ideas. The issues such as Algorithms' prejudice and discrimination; system explainability and openness; due process rights protection; clear accountability structures; data confidentiality and protection need to be carefully considered if we want to appropriately use artificial intelligence into sentencing. AI-driven sentencing systems would be able to respect human rights standards and justice only if these problems are deliberately addressed.

5. Conclusion & Suggestion

To sum up, we need to carefully examine the advantages and moral dilemmas of incorporating "AI" into the "criminal" justice system. Although AI has the potential to save money, standardize procedures, and expedite operations, it also poses significant questions around transparency and fairness. The only way to tackle these issues is with a comprehensive framework.

First, in order to ensure the algorithm's transparency and ensure its acceptance and ethical use in clinical settings, it is imperative that it be explained. However, this is still an issue because many AI models are not transparent. As a result, explainability (white box model) will improve

[44] "Article 17", ICCPR,
[45] "Article 21", "The Constitution of India", 1950

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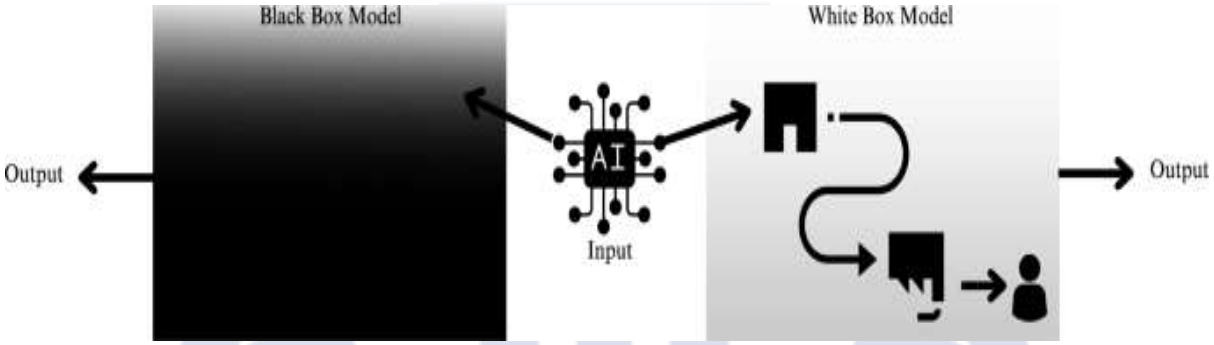
trust in the technology and offer clarity on how decisions are made.[46] The complicated nature of AI models, especially deep learning approaches, frequently results in a "black box" situation, in which the decision-making process is not clear and is hard to understand. Then, it is essential to overcome prejudices in order to ensure fairness. We must establish high ethical standards with the aim of keeping racial bias lower than that of humans and guaranteeing that there is an equitable distribution across different populations. To avoid the continuation of current inequalities, artificial intelligence systems should be regularly assessed.



(From: Hassija, Vikas, et al. "Interpreting Black-Box Models: A Review on Explainable Artificial Intelligence." Cognitive Computation, vol. 16, no. 1, Springer Link)

Additionally, for ensuring fairness, the best possible model should be created, thereby suggesting a potential model called "The Restricted Application Model,"[47] which consists of four steps, and these steps explain how a judge should use algorithmic assistance in the criminal cases. Here, the judge first decides what he/she thinks is the right punishment for a person who has committed a crime in a particular situation. Second, the judge's first sentence is entered into the sentencing algorithm, together with all other information that is particular to the case. Third, the algorithm recommends a sentence based on the sentences given in past instances that are comparable to the one in question. This advice is based on the information that is available about the crime. However, it is important to take into account that the algorithm will only give its suggestion if the judge's initial option for a sentence is harsher than the punishment that the algorithm has decided. If this is not the case, the algorithm will be designed to support the recommendation that the judge has presented. Fourth, the judge makes the final decision on what punishment the criminal should receive based on the information about the offense, the

[46] Ferrara, Emilio. "Fairness and Bias in Artificial Intelligence: A Brief Survey of Sources, Impacts, and Mitigation Strategies." *Sci*, vol. 6, no. 1, Mar. 2024, p. 3. *www.mdpi.com*, https://doi.org/10.3390/sci6010003.

[47] Ryberg, Jesper. "Artificial Intelligence and Criminal Justice: How to Use Algorithmic Sentencing Support in Real Life (and Ethically Non-Ideal) Penal Systems?" *AI and Ethics*, Jan. 2025. *Springer Link*, https://doi.org/10.1007/s43681-024-00655-8

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judge's first choice for a sentence, and the recommendation from the algorithm. The purpose is not to imply that this is the sole possible model or that decision-makers are certain to embrace it. More humbly, the goal is to start a conversation on how algorithmic advising systems need to be utilized by sketching out a potential model that may function within such a framework.

Finally, artificial intelligence should be used as a tool to help people make decisions, not to take their place. Judges and juries must have the last say in order to make sure that their verdicts are in line with current values and legal norms. For artificial intelligence to be successfully implemented, it is essential to have public trust and moral acceptance. This necessitates significant public control and involvement, transferring the development and monitoring of AI to public organizations in order to adhere to democratic values. We can take use of the benefits of artificial intelligence while maintaining justice and fairness by promoting openness, accountability, and diversity.