Page 2820 - 2832 **DOI:** *https://doij.org/10.10000/IJLMH.1110178*

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 8 | Issue 3

2025

Use of Artificial Intelligence in Adjudication for Probation

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ABSTRACT

The conversation around artificial intelligence (AI) in the legal sector has gradually moved from academic speculation to practical deployment. With courts across jurisdictions increasingly relying on digital tools to manage caseloads, improve access, and ensure efficiency, the question is no longer whether AI will shape the justice system, but how? As technology evolves, it is expected to supplement judicial functions, albeit under careful human supervision. India, while conservative in adopting AI in adjudicatory roles, is taking decisive steps through legal reform and pilot initiatives. Among the areas ripe for such integration is the domain of probation. Probation is a reformative legal mechanism that permits courts to release certain categories of offenders under supervision instead of awarding custodial sentences. It strikes a balance between the punitive and rehabilitative aims of criminal justice, especially for first- time or low- risk offenders. With the enactment of the Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS) , procedural law has evolved to emphasise fairness, evidence-based sentencing, and socio-personal context in judicial decisions. These developments create adjudicators in probation assessments.

This paper explores the potential role of AI in adjudicating probation decisions in India, critically examining whether its inclusion can serve the interests of justice or merely substitute one form of bias with another. It also evaluates the compatibility of AI systems with the normative goals of probation, particularly in a country where socio- economic disparities and underdeveloped forensic infrastructure continue to shape judicial outcomes.

Keywords; *Artificial Intelligence, Rehabilitation, Criminal Justice, Probation, Adjudication*

I. EVOLUTION OF PROBATION IN INDIA

The idea of probation is not new to Indian Jurisprudence. Rooted in the broader philosophy of reformative justice, probation reflects the belief that certain offender, particularly first- time, young, or non-violent individuals are better served through correctional supervision than

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through incarceration.[3] The term "probation" is derived from the Latin word 'probare', meaning "to test" or "to prove", and in legal parlance, it has come to represent a conditional release mechanism aimed at rehabilitation.[4]

A. Early Development and Legal Foundation

During the colonial rule, Indian criminal law largely followed the punitive approach of British legal traditions. However, growing recognition of the social and psychological dimensions of crime led to the gradual inclusion of rehabilitative measures. The most significant milestone came post- independence with the enactment of the Probation of Offenders Act, 1958.[5] This statute marked a formal shift from retributive to reformative justice by authorising courts to release eligible offenders on probation, subject to conditions and supervision.[6]

The Act[7] covers specific categories of offences and offenders, allowing courts to dispense with sentencing in favour of supervision, provided there are no aggravating circumstances. It emphasises the role of probation officers, who are tasked with monitoring the conduct of the released individuals and aiding in their reintegration into society. The Act also provides for pre-sentence investigation reports to assess the social background, employment, and psychological condition of the accused and other elements that remain underutilised in practice.[8]

B. Integration under the BNSS, 2023.

The BNSS, 2023,[9] which replaces the Code of Criminal Procedure (CrPC),[10] has sought to reaffirm and expand the role of rehabilitative sentencing. Notably, Section 401 of the BNSS[11] incorporates the principle of probation by allowing the court to consider the offender's age, character, and circumstances before passing a sentence. This reflects a policy level recognition of individualised sentencing and is in line with the international trends towards restorative justice.

The BNSS also mandates the use of digital documentation and forensic tools, potentially

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[3] Ankit Kumar, 'India's *Probation of Offenders Act, 1958: A Reformative Approach to Criminal Justice'*, LEGAL SYNC (April 24, 2025, 11:40 AM), https://www.legalsync.co.in/blog/India%E2%80%99s-Probation-of-Offenders-Act-1958

[4] Justice C.V. Karthikeyan, *'Law Relating to Probation: AN Overview'*, (April 30, 2025, 12:35 PM), https://www.nja.gov.in/Concluded_Programmes/2022-23/P-1341_PPTs/1.Law%20Relating%20to%20Probation%20An%20Overview%20-Session-II.pdf.

[5] The Probation of Offenders Act,1958, No. 20, Act of Parliament, 1958 (India).

[6] Jacob Sachunam, *Revocation and Retribution,* 96 Wash. L. Rev. 881 (2021).

[7] Supra Note 4, sec.4

[8] *Id.*

[9] Supra Note 1.

[10] The Code of Criminal Procedure,1973, No.2, Act of Parliament, 1974.

[11] Supra Note 1, sec. 401.

enabling a more structured and evidence – absed approach to assessing probation eligibility. These provisions, while forward- looking, demand corresponding administrative and technological readiness. Without effective integration of digital records, case histories, and socio- behavioural data, the probation mechanism under the BNSS risks remaining under-implemented.

In sum, the legislative evolution of probation in India reveals a clear commitment to reformative ideals. What remains lacking is operational clarity, consistency in implementation across states, and the technological infrastructure needed to support informed judicial discretion. As the paper proceeds to examine the role of AI in this context, it is important to consider how automation might support, rather than undermine, the rehabilitative philosophy embedded in Indian criminal law.

II. INTEGRATION OF AI IN JUDICIAL PROCESSES

The use of artificial intelligence in the judiciary is no longer confined to theoretical exploration, it is increasingly being tested and deployed in jurisdictions worldwide. From managing caseloads and streamlining document review to supporting bail and sentencing decisions, AI systems are gradually gaining a foothold in judicial infrastructure.[12] However, the scope and application of such tools remain varied and often contested, particularly when it comes to adjudicatory functions.

A. International Landscape: AI in Global Justice Systems

Jurisdictions like the United States have employed AI system such as COMPAS[13] to assess recidivism risk and support sentencing or parole decisions. European countries have implemented predictive analytics to assist in legal research and case outcome forecasting, while China's 'smart courts' employ AI in document automation and virtual hearings.[14]

While these systems differ in complexity, they share one key characteristic: they function primarily as assistive technologies. Human oversight remains central to ensure legal accountability and uphold the normative goals of justice.[15]

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[12] Allyson Brunette, '*Humanizing Justice: The Transformational Impact of AI in Courts, from Filing to Sentencing',* THOMSON REUTERS (May 20, 2025, 09: 37 PM), https://www.thomsonreuters.com/en-us/posts/ai-in-courts/humanizing-justice/.

[13] Michael Mayowa Farayola, Irina Tal, Regina Connolly, et.al., *'Ethics and Trustworthiness of AI for Predicting the Risk of Recidivism: A Systematic Literature Review',* MDPI (23 May,2025, 17: 50 PM), https://www.mdpi.com/2078-2489/14/8/426.

[14] Straton Papagianneas, Nino Junius, *'Fairness and Justice through Automation in China's Smart Courts'*, SCIENCE DIRECT (15 May, 2025, 15:30 PM), https://www.sciencedirect.com/science/article/pii/S0267364923001073.

[15] Petar Radanliev, *'AI Ethics: Integrating Transparency, Fairness, and Privacy in AI Development",* APPLIED

B. India's Approach: Emerging Models and Institutional Readiness

India's engagement with AI in the judicial domain remains cautious but evolving. Initiatives like SUPACE (Supreme Court Portal for Assistance in Court's Efficiency)[16] reflect an intention to use AI for non- adjudicatory tasks such as summarising facts and assisting research. The judiciary has consistently maintained that these tools should support, not replace, the judge's discretion.

Statements by Justice Pratibha M. Singh[17] and Modules from the National Judicial Academy[18] emphasise the need for technological literacy and ethical training among judicial officers before any deep integration of AI into decision making process.

C. Applicability to Probation: Scope and Limitation

The probation process inherently involves assessing multiple subjective and objective factors- risk of reoffending, rehabilitation potential, socio- economic vulnerabilities, and community impact. AI can assist by analysing large volumes of data from past cases, pre- sentence reports, and behavioural profiles to help identify candidates suitable for probation.[19]

However, these tools must be seen as recommendatory frameworks, not prescriptive algorithms. Any risk assessment or sentencing aid must be accompanied by an explanation mechanism that allows judicial officers to interrogate and overrule AI- generated insights based on human judgment, empathy, and contextual understanding.[20] As India contemplates deeper integration of AI in justice delivery, probation offers a valuable use- case for developing and testing responsible, human-centred models.

III. AI IN PROBATION DECISION MAKING

The application of artificial intelligence to probation decisions introduces a new frontier in sentencing reform. While probation itself aims at individualised rehabilitation, AI offers the

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ARTIFICIAL INTELLIGENCE (11 May, 2025, 9:30 PM), https://www.tandfonline.com/doi/full/10.1080/08839514.2025.2463722.

[16] Ministry of Law and Justice, 'Use of AI in Supreme Court Case Management', PIB Delhi (17 April 2025, 11:11 AM), https://www.pib.gov.in/PressReleasePage.aspx?PRID=2113224.

[17] Pratibha Singh, *'AI can be used as a tool in Judiciary; Adjudication cannot be Outsourced: Justice Pratibha M. Singh',* Bar & BENCH (29 May, 2025, 17:30 PM), https://www.barandbench.com/news/ai-can-be-used-as-tool-in-judiciary-adjudication-cannot-be-outsourced-justice-prathiba-m-singh.

[18] National Judicial Academy, '*Integrating Artificial Intelligence in Judiciary (Training Module, 2022-2023)',* (17 May, 2025, 14: 27 PM), https://www.nja.gov.in/Concluded_Programmes/2022-23/P-1313_PPTs/1.Integrating%20Artificial%20Intelligence%20in%20Judiciary.pdf.

[19] Willem H. Gravett, *'Judicial Decision- Making in the Age of Artificial Intelligence'*, SPRINGER NATURE LINK (19 May, 2025, 19:30 PM), https://link.springer.com/chapter/10.1007/978-3-031-41264-6_15.

[20] Anna Fine, Emily R. Berthelot, and Shawn Marsh, *'Public Perception of Judges' Use of AI Tools in Courtroom Decision- Making: An Examination of Legitimacy, Fairness, Trust, and Procedural Justice',* MDPI (May 22, 2025, 10: 00 AM), https://www.mdpi.com/2076-328X/15/4/476.

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capacity to support such individualisation by processing vast data sets and highlighting relevant patterns. However, the interplay between algorithmic analysis and human judicial discretion must be handled with caution, integrity, and foresight.

A. Predictive Analytics for Probation Suitability

AI systems can be programmed to assess numerous factors relevant to probation eligibility such as prior convictions, socio-economic background, behavioural assessments, employment history, and psychological reports. Predictive algorithms can evaluate these variables and generate risk scores indicating the likelihood of compliance or recidivism.

These tools can help courts allocate probation more consistently and may serve as early warning systems in high-risk scenarios. However, they should never be considered conclusive. Instead, they should provide a structured aid to judicial discretion, promoting more equitable sentencing across socio- economic lines.

B. Ethical and Legal Safeguards

The use of AI in sentencing contexts raises several constitutional and ethical issues. The most prominent concern is that of algorithmic bias. If the training data used to develop AI tools reflects historical prejudices or socio- economic disparities, the output may disproportionately disadvantage already marginalised communities. Such outcomes would contravene Articles 14[21] and 21[22] of the Indian Constitution.

To mitigate this, transparency in design and implementation is critical. AI systems must be subject to public audit, and their decision- making logic should be explainable in a court of law. Judicial officers must be trained not only to interpret AI- generated insights but also to reject them where they appear inconsistent with the factual matrix or principles of natural justice.

C. Institutional Readiness and Procedural Integration

The BNSS[23] provides a legal basis for incorporating non-custodial sentencing and for using broader evidentiary and behavioural data in decision making. Section 401,[24] in particular, allows the court to factor in personal and social circumstances before sentencing. AI can assist in standardising these evaluations by offering structured data analysis but only if the judiciary has access to the requisite digital infrastructure.

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[21] INDIA CONST. art.14.
[22] *Id.*, art. 21.
[23] Supra Note 1.
[24] *Id,* sec. 401.

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Currently, India lacks a national protocol for digitising pre-sentence investigations or standardising probation officer reports. Any attempt to use AI must therefore begin with institutional reforms such as digitisation of court records, integration with e- Prisons and e-Courts projects, and creation of ethical oversight bodies.[25]

IV. COMPARATIVE JURISDICTIONAL ANALYSIS

To understand the viability of AI-assisted in India, it is essential to examine global models that have either adopted or experimented with similar frameworks. Jurisdictions such as the United States, the United Kingdom, and parts of Europe offer instructive case studies- both as models of success and as cautionary tales.

A. United States: Risk Assessment Tools in Sentencing

In the US, AI- based tools like COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) have been widely used to predict the likelihood of recidivism and inform parole or probation decisions. While these tools have shown administrative efficiency, they have also attracted criticism for perpetuating racial and socio-economic bias, largely due to the opaque nature of their algorithms.

American courts and civil rights groups have raised questions about the lack of transparency and due process. In *State v. Loomis*,[26] the Wisconsin Supreme Court held that while COMPAS scores could be considered, they could not be the sole basis for sentencing.

B. United Kingdom: Ethical Oversight and Data Accountability

The UK takes a more regulated approach. The use of data analytics in the criminal justice system is governed by strict protocols on data protection and fairness. The Ministry of Justice emphasises that AI tools should enhance not dictate judicial discretion. In particular, there is growing attention to the development of explainable AI systems.[27]

The Probation Service in England and Wales is also exploring AI for workload distribution and monitoring compliance with probation conditions, but all AI- based suggestions must be subject to caseworker review.[28]

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[25] Gunnu Anupama Chakravarthy, *'An Assessment of Emerging Forms of Technological Innovations in Justice Delivery Mechanism',* 8 NALSAR Law Review, 1-14 (2023).
[26] *State v. Loomis,* 881 N.W. 2d 749 (2016).
[27] Ministry of Law and Justice, *'Digital Transformation of Justice: Integrating AI in India's Judiciary and Law Enforcement'*, PIB DELHI (May 11, 2025, 10: 40 AM), https://www.pib.gov.in/PressReleasePage.aspx?PRID=2106239
[28] Mike Nellis*, 'Artificial Intelligence and Probation Services'*, CONFEDERATION OF EUROPEAN PROBATION (May 29, 2025, 15:40 PM), https://www.cep-probation.org/artificial-intelligence-ai-and-probation-services-by-mike-nellis/.

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C. European Union: Human- Centric AI Regulation

The European Commission's proposal for an AI Act classifies judicial applications as "high-risk", necessitating strict compliance with transparency, accountability, and human oversight requirements. Tools used in the justice system must be interpretable and subject to regular audits. The Netherlands and Estonia have piloted AI in predictive policing and minor judicial functions but emphasise that adjudication should remain under human control.[29]

D. Reflections and Recommendations for India

India's approach to integrating AI in probation decisions must be guided by global learnings but tailored to its unique socio-legal landscape. The following reflections serve as guiding principles:

- **Ensure Transparent Algorithms:** Any AI system used in judicial contexts must be explainable, accessible for scrutiny, and compliant with due process requirements. This transparency builds trust and enables accountability.
- **Preserve Judicial Autonomy:** AI tools should function as supplementary aids. Judges must retain full discretion to accept, modify, or disregard algorithmic suggestions based on contextual understanding and empathy.
- **Embed Ethical and Anti-Bias Safeguards**: Given India's socio-economic diversity, AI models must be carefully audited to prevent reinforcement of structural inequalities. Human rights impact assessments should precede any rollout.
- **Strengthen Infrastructure and Capacity:** Before AI can be meaningfully integrated, India must invest in digital court records, standardised probation officer reporting formats, and continuous training for judicial personnel.

International examples underscore the potential of AI to support more consistent and data-informed decision-making. However, without robust checks and contextual adaptation, there is a risk of undermining judicial integrity and public confidence. India must therefore proceed with caution, guided by constitutional values, practical preparedness, and ethical foresight.

V. THE ROLE OF FORENSIC AI IN SUPPORTING PROBATION ASSESSMENTS

As India gradually transitions toward technologically augmented adjudication, the incorporation of forensic artificial intelligence (AI) presents a compelling opportunity to

[29] Masa Galic, Abhijit Das, and Marc Schyilenburg, *'AI and Administration of Justice: Predictive Policing and Predictive Justice in Netherlands'*, RESEARCH GATE (May 11, 2025, 09:15 AM), https://www.researchgate.net/publication/364752007_AI_and_administration_of_justice_predictive_policing_and_predictive_justice_in_the_Netherlands.

enhance the objectivity and precision of probation assessments. Forensic AI referring to machine assisted tools capable of analysing digital, audio, behavioural, and biometric data offers a structured means to assess post-conviction rehabilitation potential and monitor compliance with probation conditions. This is especially relevant under the evolving evidentiary framework provided by the Bharatiya Sakshya Adhiniyam (BSA), 2023[30] and the procedural reforms introduced by the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023.[31]

A. AI- Augmented Behavioural and Psychological Profiling

One of the most promising applications of forensic AI in probation decisions lies in behavioural and psychological profiling. By analysing text inputs, voice patterns, or recorded interactions during pre-sentence interviews, AI tools can assist probation officers and courts in identifying risk indicators such as emotional instability, hostility, or likelihood od relapse. For instance, AI-driven sentiment analysis and linguistic profiling have been used globally to detect deceptive behaviour, cognitive dissonance, or early signs of mental health decline. These assessments can enrich the pre-sentence reports envisioned under the Probation of Offenders Act, 1958, making them more evidence- based and less reliant on subjective impressions.

However, such tools may be used under strict ethical safeguards to prevent violation of mental privacy or the imposition of digital determinism. Any analysis of behavioural data must remain advisory, with judges retaining the prerogative to reject or contextualise AI insights where appropriate.

B. Digital Evidence and Expert Testimony under the BSA, 2023

The Bharatiya Sakshya Adhiniyam has introduced robust provisions that facilitate the legal admissibility of digital and forensic evidence. Section 59 and 63 of the BSA presume the integrity of electronic records, including those generated by AI systems, unless proven otherwise. Furthermore, Section 39 recognises expert opinion including that of digital forensic analysts as valid secondary evidence in criminal trials. This legal infrastructure creates room for the introduction of AI generated behavioural profiles, audio visual assessments, and algorithmically analysed data in support of probation eligibility or denial.

AI- powered forensic reports may be used, for instance, to verify whether an offender's digital footprint (communications, geo- location, or biometric compliance) aligns with the terms of probation. Courts, however, must remain vigilant in demanding transparency regarding the

[30] The Bharatiya Sakshya Adhiniyam, 2023, No.47, Act of Parliament, 2023.
[31] Supra Note 1.

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methodology and training data behind such AI systems, in order to preserve the due process right guaranteed under Article 21 of the Constitution of India.

C. Video and Voice Forensics in Probation Meaning

The BNSS, 2023[32] in section 176(3)[33] mandates videography for sensitive investigative procedure, a provision that can indirectly support probation supervision through the use of AI enhanced video analytics. For example, AI systems may analyse posture, tone, and expressions during periodic check-ins or counselling sessions to detect signs of emotional distress or deception. Similarly, voice recognition and speaker verification technologies can authenticate identity and ensure compliance in telephonic or digital appearances by probationers. Such forensic inputs can act as auxiliary evidence in evaluating behavioural progress or violations, especially in jurisdictions where in person monitoring by probation officers remains logistically limited.[34] Nevertheless, these technologies must be applied with proportionality, ensuring that the surveillance burden does not outweigh the liberty interests of the probationer.[35]

D. Ensuring Ethical Deployment: A Human- Rights Centric Approach

While forensic AI holds the potential to elevate the quality and consistency of probation decisions, its deployment must be grounded in human rights jurisprudence. The Supreme Court in *Justice K.S. Puttuswamy v. U.O. I*[36] underscored informational self-determination as intrinsic to dignity under Article 21.[37] Any data processing for probation purposes, including psychological and biometric profiling, must thus comply with the Digital Personal Data Protection Act, 2023[38] and principles of necessity and proportionality.[39]

Additionally, all forensic AI outputs used in judicial reasoning must be explainable, peer-reviewed where necessary, and subject to rebuttal by the defence.[40] Only through such safeguards can AI serve the goals of rehabilitative justice without compromising

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[32] *Id.*
[33] *Id., sec. 176(3).*
[34] A.M.T.S.B.Adikari, Sandamali Devadithya, A.R.S.T. Bandara, '*Application of Automatic Speaker Verification Techniques for Forensic Evidence Evaluation',* RESEARCH GATE (May 18, 2025, 11:15 AM), https://www.researchgate.net/publication/286735005_Application_of_automatic_speaker_verification_techniques_for_forensic_evidence_evaluation
[35] *Id.*
[36] *Justice K.S. Puttuswamy v. U.O. I,* AIR 2018 SC 1841.
[37] INDIA CONST., Art. 21.
[38] The Digital Personal Data Protection Act, 2023, No. 22, Act of Parliament, 2023.
[39] Srinjoy Banerjee, Puja Tiwari, 'Data Protection Laws and Regulations India' ICLG (May 17, 2025, 15: 30 PM) https://iclg.com/practice-areas/data-protection-laws-and-regulations/india
[40] Mary D. Fan, *'AI- Enhanced Evidence',* SSRN (May19, 2025, 14:25PM) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5173503.

constitutional due process.[41]

VI. AI IN POST SENTENCING PROBATION MONITORING: TOOLS, BENEFITS, AND LEGAL RISKS

As artificial intelligence begins to influence adjudicatory processes, its role does not end at the point of sentencing. In fact, post- sentencing monitoring represents a critical frontier where AI-driven tools are increasingly being explored to ensure probationers comply with judicial conditions, maintain lawful conduct, and reintegrate into society.[42] These technologies ranging from biometric tracking to behavioural analytics offer promising efficiencies but raise equally serious concerns around privacy, proportionality and constitutional rights.

A. Technologies in Use: AI for Real- Time Compliance Monitoring

Globally, post- sentencing supervision systems are being redefined through AI-enabled tools such as:

- GPS ankle bracelets,[43] used to track a probationer's location and flag violations of movement restrictions.
- Voice recognition software[44] for telephonic check-ins that verifies identity and ensures presence.
- Facial Recognition[45] through mobile apps used during surprise compliance verification.
- Behavioural analytics tools,[46] which evaluate call tone, posture, and emotional cues during vital counselling sessions to detect stress, hostility, or deception.

These tools can assist overburdened probation officers by automating routine checks, allowing for more targeted inventions. They may be particularly useful in rural or under- resourced jurisdictions where physical monitoring is impractical. When integrated with India's e-Prisons

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[41] *Id.*

[42] Cary Coglianese and Lavi M.Ben Dor, *'AI in Adjudication and Administration'* BROOKLYN LAW REVIEW (April 16, 2025, 20:50 PM), https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3120&context=faculty_scholarship.

[43] Bashaarat Masood, *'On bail, tracked by satellite: How GPS anklets work',* ECONOMIC TIMES (March 15, 2025, 17:29 PM), https://indianexpress.com/article/explained/how-gps-anklets-work-9025226/.

[44] Sreenivas Sremath Tirumala, Ruili Wang, '*Speaker Identification features extraction methods: A Systematic Review'* SCIENCE DIRECT (April 28, 2025, 19:15 PM) https://www.sciencedirect.com/topics/engineering/speaker-identification.

[45] COMARCH, *'Face Recognition and Liveness Verification in Mobile Applications',* COMARCH (May 1, 2025, 11;30 AM) https://www.comarch.com/finance/articles/face-recognition-and-liveness-verification-in-mobile-banking-applications/.

[46] John H.L. Hansen and Sanjay Patil,' *Speech Under Stress: Analysis, Modeling and Recognition'* RESEARCHGATE (April 21, 2025, 16: 42 PM), https://www.researchgate.net/publication/221305811_Speech_Under_Stress_Analysis_Modeling_and_Recognition.

and e- Courts infrastructure, such systems could support continuity in offender management post- adjudication.[47]

B. Benefits for Rehabilitation and Systemic Efficiency

AI-assisted monitoring can provide structured, consistent, and data-backed updates on a probationer's progress. This could:

- Prevent probation violations through early warnings.
- Improve documentation for courts during review hearings.
- Enhance transparency and reduce arbitrary or discriminatory supervision practices.
- Identify patterns that indicate relapse risk, allowing for timely counselling or intervention.

Furthermore, real-time AI systems may reduce the need for intrusive home visits, thus offering probationers a more dignified reintegration experience.

C. Legal and Ethical Risks: Surveillance v. Liberty

Despite its Advantages, post sentencing AI monitoring must be scrutinised through a constitutional lens. Article 21 of the Indian Constitution guarantees the right to life and personal liberty, which includes the Right to Privacy, as affirmed in *Justice K.S. Puttuswamy v. U.O.I.*[48] that probationers, though under supervision, their fundamental rights are not forfeited. Constant surveillance through AI, particularly without informed consent, judicial oversight, or time limits, may amount to excessive state intrusion.[49]

Moreover, the use of opaque or foreign- developed algorithms raises national security and data protection concerns, especially in the absence of clear regulatory norms under the Digital Personal Data Protection Act, 2023.[50] Biometric data, location trails, and emotional profiles constitute highly sensitive information, and their misuse could jeopardise both individual dignity and legal integrity.

D. Balancing Innovation and Oversight

For AI-based probation monitoring to be constitutionally compliant and socially acceptable, several safeguards must be instituted:

[47] Supra Note 29.
[48] Supra Note 37.
[49] *Id*.
[50] Supra 39.

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i. Judicial authorisation should be mandatory before imposing AI-based tracking as a probation condition.

ii. The duration and scope of monitoring must be narrowly tailored to the offence and risk profile.

iii. Probationers should have the right to appeal or contest AI-based inferences, especially in cases of technical errors or false positives.

iv. Human-in-the-loop protocols must remain central, ensuring that final decisions are always subject to human review, empathy, and accountability.

VII. REFORM RECOMMENDATIONS AND CONCLUSION

A. Reform Recommendations

Drawing from domestic realities and international experiences, the following measures are recommended to responsibly integrate artificial intelligence into probation adjudication in India:

i. **Institutional Framework**: Establish a regulatory framework under the Ministry of Law and Justice or in coordination with the National Judicial Data Grid[51] to evaluate, approve, and audit AI tools used in sentencing or probation decisions.

ii. **Transparency and Explainability:** Ensure all AI algorithms used in judicial settings are open to audit, have transparent documentation, and provide explainable outputs understandable by judges and lawyers.

iii. **Judicial Training and Oversight**: Equip judges and probation officers with training on interpreting and contextualising AI outputs. An oversight mechanism should be put in place to allow courts to challenge algorithmic recommendations.

iv. **Data Privacy and Fairness Audits:** All AI models should undergo regular fairness and bias audits, and must comply with the Personal Data Protection framework. Data used to train these models must be anonymised and reflective of India's socio-economic diversity.

v. **Pilot-Based Implementation:** Any AI application in probation should begin with pilot projects in select districts or states. Evaluation of these pilots must precede wider implementation, and feedback should be incorporated iteratively.

[51] Ministry of Law and Justice, '*Digital Transformation of Justice: Integrating AI in India's Judiciary and Law Enforcement'* PIB DELHI (April 10, 2025, 10: 30 AM) https://www.pib.gov.in/PressReleasePage.aspx?PRID=2106239.

vi. **Human-in-the-Loop Policy:** AI should strictly be used as a decision-support tool, with the final adjudication remaining in the hands of the human judge. This preserves the principles of accountability, empathy, and constitutional due process.

B. Conclusion

The integration of artificial intelligence into India's criminal justice system, particularly in the field if probation, presents both promise and peril. On the one hand, AI can enhance consistency, reduce human bias, and assist judges in making data-driven decisions. On the other hand, unregulated or over-reliant use of AI could risk undermining judicial discretion, reinforcing social inequities, and eroding public trust in the legal system.[52] India's reformative jurisprudence reflected in the Probation of Offenders Act, 1958[53] and reinforced by the Bharatiya Nagarik Suraksha Sanhita, 2023[54] offers a framework that values individualised sentencing and second chances. The use of AI must align with these values, functioning as a supportive mechanism rather than a substitute for judicial reasoning.

As this study has shown, a cautious, phased, and ethically informed approach is necessary to integrate AI into probation adjudication. The future lies not in automation for its own sake, but in using technology to strengthen the foundations of justice, fairness, transparency, and human dignity.

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[52] Tasnimul Hassan Md, '*The Perils and Promises of Artificial Intelligence in Criminal Sentencing'* INDIAN JOURNAL OF LAW AND TECHNOLOGY (May 01, 2025, 21: 15 PM) https://repository.nls.ac.in/cgi/viewcontent.cgi?article=1455&context=ijlt.
[53] Supra Note 6.
[54] Supra Note 1.

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