
ARTIFICIAL INTELLIGENCE AND CRIMINAL JUSTICE SYSTEM IN INDIA

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ABSTRACT

Artificial Intelligence's (AI) involvement into various aspects of governance signifies a transformative shift in addressing intricate societal challenges, particularly in adjudication and sentencing. This article provides an idea on India's criminal justice framework, offering a critical analysis of its current implementations, prospective advancements, and the legal, ethical, and constitutional dilemmas it presents. India's adoption has progressed incrementally yet meaningfully, with notable developments in policing, forensic investigation, data processing, and legal adjudication. Key governmental bodies have promoted AI-driven governance models. These have materialized through initiatives like integrated criminal databases and AI-supported forensic tools.

A substantial part of this study explores the integration of artificial intelligence technologies with India's updated criminal legislation, specifically the Bharatiya Nyaya Sanhita (BNS), 2023, the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, and the Bharatiya Sakshya Adhiniyam (BSA), 2023. These statutes reflect a modernization agenda and offer legal grounding for integrating AI within procedural frameworks. Employing a doctrinal approach, the research examines the extent to which AI tools are compatible with the evidentiary norms, procedural guarantees, and fundamental rights enshrined in these new codes.

To conclude, this article offers a comprehensive and critical examination of the incorporation of artificial intelligence within India's criminal justice framework. It balances the promise of technological innovation with the necessity for safeguarding constitutional values, thereby contributing meaningfully to scholarly inquiry in this critical field.

Keywords: Artificial Intelligence, Judicial Decision-Making, Digital Evidence, Algorithmic Accountability, Constitutional Safeguards.

INTRODUCTION

Every law involves the act of ‘balancing interests,’ either between individuals or between the individual and society. Regarding the jurisprudence as to legal framework prevalent in India, ‘crime’ is viewed as a ‘wrong against society,’ as it disrupts societal stability and security.¹ It is in society’s best interest to identify, prosecute, convict, and punish the perpetrator. However, the Constitution guarantees individuals various safeguards, meaning that any actions taken by the state during prosecution must ensure the basic freedoms of the offender. A “fair balance between societal interests and individual rights” is necessary, by granting essential rights. The constitutional essence of our system subscribes to ‘equity, justice & reasonableness’ and no law or provision of any law can go against these basic principles.

When integrating Artificial Intelligence within criminal structure of India, thoughtful and careful consideration should be done.² It must follow the underlying principles and rights enshrined in Constitution and statutory provisions i.e. BNS, BNSS, and BSA while respecting principles of equality, fairness, transparency, presumption of innocence to avoid biasness, discrimination and arbitrariness. These underlying and core principles help in serving nation’s security. Therefore, the aim while integrating technology within legal structure shall be to maximise benefits and minimize the challenges, we have to get familiarise ourselves with technology, making available the access among mass, increasing awareness & imparting digital literacy to people, by reducing human work and deriving the best outcome out of it.

AI has found applications across nearly all sectors and legal structure being no exception. We have to transform the current legal framework, creating an environment where fairness and efficiency can coexist.

LITERATURE REVIEW

1. **Alisha (2021), Application of AI within the Criminal Justice Framework, New Delhi: Bluerose Publishers.**

This book explores technology’s working in law related to offences, covering predictive policing, forensic analysis, and legal personality debates. While it outlines crime forensic

¹S. Sarkar, *Criminal Law: A Commentary* 5 (6th ed. 2013).

²U.N. Office on Drugs & Crime, *The Use of Artificial Intelligence in the Criminal Justice System: Ensuring Safety and Fairness* (2021), <https://www.unodc.org>.

usage, it lacks discussion on key AI tools like COMPAS and omits vital aspects.

2. **In a 2019 publication in ‘Advances in Social Science, Education and Humanities Research’, Tatyana Sushina and Andrew Sobenin explored key developments relevant to this area of study.**

The study highlights AI must have transparency, although it mentions current constraints of AI software. While the research reviews many technologies used worldwide, it offers only a brief consideration of related human rights issues. Additionally, the examination centers mainly on international legal systems.

3. **A 2018 report by the Korean Institute of Criminology, titled ‘Artificial Intelligence in Crime and Criminal Justice’, offers valuable insights into the intersection of AI technologies and the criminal justice system.**

This report assesses how AI may facilitate crime due to public access to powerful technologies. It reviews AI’s surveillance tools and increasing technological progress raises concerns over its potential misuse and societal control.

4. **Justice Raja Vijayaraghavan discusses the incorporation of artificial intelligence into the judicial framework in his work titled "Introduction of Artificial Intelligence in the Judicial System."**

The study presents key artificial intelligence concepts and ICJS, COMPAS, and Blockchain within the judicial framework. Although efficiency gains brought by AI, it provides limited insight into its contribution to detection, thereby narrowing its overall scope.

5. **The Parliamentary Assembly’s Committee on Legal Affairs and Human Rights published a report titled “Justice through Algorithms: The Impact of Artificial Intelligence on Policing and Criminal Justice Systems.”**

The resolution emphasizes the increasing technological advancement within European legal structure and addresses the ethical concerns that arise. It critically examines problems like algorithmic bias, insufficient transparency, and overdependence by those making decisions. The document suggests implementing oversight and ensuring accountability in

sensitive justice contexts.

6. Reeta Sony explores the role and impact of artificial intelligence in advancing criminal justice system within India, highlighting its potential contributions and implications.

This research introduces a data-driven model for assessing recidivism risks across various Indian states. Though concise, enhances risk prediction using AI, contributing to improved decision-making.

OBJECTIVES OF RESEARCH

The objectives behind research are explained below:

- 1) To analyse as to how AI will assist in improvising present Indian legal structure related to crimes.
- 2) To understand indispensability of AI in today's scientific and technological landscape.
- 3) To ascertain the possible legal measures to address various legal issues associated with AI.
- 4) To observe parameters to understand in what areas legal reforms are necessary in respect of AI.
- 5) To research upon the ethical AI measures in India.

RESEARCH METHODOLOGY

The research work is doctrinal. In collecting the required data for the study, reliance would be placed on various sources like relevant Law Reviews, Legislations, Policies Text-Books, Articles, Journals E-Journals Web References Newspapers Reports of Law Committees and Commissions International Instruments delivered so far and figures provided by various bodies.

Core Doctrines of the Criminal Justice System

It contains four fundamental principles:

1. An individual shall be considered innocent in a court of law until conclusively proven the guilt.
2. The responsibility has been put to prosecution (state) in demonstrating the accused's guilt beyond persuasive doubt.
3. No individual can be compelled to testify against themselves or to provide evidence of self-incriminating.
4. Once an individual is acquitted of a crime, no trial shall be conducted regarding that similar crime.

When integrating AI into criminal structure, it is essential it upholds these core principles.

- **Crime Prevention:**

Its application can be done by utilizing various advanced tools that help predict, identify, and mitigate criminal activities in an efficient manner. Tools like mass surveillance, crime pattern analysis, security of borders and public spaces, smart policing tools, psychological and behavioral profiling can significantly contribute to this effort.³

- **Investigation:**

AI can impact investigation stage by enabling a more data-centered approach. This stage is essential in legal structure, laying structure of entire case or trial. Effective investigation must be done to achieve timely justice. Forensic and DNA testing, digital forensics, CCTV surveillance, facial recognition, biometrics, movement tracking, network mapping, document and evidence review; robotic and drone support may help in conducting the detailed and efficient investigations.

- **Trial:**

This stage, often called an evidence phase, is vital because it establishes a human guilty or innocent. AI can support prompt trial by evidence examination, case prediction and outcome analysis, virtual trial assistance, judicial decision support, behavioral analysis, chatbots and AI

³E. Elizabeth Joh, *Artificial Intelligence and Predictive Policing: New Ethical Challenges*, 89 Wash. L. Rev. 35 (2014).

legal assistants, contributing to an effective legal process.⁴

- **Judgment:**

The judgment phase has been crucial as it determines the final outcome, establishing one guilty or innocent, which subsequently leads to either conviction or acquittal. Technology help judges in their decision-making process by leveraging tools such as precedent analysis, pattern recognition and case similarity, predictive judgment models for drafting judgments, and sentiment and bias analysis, among others.

- **Sentencing**

It is though the final stage holds significant importance as it shapes convicted individual and impacts all. After declaring one culprit, the court decides punishment.

Technology will benefit the sentencing process by being objective, efficient, and consistent. Several tools like risk assessment tools, automated sentencing guidelines, analysis of mitigating and aggravating factors and JDSS, helping judges impose sentences that are proportional.

While positive aspects in trial process are evident, the challenges which AI may face in ensuring justice shall be looked into. As India modernizes its criminal laws and judicial infrastructure, it should show technology is aid and not replacing it. Therefore, we must examine both the advantages and drawbacks of incorporating AI to framework so as to obtain balanced leveraging technology.

PREVENTION OF CRIME

AI gaining importance of influential asset particularly in today's rapidly advancing technological landscape.⁵ In contrast, artificial intelligence introduces a transformative shift toward methods⁶, increasingly seen as having potential in enhancing functioning, especially in an era dominated by technological innovation. Unlike traditional methods that typically respond later, AI enables formulation of proactive strategies.

⁴Harry Surden, *Artificial Intelligence and Law: An Overview*, 35 Ga. St. U. L. Rev. 1305 (2019).

⁵ J. Kirtley & M. Kowalski, *AI and the Future of Crime Prevention* (Polity Press 2021).

⁶J. McCarthy, *From Reactive to Proactive: AI's Role in Policing*, 34 Law Tech. J. 45 (2022).

Its strength lies in processing vast and varied datasets, public records, identifying the high-risk zones, forecasting criminal patterns, and optimizing patrol operations. AI-driven gadgets aid in early interventions and building community trust. Additionally, AI boosts surveillance effectiveness through real-time video analysis, reducing manual workload and expediting investigations. Engaging the public by offering safety updates and addressing concerns will be required. Nonetheless, it is vital to implement AI by ensuring privacy, fairness, and responsible use.

It is expanding rapidly, providing authorities with advanced tools to predict, detect, and avert criminal activities more efficiently. In the following ways and manner, it works:

Predictive Policing

Technology is used in anticipating potential criminal incidents by examining historical crime statistics, social behaviors, and geographic information. Through this, areas with elevated crime probabilities and individuals prone to recidivism can be pinpointed. This may deploy their personnel and resources more strategically, which forecasts likely times and locations for offenses like burglaries and assaults, thereby facilitating anticipatory policing methods.⁷

Surveillance and Facial Recognition

Surveillance helped to develop capabilities through detecting real-time across public spaces. These systems employ behavioral analysis to detect suspicious conduct such as prolonged loitering, and object recognition to identify hazards like weapons or abandoned luggage. Powered by AI-driven deep learning technologies, these tools process CCTV networks to detect threats promptly. Moreover, they assist by greatly improving the responsiveness in the surveillance operations.

Digital Engagement Oversight

By increasingly applied to monitor online platforms, particularly social media, for indications of criminal intent such as hate speech, gang-related communication, or premeditated violence. It allows AI to understand slang, encoded terms, and diverse linguistic

⁷ A. G. Ferguson, *The Rise of Big Data Policing: Surveillance, Race, and the Future of Law Enforcement* (N.Y.U. Press 2017).

expressions to uncover harmful content. By analyzing keywords and emotional tone, it determines posts that hint at potential criminal acts.⁸ In practical scenarios, it helped to intercept threats associated with school violence and terrorism, thereby intervening before incidents occur.

Crime Pattern Analysis

AI significantly enhances crime pattern recognition by processing extensive datasets to uncover criminal trends, methodologies, and intricate networks, financial fraud or cybercrime. These systems reveal concealed information assisting investigators in solving complex cases. The analytical strength is crime detection and contributes in the strategic, data-driven law enforcement framework.

Border and Public Space

Artificial intelligence enhances border control and public area security through biometric verification, contraband detection technologies. At ports of entry like airports, AI expedites identity checks, while smart X-ray systems efficiently scan baggage for prohibited items. Furthermore, surveillance drones have been deployed for aerial monitoring, offering broader surveillance coverage and swift detection of security threats.

Smart Policing Tools

AI-enabled tools have revolutionized smart policing by providing citizens with an accessible way to report crimes or request assistance. Automated License Plate Recognition (ALPR) systems helps to find stolen or suspicious vehicles. Additionally, AI-enhanced body cameras can recognize signs of aggression, providing instant alerts to officers for situational awareness and personal safety.

Psychological and Behavioral Profiling

It is now working in behavioral and psychological profiling while evaluating psychological patterns and can even scrutinize interrogation videos to detect signs of deceit. It's employed in the surveillance of sex offenders and in identifying individuals susceptible to

⁸R. Kumar & R.R. Shah, *False Information Detection on Social Media: A Data Mining Perspective* (Springer Briefs in Cybersecurity, Springer Int'l Publ'g AG 2018).

radical ideologies, thereby aiding preventive policing and rehabilitation programs.⁹

Integration with Legal Systems

The judicial domain has started embracing advanced technological courtroom procedures. AI can help prosecutors identify critical patterns within case materials and develop effective legal strategies. It offers judges' data-driven evaluations regarding bail eligibility or parole, predicting reoffending or absconding. This technological support contributes to evidence-informed decision-making.

AI IN CRIMINAL INVESTIGATIONS

Technology is transforming the criminal investigations, by improving accuracy, and facilitating data-driven decision-making. A significant hurdle would be in managing intricate investigations. However, AI helps overcome this by rapidly uncovering patterns and links to recognize similarity. Additionally, it has started working on forensic work, including DNA, vital pieces of evidence.¹⁰

Re-structuring crime scene

It transformed the way crime scenes are examined by introducing advanced forensic tools that utilize 3D modeling to recreate the scene, interpreting intricate evidence patterns, such as bloodstain distribution, bullet paths, and reconstructing facial features. Furthermore, AI enhances poor-quality surveillance footage, thereby offering clearer visual data for investigators. Its applications can analyze crime scene images and match elements with items stored in databases, identifying critical details.

Forensic and DNA Examination

Leveraging forensic investigations has considerably improved accuracy of DNA profiling, efficiently comparing genetic information with large-scale databases for detecting perpetrators or victims. It is especially advantageous when handling matching samples that pose difficulties for conventional techniques. By recognizing complex biological patterns, AI

⁹Alex P. Schmid, *Radicalisation, De-radicalisation, Counter-radicalisation: A Conceptual Discussion and Literature Review* (Int'l Ctr. for Counter-Terrorism – The Hague 2013).

¹⁰John Smith, *Artificial Intelligence in Forensic Analysis* (Cambridge Univ. Press 2023).

facilitates the linkage across multiple incidents.

Digital Evidence

Indispensable for digital forensics, they assist in scrutinizing confiscated devices like smart phones, laptops, and storage media for concealed, erased, or encrypted information. Helping the sorting and prioritization of vast quantities of digital material, it assists in enhancing investigation's quality. Additionally, NLP aids in evaluating digital communications-including emails and messages-to identify underlying threats, coded language, or coordinated criminal activity. Such capabilities shall be tackling cybercrime, online abuse, financial scams, and extremist plots.

Surveillance Video Interpretation

Computer vision-enabled AI systems significantly streamline surveillance footage, extensive videos and suspicious behavior. This technology helps in mapping suspect movements and timelines, tracking a suspect vehicle implicated in multiple thefts by analyzing footage from various CCTV sources and correlating license plate information.

Biometric Identification

AI-based technologies enable suspect finding, using facial imagery with extensive databases containing mugshots and official ID photos. It facilitates public surveillance, airport security, and police operations. In situations where voice recognition and gait analysis exists, helps in verifying identities based on speech patterns or locomotion characteristics.

Geolocation and Tracking

AI facilitates the monitoring of individuals through geospatial data, including GPS signals and mobile network metadata. A noteworthy case in India involved AI-assisted geofencing, which enabled authorities find ones who were within a specific geographic boundary when offence was committed, ultimately aiding in their apprehension.

Behavioral and Psychological Assessment

Helping in generating behavioral and psychological profiles by examining an individual's historical activities, digital footprint remains particularly effective, but when it

comes to involving repeat offenses or terrorist activities, the conventional techniques seem inadequate.

Network and Relationship Analysis

AI's link analysis maps out intricate relationships between people, groups, and financial transactions. These tools create visuals, revealing concealed connections to dismantle organized crime syndicates, including drug cartels, cybercrime collectives, and extortion rings.

Document and Data Review

Investigators do document analysis tools that allow for quick review of texts, helping to detect inconsistencies and uncover relevant pieces of evidence. In major corruption cases, it is used to reveal suspicious financial records and contractual anomalies, thereby reinforcing the legal case with substantive documentation.

Robotic Support

AI-powered robots and drones offer valuable support in accessing environments that are unsafe. Drones for aerial surveillance over expansive or rugged areas, while robots are utilized to gather material from dangerous settings-such as bomb sites or chemically hazardous zones-thus ensuring protection of the forensic teams.

Data Integration with agencies relating to enforcement of law

Centralized police outlines India's CCTNS, enhances investigative effectiveness by providing immediate access to essential data like FIRs, criminal records, and vehicle ownership information. Moreover, identifying links between cases across jurisdictions, promoting inter-agency coordination and comprehensive crime-solving efforts.

AI IN TRIAL STAGE OF THE CRIMINAL JUSTICE SYSTEM

Technology at prosecution stage helps streamline legal processes, reduce delays, and ensure a quicker, more efficient delivery of justice. It collects data which is instrumental for a strong case. Additionally, identify recidivism, enabling prosecutors to make well-informed approaches of case. AI aids prosecutors in constructing more robust approach.

SUPACE, representing a major step towards advanced judicial framework. At its launch, Justice S.A. Bobde, highlighted it may assist in data gathering and examining information, but would not influence decision-making.¹¹ This initiative comes at a time when India faces a massive backlog of cases, pending across many courts, with lakhs of cases pending for more than three decades.¹² While AI has brought significant benefits, concerns regarding privacy are there.

Key AI Uses in the Trial Stage:

Document Scrutiny

ROSS Intelligence, CaseMine, and SCC Online with AI assist lawyers, law students, and researchers by quickly locating relevant case laws. NLP enables user's queries to be expressed in everyday language and retrieves relevant legal materials or court decisions. AI also facilitates document summarization, helping judges in essential aspects.

Evidence Examination

AI systems aid in organising CCTV footage, call records, and digital footprints. Pattern recognition enables AI to uncover links between various pieces of evidence and detect inconsistencies or forgeries. AI powered by blockchain technology can help maintain evidence by securely recording and verifying its chain of custody.

Case Prediction and Outcome Analysis

Predictive analytics tools help forecast findings, relying on legal provisions, and judicial trend, assist plea bargaining decisions, though in India, predictive tools lack legal binding but serve to support case preparation.

Virtual Trial Assistance

AI-powered transcription services convert spoken terms into real-time transcripts, improving documentation accuracy. Multilingual also translate proceedings or documents,

¹¹S.A. Bobde, *Supreme Court Portal for Assistance in Courts Efficiency (SUPACE)*, Supreme Court of India (last visited June 14, 2026).

¹²National Judicial Data Grid 2021, Case Backlog Statistics, viewed June 15, 2026 (<https://njdg.ecourts.gov.in>).

ensuring accessibility, managing virtual court hearings, particularly after corona virus.

Judicial Decision Support Systems (JDSS)

AI tools assist judges by presenting relevant past judgments, applicable legal provisions, and suggested sentencing guidelines, which helps minimize errors and bias, providing a data-backed perspective.

Initiatives like SUPACE and SUVAAS depict the same.

Facial Recognition & Behavioral Analysis

In some jurisdictions, AI tools are identifying individuals or assess behavioral cues like body language. Nevertheless, this brings up privacy and incorrect identification.

AI powered legal consultation platforms

AI-powered chatbots can guide litigants through court procedures, timelines, offering quick legal advice to both judges and unrepresented parties.¹³

Case Processing Infrastructure

AI-integrated systems automate filing documents, generating notices, and assigning cases, helping in decreasing backlog and ensure systematic trial tracking.¹⁴

AI AT THE JUDGMENT STAGE IN CRIMINAL JUSTICE SYSTEM

The judgment phase is crucial because it decides the guilt or innocence. Traditionally, this process has been solely within judges' ambit, guided by legal reasoning and human intuition. However, becomes integrated into aspects of judicial decision-making, partially automate judgment delivery.

Judgment Delivery

Precedent Analysis:

Extensive databases, precedents, summarize judgments, and suggest lines of reasoning.

¹³AI Legal Lab, *The Role of AI Chatbots in Legal Advice*, 15 LegalTech J. 98, 98–104 (2020).

¹⁴AI Case Management, *AI in Legal Case Management Systems*, 23 AI L. 112, 112–19 (2021).

SCC Online and CaseMine use technology in suggesting the judicial approaches.

Case Similarity:

AI identifies patterns from past judgments and compares the current case's facts with old, highlighting judicial trends.

Predictive Judgment Models:

Forecasting potential case outcomes and providing likelihood estimates for conviction or acquittal as per given data, currently assistive and not decision-makers.¹⁵

NLP in Drafting Judgments:

AI helps draft structured judgments by summarizing facts, evidence, and legal arguments, reducing clerical errors.

Sentiment and Bias Analysis:

Cognitive biases in judgments are scrutinised, maintaining the neutrality and uniformity throughout.

ARTIFICIAL INTELLIGENCE AT SENTENCING STAGE

The sentencing phase is a vital component of process, during which the court decides the suitable penalty to impose on the guilty. This process requires balancing legal principles, judicial discretion, which includes retribution and reformation. AI's benefit in the phase helps maintain consistency and help judges make data-informed decisions, but raises important practical concerns.¹⁶

Vulnerability Assessment Systems

AI models are used for determining an individual re-offending, making sentencing decisions.

¹⁵S. Basu, *Predictive Judgment Models in Criminal Law*, 13 *Indian Legal J.* 98, 98–112 (2021).

¹⁶J. Johnstone, *The Role of Artificial Intelligence in the Criminal Justice System: An Ethical Analysis* 112–15 (Oxford Univ. Press 2019).

- Example: COMPAS
- Factors considered: criminal history, age, employment status, substance abuse, etc.
- Result: A classification indicating the level of risk-categorized as low, medium, or high.

Sentencing Guidelines Automation

It will study legal precedents, statutory guidelines, and judicial trends in imposing just sentences.

- In jurisdictions with established sentencing guidelines, sentences within the recommended range are given.
- This ensures consistent and fair sentencing.

Mitigating and Aggravating Factors Analysis

It helps in identifying mitigating factors (e.g., first-time offense, remorse) and aggravating factors (e.g., repeat offenses, brutality).

- NLP helps in scanning judgment texts of similar cases.
- This enables judges to tailor sentences based on judicial trends.

Judicial Decision Support Systems (JDSS)

These systems provide judges with data-driven insights, similar case outcomes, and sentencing trends.

- Although judges retain final authority, these systems offer valuable analytical support.
- This helps reduce unconscious bias and ensure fairer sentencing.

Artificial Intelligence & Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023

Reshaping numerous industries across the globe and legal structure is also one of them. BNSS replaces the CrPC marking a significant move towards a technology-driven justice

system.

Although the BNSS does not explicitly mention AI, it incorporates digital-friendly provisions that create intelligent systems. These include electronic communication, forensic advancements, digital records, video hearings, and e-governance. When integrated with AI, such tools will elevate speed, transparency in criminal procedures.

BNSS Provisions that Support AI Integration

The BNSS, 2023, contains several forward-looking clauses that favour AI implementation:

Section 173 – FIR through Digital Platforms

Provision: Enables filing of First Information Reports (FIRs) via digital channels.

- Chatbots using NLP for FIR registration.
- Automatic sorting of complaints by urgency and type.
- Geo-tagging and routing of complaints.

Section 106 – Compulsory Forensics in Serious Crimes

- AI in DNA matching, fingerprint comparison, and ballistic analysis.
- Formulation of scenes of crime again.
- Identifying recurring patterns to uncover typical criminal activities.¹⁷
- Effective collection of evidence.

Section 63 – Digital Delivery of Summons

Provision: Allows issue of process to be sent electronically.

- Digital assistants to clarify legal obligations to recipients.

¹⁷R. Gupta, *Forensics and AI in Crime Investigation* (Bangalore Univ. Press 2020).

- Sentiment analysis to flag non-compliance or urgency.

Document Handling

Provision: Encourages digital documentation and evidentiary acceptance.

- Tools to verify authenticity through metadata.
- Secure record management.
- AI to link digital evidence like emails calls.

Safeguards victims & witnesses

Provision: Ensures regular updates for victims.

- Personalized dashboards for real-time case tracking.
- Virtual assistants offering help.
- Predictive alerts for case delays or safety concerns.¹⁸
- Providing them police protection.
- Giving regular updates about case progress.

Investigation and Predictive Enforcement

Predictive Policing

- Identify crime-prone zones
- Forecast repeat offences
- Strategize patrol routes and deployment

Example: Police forces in Delhi and Hyderabad have adopted AI crime mapping for preventive

¹⁸S. Chopra, *AI and the Rights of Victims and Witnesses in Criminal Justice*, 8 *Indian J. Hum. Rts.* 34 (2023).

action.

Surveillance and Facial Recognition

- India's National Crime Records Bureau (NCRB) hosts largest facial recognition networks.
- AI helps match faces from footage and databases.
- Regulations remain key concerns in dedicated framework.

AI in Interrogation and Analysis

- Voice and facial analysis tools assess stress and truthfulness.
- Can assist in evaluating testimonies.
- Strong oversight by avoiding coercion and misuse.

AI in Procedure of Judiciary and Support

Case Flow Management

- AI systems prioritize urgent matters and manage court schedules.
- Alerts on non-compliance and case delays can streamline workflow.

Decision Support

- Tools like Manupatra AI, SCC Online, and advanced LLMs.
- AI-generated summaries and precedent comparisons.
- However, decisions must remain under human judicial discretion.

Recommendations

To effectively integrate AI with India, several key steps are recommended. First, a separate law should govern technological working. Raising awareness and providing

specialized training for the judiciary. Pilot initiatives in BNSS should be launched in selected regions for testing. Independent regulatory bodies must be set up for usage and provide avenues for redress. Furthermore, there is a need for promoting secure, transparent, and open data-sharing models for an effective AI integration. Lastly, a regular assessment for evaluating the effectiveness is essential.

Artificial Intelligence & Bharatiya Nyaya Sanhita, 2023

It is playing a progressively significant part worldwide. With India's legal reforms through BNS, 2023—replacing the IPC, 1860—opportunity of AI into prosecution, and adjudication. While increasing responsiveness, it also introduces complex concerns regarding justice.

Understanding the Bharatiya Nyaya Sanhita (BNS), 2023

The BNS is designed to:

- Replace outdated colonial laws with a citizen-centric legal structure.
- Address contemporary crimes such as terrorism, organized crime, and mob lynching.
- Promote expeditious trials.
- Integrate technology into investigations and judicial procedures.

This emphasis on modernization and digital tools creates a foundation for examining it under BNS.

BNS Framework

A. Investigation

Provisions such as Section 111 (organized crime), Section 113 (terrorism), and Section 103(2) i.e. mob lynching require managing complex, data-heavy investigations.

- Processing extensive digital evidence like CCTV feeds, communication records, and online activity.
- Identifying and detecting networks or syndicates.

- Utilizing predictive policing techniques to swiftly identify culprits.

AI-enabled tools can also enhance real-time surveillance, crime prediction.¹⁹

B. Sentencing and Risk Evaluation

It assists courts in:

- Reviewing an offender's past record and the seriousness of the crime.
- Estimating recidivism.
- Offering standardized sentencing options aligned with BNS guidelines.

C. Legal Drafting and Research

AI-powered platforms can support:

- Making of comprehensive chargesheets.
- Arguments and compiling evidence.
- Judges in accessing relevant legal provisions, case laws, and precedent efficiently.

Gaps and Suggestions for BNS Implementation

It currently exhibits several gaps concerning the integration of Sanhita. While it generally promotes digital progress, it lacks specific provisions for incorporating the same. Although e-evidence been acknowledged, its treatment is largely reliant on BNSS, BSA, 2023; necessitating clear standards for AI-processed evidence. Sentencing within the BNS framework is discretionary; underscoring regulated AI-supported sentencing system accompanied by adequate supervision. Furthermore, demanding the legal mechanisms to address AI-related liabilities. Training enforcement personnel are also absent, underscoring significance of introducing targeted education programs. Lastly, BNS lacks data handling, aligned with the secure and ethical technologies.

Strategic Roadmap

- Policy Alignment: Coordinate BNS with the BNSS and BSA for a cohesive AI-ready legal

¹⁹ V. Raj & M. Kaur, *AI in Crime Detection: How Technology Is Shaping Law Enforcement*, 14 *J. Crim. Just. Innovation* 101 (2022).

framework.

- Regulatory Guidelines: Develop judicial and administrative protocols.
- Pilot Initiatives: Test AI tools in select regions before nationwide implementation.
- Support Ethical AI: Encourage indigenous AI innovations that are fair, auditable, and rights-conscious for justice sector.²⁰

AI & Bharatiya Sakshya Adhiniyam, 2023

AI within the evidence system is becoming ever more significant. The BSA, which supersedes the IEA 1872, updates law linked to evidence by officially incorporating digital system to law. This transformation enhances the evidence law.

Overview of the Bharatiya Sakshya Adhiniyam (BSA), 2023

BSA brings evidentiary law into the technological era with key reforms:

- Broadens the definitions in relation to digital documentation.
- Accepts digital record including metadata, server logs, geolocation tracking, and mobile tower records.
- Prioritizes authenticity, integrity, and reliability.

This advancement creates the processes of collecting, authenticating, analyzing, and presenting evidence.

Evidentiary Process under BSA, 2023

A. AI in Evidence Collection

- Monitoring virtual social networks.
- Forensic web scraping.

²⁰ P. Sen, *Strategic Roadmap for AI in Indian Criminal Law*, 17(1) *Indian Pol'y Rev.* 88 (2023).

- Voice analysis.
- Analyzing GPS data.
- In BSA, evidence collected through AI, when duly authenticated, can be admitted as electronic records (Sections 2 and 61 onwards).

B. AI in Authenticating Evidence

- Verifying metadata (timestamps, geolocation, device information).
- Validating digital signatures and cryptographic hashes.
- Securing blockchain technologies.
- Deepfake detection.
- Protecting it from unauthorized access.

C. AI in Evidence

- Analyze extensive textual data (emails, messages, logs).
- Detect behavioral patterns in fraudulent activities.
- Compare fingerprints, facial characteristics, and voice patterns.
- Identify hidden connections within data manual review.

D. AI in Presenting Evidence

- Creating 3D visualizations of crime scenes.
- Creating straightforward visualizations of intricate digital data.
- Transcribing and translating audio recordings.
- These AI-generated outputs will become admissible.

Key BSA Provisions Relevant to AI Use

It contains several provisions that are particularly relevant for technology. Section 2 defines electronic records, which can encompass AI-generated forensic reports. Sections 61 to

65 outline AI outputs to meet specific admissibility standards. Section 63 explains regarding the data integrity in electronic evidence, where tools might serve the purpose. Sections 85A to 85C establish presumptions regarding electronic agreements and records. Under Section 90A, presumption concerning electronic messages and AI-assisted analysis of communications can either support or dispute such authenticity. Lastly, Section 93 places proving evidence, where AI-generated audit trails help to establishing credibility and compliance.

Recommendations and the Path Ahead

To effectively integrate technology to legal system, several forward-looking recommendations are made. First, the Bharatiya Sakshya Adhiniyam (BSA) should include specific rules as to admissibility of AI-generated evidence.

A formal certification mechanism is established so the AI tools meet the evidentiary standards outlined in Section 63. To enhance judicial competence, targeted training programs for judges on evaluating AI-based evidence are essential. AI applications must also align with national data helping uphold privacy.

Additionally, conditional recognition of “digital expert,” allowing its use in an expert witness capacity under regulated circumstances. Finally, transparency should be prioritized by requiring disclosure of the justification.

Significance

Understanding advancements brought in legal structure must be necessary for stakeholders. This evolving intersection has far-reaching consequences, influencing not just legal professionals but also individuals. Here’s how different stakeholders benefit from engaging with this subject:

Legal Scholars and Researchers

This domain opens new frontiers, presenting intricate challenges and unique intersections between legal principles, technological advancement, and ethical norms. Scholars can find core elements of criminal law—such as investigation, evidence, and sentencing.²¹

²¹ Harry Surden, *Artificial Intelligence and Law: An Overview*, 35 Ga. St. U. L. Rev. 1305 (2019).

They assess whether such technologies uphold constitutional mandates and justice principles. Their work can shape legislation, guide policy decisions, while comparative legal studies at an international level.

Law Students

For aspiring legal professionals, understanding law enhances their preparedness for legal practice increasingly involves digital tools. Studying AI encourages real-world legal challenges, develop analytical skills, and consider how rights like privacy and fair trial may evolve. It sharpens interpreting legal provisions in a changing socio-technological landscape.

Practicing Lawyers

Modern forms are increasingly supported by data-driven tools. Criminal lawyers, in particular, AI functions to both leverage its benefits—like quicker research and efficient documentation—and challenge its flaws, especially when AI-generated results support investigations or court proceedings.²² A sound understanding empowers lawyers to defend their clients effectively.

Judiciary

Judges being responsible to impart justice, and with AI entering courtrooms, their responsibilities expand. Although, tasks and offer data-backed suggestions, judicial officers must retain control over legal reasoning. One must get familiar with how algorithms function in AI-assisted decisions and avoid misuse, so that decision remains human-centric.

Legal Academics

Professors influence both academic discourse and future legal frameworks. By incorporating digital learning, they encourage interdisciplinary approaches and stimulate debate on ethical concerns. Their scholarly contributions help shape public opinion; prepare future professionals to navigate a tech-integrated legal environment.

²² John O. McGinnis & Russell G. Pearce, *The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services*, 82 Fordham L. Rev. 3041 (2014).

Victims

For victims, AI can offer faster investigations and improved judicial process. From automated tracking of case status to intelligent documentation of evidence, emotional strain may diminish. Particularly in sensitive cases like sexual assault or cybercrime²³, confidentiality and data management may improvise—provided victim rights and dignity remain a priority.

Accused Persons

Those facing criminal charges are highly vulnerable to the dark side of technology. Predictive policing or algorithmic risk assessment can reinforce stereotypes. Understanding these systems helps the defense counter unfair procedures and ensures the accused retains their safeguards from arbitrary actions.

General Public

AI literacy in law knowledge to everyday citizens through apps, chatbots, and digital awareness campaigns must be provided. With better guidance and simplified explanations of laws, people are empowered to assert their rights, avoid legal pitfalls by engaging actively in democratic processes.²⁴

Advantages

Language Translation

AI-driven translation tools eliminate linguistic barriers in courtrooms by enabling real-time interpretation and document conversion. This ensures equal participation across language divides, promoting constitutional guarantees like equality.

Crime Forecasting

Using historical and environmental data, AI can help forecast criminal activity, allowing optimum use to avoid offences. This anticipatory approach shifts policing towards

²³ Thomas Wischmeyer, *Artificial Intelligence and the Fundamental Right to Data Protection*, 12 Law, Innovation & Tech. 170 (2020).

²⁴ Harry Surden, *Artificial Intelligence and Law: An Overview*, 35 Ga. St. U. L. Rev. 1305 (2021).

the proactive manner.

Crime Detection

AI enhances detection capabilities through sound analysis, and license plate tracking. It may connect clues across cases; expose digital crimes, thus improving investigative efficiency.

Parole Evaluation

Data-driven AI helps parole boards in deciding who qualifies for early release by analyzing behavior patterns, rehabilitation progress, and psychological profiles of individuals.²⁵ This foster safer reintegration while balancing societal safety.

Bail Decisions

Assessing flight risk or chances of reoffending, offering judges help to decide bail. This reduces disparities in decisions and ensures equality to undertrial ones, irrespective of their socio-economic background.

Recidivism Prediction

By analyzing socio-behavioral factors, AI systems can estimate repeat offenses. This insight inspires for rehabilitation and sentencing strategies.

Operational Efficiency

It is capable of handling routine legal and administrative duties such as processing documents and organizing case files. This enables legal professionals intricate legal analysis, workflows become more efficient, and reducing administrative bottlenecks.

Case Flow Management

With the backlog, AI-based tools can automate scheduling, monitor progress, and issue

²⁵ Richard Berk & Justin Bleich, *Statistical Procedures for Forecasting Criminal Behavior*, 12 *Criminology & Pub. Pol'y* 513 (2013).

reminders, thus improving docket management, diminishing the load on judicial infrastructure.

Victim Compensation

AI can recommend compensation according to crime severity, and individual circumstances. This ensures fairness, consistency, and timely redressal of victims.

Speedy Trials

AI promotes speedy trials through digitized case handling and diminishing subjective biasness during trials.²⁶

Witness Handling

AI can locate witnesses, verify testimonies, and ensure secure remote appearances and strengthens court proceedings.

Judgment Prediction

It may forecast probable case outcomes, prepare strategically, acting as support tool—not a substitute-for judicial discretion.

Evidence Processing

AI quickly sifts through vast evidence—audio, video, text—detecting key information, patterns, and tampering. This accelerates investigations and supports stronger prosecution or defense.

Legal Research

AI legal research platforms retrieve relevant statutes, case laws, and commentary in seconds, making legal information accessible and reducing research time significantly.

Legal Support

AI chatbots and applications help underserved populations understand rights. This

²⁶ Michael A. Livermore, Allen Riddell & Daniel N. Rockmore, *The Supreme Court and the Judicial Genre*, 59 *Ariz. L. Rev.* 837 (2017).

promotes inclusivity and eases pressure on overburdened legal aid institutions.

Sentencing Guidance

By referencing precedent and offender profiles, AI can propose appropriate sentencing recommendations, ensuring proportional justice.

Reducing Case Backlogs

AI improves judicial productivity by automating repetitive tasks, helping with resolving massive backlog of cases in systems like India's judiciary.

Challenges

Job Displacement

Automation may render many clerical and junior legal roles obsolete, demanding re-skilling and employment, thereby taking jobs of human beings.

Public Confidence

Personal data can erode belief throughout entire system, especially without robust data protection laws. Concerns about surveillance are widespread.

Accountability Gaps

When AI contributes to judicial decisions, it becomes difficult to determine accountability if errors occur. No clear accountability challenges foundational legal principles.²⁷

Discrimination

AI systems may replicate societal prejudices—leading against minority or marginalized groups in policing and sentencing.²⁸

²⁷ Danielle Keats Citron & Frank Pasquale, *The Scored Society: Due Process for Automated Predictions*, 89 Wash. L. Rev. 1 (2014).

²⁸ Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (St. Martin's Press 2018).

No Transparency

Opaque AI systems, especially neural networks, can't always explain their decisions. This undermines procedural fairness.

Digital Divide

Uneven infrastructure and tech literacy, among economically disadvantaged areas, will lead to indifferent opportunities to its benefits.

Financial Constraints

Many institutions lack ways to adopt, maintain, or upgrade AI systems. This can make two-tier justice system—technologically advanced in urban centers and outdated elsewhere.²⁹

Criminal Exploitation

Offenders might create deepfakes, hack legal systems, or impersonate individuals; robust cyber security framework is indeed necessity.

Copyright Issues

Legal questions around the ownership of AI-generated content, copyrighted training material remain unresolved, posing risks for legal researchers and institutions.³⁰

Conclusion & Suggestions

To conclude, legal framework is needed to enhance various aspects, from crime prevention to sentencing. AI's use in the investigation, trial, judgment, and sentencing promises to streamline processes ensuring greater fairness. Using technology for BNS, BNSS and BSA can help establish good law. While merits being evident, including improved accessibility, but differences in implementation, ethical concerns shall be given a look. A balanced approach that combines technological innovation with constitutional values and ethical standards will ensure that AI contributes meaningfully to the development of a fair, transparent, and citizen-centric

²⁹ B.C. Smith & Alessandro Mantelero, *The Cost of Fairness: AI Implementation in Developing Justice Systems*, 35 *AI & Soc'y* 523 (2020), <https://doi.org/10.1007/s00146-020-00944-z>.

³⁰ Pamela Samuelson, *Authorship and AI*, 43 *Colum. J.L. & Arts* 321 (2020).

criminal justice system in India.

To realise the full potential of AI within India's criminal justice system, a comprehensive and dedicated regulatory framework should be established to govern its development, deployment, and oversight. Such a framework must clearly define the scope, limitations, and accountability mechanisms applicable to AI-assisted decision-making. Human oversight should remain central to all critical stages of the criminal process, ensuring that decisions relating to investigation, prosecution, adjudication, and sentencing continue to rest with competent authorities and judicial officers.

Further, robust data protection measures must be implemented to safeguard sensitive information and prevent misuse of personal data. Regular independent audits should be conducted to assess the accuracy, reliability, and potential biases of AI systems, particularly to prevent discriminatory outcomes affecting vulnerable groups.

Finally, the implementation of AI in the criminal justice system should be guided by a rights-based approach rooted in constitutional principles, including equality, fairness, due process, and the protection of fundamental rights. The establishment of multidisciplinary oversight bodies comprising legal experts, technologists, ethicists, and civil society representatives can further enhance accountability and public trust.