Admissibility of AI generated evidence in criminal trails: A new challenge for the law of evidence

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Abstract:

The rapid advancement of Artificial Intelligence (AI) has significantly transformed modern criminal justice systems, particularly in the collection, analysis, and presentation of evidence. AI-generated evidence, such as facial recognition outputs, predictive algorithms, and automated forensic analysis, is increasingly being relied upon in criminal investigations and trials. However, the admissibility of such evidence poses serious challenges to the traditional framework of the Law of Evidence, which was primarily designed to regulate human-generated and conventional electronic evidence. Existing legal provisions, including the Indian Evidence Act, 1872, do not expressly address AI-generated evidence, leading to uncertainty regarding its authenticity, reliability, transparency, and probative value. This research paper critically examines the admissibility of AI-generated evidence in criminal trials with reference to established evidentiary principles and constitutional guarantees of a fair trial. By analyzing statutory provisions, judicial precedents, and emerging legal concerns, the study highlights the limitations of the current legal framework and emphasizes the need for specific regulatory standards to govern the use of AI-generated evidence in criminal proceedings.

1. Introduction

The Law of Evidence constitutes a fundamental pillar of the criminal justice system, as it governs the manner in which facts are proved or disproved before a court of law. The primary objective of evidentiary rules is to ensure that only relevant, reliable, and legally obtained evidence is admitted in criminal trials, thereby safeguarding the rights of the accused and ensuring the delivery of justice. Historically, the Law of Evidence evolved to regulate traditional forms of evidence such as oral testimony, documentary records, and material objects. Over time, with scientific and technological advancements, courts gradually recognized new forms of evidence, including forensic and electronic evidence.

The advent of Artificial Intelligence marks a significant shift in this evolution. Artificial Intelligence refers to computer systems capable of performing tasks that ordinarily require human intelligence, such as

learning, reasoning, pattern recognition, and decision-making. In the context of criminal justice, AI technologies are increasingly employed for facial recognition, voice identification, DNA analysis, predictive policing, crime mapping, and automated surveillance. The outputs produced by these systems, often referred to as AI-generated evidence, are now being used to identify suspects, predict criminal behavior, and support prosecutorial decisions.

While AI-generated evidence offers efficiency and analytical precision, it simultaneously raises complex legal and ethical concerns. Unlike traditional electronic evidence, which merely records or stores information, AI systems actively process data and generate conclusions based on algorithms and machine learning models. This autonomous decision-making capability challenges established evidentiary principles such as authenticity, reliability, and the right to cross-examination. The opaque nature of many AI systems, commonly described as "black box" algorithms, makes it difficult to ascertain how a particular output was produced or whether it is free from bias or error.

In India, the admissibility of evidence is governed primarily by the Indian Evidence Act, 1872. Although amendments have been introduced to accommodate electronic records, particularly through Sections 65A and 65B, the Act does not specifically address AI-generated evidence. As a result, courts are compelled to interpret existing provisions to determine the admissibility and evidentiary value of AI outputs. This approach often proves inadequate, as AI-generated evidence raises concerns beyond those associated with conventional electronic evidence, including algorithmic bias, lack of transparency, and absence of human control.

The use of AI-generated evidence also has significant constitutional implications. The right to a fair trial, guaranteed under Articles 20 and 21 of the Constitution of India, includes the right of the accused to effectively challenge the evidence presented against them. When AI-generated evidence is relied upon without proper disclosure of the underlying algorithm, training data, or decision-making process, the accused may be deprived of a meaningful opportunity to contest such evidence. Furthermore, biased or inaccurate AI systems may result in discriminatory outcomes, undermining the principle of equality before law enshrined under Article 14.

In this backdrop, the admissibility of AI-generated evidence emerges as a new and pressing challenge for the Law of Evidence. The existing legal framework, though adaptable, lacks the necessary safeguards to regulate the use of AI in criminal trials. This research paper seeks to critically examine the admissibility of AI-generated evidence in criminal proceedings by analyzing traditional evidentiary principles, judicial approaches to electronic and scientific evidence, and the constitutional requirements of fairness and due process. The study aims to highlight the legal gaps in the current framework and to suggest the need for clear statutory guidelines to ensure that the use of AI-generated evidence strengthens, rather than undermines, the administration of criminal justice.

2. Objectives of the Study:

To examine the concept of Artificial Intelligence and AI-generated evidence The study aims to understand how AI systems generate evidence in criminal investigations, including

facial recognition, predictive analytics, forensic algorithms, and automated surveillance outputs.To analyse the existing legal framework governing admissibility of evidence in India The research evaluates relevant provisions of the Indian Evidence Act, 1872, particularly Sections 5–55 and 65A–65B, and their applicability to AI-generated evidence.To evaluate judicial approaches towards electronic and scientific evidence The study examines landmark judgments such as Anvar P.V. v. P.K. Basheer, Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal, and Selvi v. State of Karnataka to assess whether existing standards can be extended to AI-generated evidence.

3. Understanding Artificial Intelligence and AI-Generated Evidence

Artificial Intelligence refers to computational systems designed to perform tasks that ordinarily require human intelligence, such as learning from experience, reasoning, pattern recognition, prediction, and autonomous decision-making. These systems function through complex algorithms, machine-learning models, and extensive datasets, enabling them to analyze information and generate outputs based on probabilistic assessments rather than explicit human instructions. In the criminal justice system, AI is increasingly deployed to assist investigative and prosecutorial functions, thereby influencing evidentiary processes.

AI-generated evidence may be understood as information, analysis, or conclusions produced autonomously by artificial intelligence systems without direct human involvement at the final stage of decision-making. Unlike conventional electronic evidence, which merely records, stores, or transmits data generated by humans, AI systems actively process data and generate outcomes based on learned patterns and algorithmic reasoning. This autonomous nature distinguishes AI-generated evidence from traditional electronic records and raises complex legal questions regarding its admissibility and probative value.

In criminal proceedings, AI-generated evidence is commonly used in various forms, including facial recognition outputs for suspect identification, voice recognition and speech-to-text analysis, DNA profiling and forensic pattern matching, predictive policing and crime forecasting tools, as well as automated license plate recognition and surveillance analytics. These tools are often relied upon at critical stages of investigation and trial, thereby directly impacting the liberty of individuals.

A distinctive feature of AI-generated evidence is its algorithmic and often opaque nature. Many AI systems operate as "black boxes," where the internal reasoning process is not easily explainable even to technical experts. This lack of transparency poses serious challenges to traditional evidentiary principles that emphasize human accountability, reasoned evaluation, and the ability to test evidence through cross-examination. The Indian Evidence Act, 1872, §§ 5–55.

4. Traditional Principles of Admissibility under the Law of Evidence

The admissibility of evidence in India is primarily governed by the Indian Evidence Act, 1872, which is based on well-established principles intended to ensure fairness and reliability in criminal trials. These principles include relevance, authenticity, reliability, and legality, all of which must be satisfied before evidence can be relied upon by a court.

5. Relevance

Sections 5 to 55 of the Indian Evidence Act establish relevance as the foundational requirement for admissibility. Evidence must have a logical nexus with the facts in issue or relevant facts. AI-generated evidence, if it directly relates to the matter under consideration, may satisfy the test of relevance. However, in criminal trials, relevance alone is insufficient, as the courts must also be convinced of the reliability and fairness of the evidence.

6. Authenticity and Genuineness

Authenticity requires that evidence be genuine and free from manipulation or tampering. In the case of documentary and electronic evidence, courts insist on proof of integrity and source. AI-generated evidence raises unique concerns regarding authenticity because the output is dependent not only on the data input but also on the integrity of the algorithm, the quality of training data, and the proper functioning of the system. Any flaw in these components may compromise the genuineness of the evidence.

7. Reliability and Accuracy

Criminal jurisprudence requires that guilt be established beyond reasonable doubt. Courts must therefore be satisfied that the evidence relied upon is accurate and reliable. AI systems often produce probabilistic or predictive outcomes rather than definitive conclusions, which may conflict with the high standard of certainty required in criminal trials. This creates difficulty in treating AI-generated evidence as conclusive proof.

8. Legality and Fairness

Evidence must be obtained and presented in compliance with statutory provisions and constitutional guarantees. Even relevant and reliable evidence may be excluded if its admission compromises the accused's right to a fair trial. AI-generated evidence, if used without adequate safeguards, may violate principles of natural justice and procedural fairness.

9. Electronic Evidence and Judicial Evolution in India

The Indian judiciary has gradually adapted to technological developments by recognizing electronic evidence as admissible. Sections 65A and 65B of the Indian Evidence Act were introduced to specifically regulate the admissibility of electronic records and to ensure their authenticity and integrity.

In State (NCT of Delhi) v. Navjot Sandhu (2005), the Supreme Court acknowledged the admissibility of electronic evidence and adopted a relatively flexible approach. However, this position was subsequently refined to prevent misuse and ensure reliability. In Anvar P.V. v. P.K. Basheer (2014), the Supreme Court held that compliance with Section 65B is mandatory for the admissibility of electronic evidence, emphasizing the importance of certification to establish authenticity. This position was reaffirmed in Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal (2020), where the Court stressed strict adherence to procedural safeguards.

While these decisions provide clarity on electronic evidence, AI-generated evidence extends beyond mere electronic records, as it involves autonomous data analysis and decision-making. Consequently, existing judicial standards for electronic evidence are insufficient to fully address the complexities posed by AI systems.Anvar P.V. v. P.K. Basheer, (2014) 10 SCC 473.

1.State (NCT of Delhi) v. Navjot Sandhu (2005),

2.Anvar P.V. v. P.K. Basheer, (2014) 10 SCC 473.

10. AI-Generated Evidence and Scientific Evidence: A Comparative Analysis

Courts have long relied on scientific and forensic evidence such as DNA profiling, fingerprint analysis, and ballistic reports, subject to expert testimony, standardized procedures, and scientific validation. The admissibility of such evidence is closely scrutinized to ensure accuracy and fairness.

In Selvi v. State of Karnataka (2010), the Supreme Court examined the admissibility of scientific techniques such as narco-analysis, polygraph tests, and brain mapping. The Court held that involuntary administration of these techniques violates the right against self-incrimination and personal liberty. The judgment emphasized reliability, consent, and procedural fairness, principles that are equally relevant to AI-generated evidence.

However, AI-generated evidence differs significantly from traditional scientific evidence because it may lack a clearly identifiable human expert, its reasoning process may not be transparent, and its outcomes may be influenced by biased or flawed data. These differences necessitate a distinct legal approach rather than a mechanical application of existing principles governing scientific evidence.

11. Challenges in Admitting AI-Generated Evidence in Criminal Trials

One of the foremost challenges in admitting AI-generated evidence relates to reliability and accuracy. AI systems are heavily dependent on training data, and any bias, incompleteness, or outdated information within the dataset can lead to erroneous outcomes. Facial recognition technologies, for instance, have been found to exhibit higher error rates for certain demographic groups, increasing the risk of wrongful identification and conviction.

Transparency and explainability present another significant challenge. The "black box" nature of many AI algorithms makes it difficult for courts, lawyers, and accused persons to understand how a particular conclusion was reached. This lack of transparency undermines the evidentiary requirement of reasoned evaluation and judicial scrutiny.

The right to cross-examination, which is a cornerstone of criminal trials, is also adversely affected by AI-generated evidence. Since algorithms cannot be cross-examined in the traditional sense, and access to source code or training data is often restricted, the accused may be deprived of a meaningful opportunity to challenge the evidence.

Additionally, AI systems may perpetuate existing social biases present in training datasets. Predictive policing tools, for example, may disproportionately target marginalized communities, leading to discriminatory outcomes and undermining the principle of equality before law under Article 14 of the Constitution.

12. Constitutional Implications of AI-Generated Evidence

The use of AI-generated evidence has serious constitutional implications, particularly with respect to the right to a fair trial. Articles 20 and 21 of the Constitution of India guarantee protection against arbitrary prosecution and ensure personal liberty and due process. In Maneka Gandhi v. Union of India (1978), the Supreme Court held that fairness, reasonableness, and due process are integral to Article 21. When AI-generated evidence is admitted without transparency or effective mechanisms for challenge, the fairness of the trial is compromised.

Moreover, biased or discriminatory AI outcomes may violate Article 14, which guarantees equality before law. Courts must therefore ensure that reliance on AI does not result in arbitrary or unequal treatment of accused persons.Maneka Gandhi v. Union of India, (1978) 1 SCC 248

Harry Surden, "Machine Learning and Law," (2014) 89 Washington Law Review 87.Danielle Keats Citron, "Technological Due Process," (2008) 85 Washington University Law Review 1249Rebecca Wexler, "Life, Liberty, and Trade Secrets," (2018) 70 Stanford Law Review 13433.Maneka Gandhi v. Union of India (1978), the Supreme Court held that fairness, reasonableness,

13. Comparative Judicial Trends

Globally, courts are approaching AI-generated evidence with caution. Many jurisdictions emphasize the necessity of human oversight over AI decisions, transparency and auditability of algorithms, and limiting AI outputs to corroborative rather than determinative evidence. These trends suggest that AI should assist judicial decision-making without replacing human judgment.

 Indian Evidence Act, 1872

Information Technology Act, 2000

Constitution of India **State** (NCT of Delhi) v. Navjot SandhuAnvar P.V. v. P.K. Basheer

Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal

14. Need for Legal and Procedural Reforms

The absence of specific statutory provisions governing AI-generated evidence creates uncertainty and increases the risk of misuse. There is an urgent need for legislative recognition of AI-generated evidence, the establishment of standards for validation, accuracy, and bias testing, mandatory disclosure of algorithmic processes, and judicial training on emerging technologies. AI-generated evidence should be

treated as corroborative rather than conclusive, particularly in criminal trials where personal liberty is at stake.

In India, the admissibility of evidence is governed primarily by the Indian Evidence Act, 1872. The Act requires that evidence must be relevant, authentic, and legally obtained. Sections 65A and 65B specifically regulate electronic records and mandate certification to establish their admissibility. In Anvar P.V. v. P.K. Basheer, the Supreme Court held that compliance with Section 65B is mandatory for electronic evidence. This position was reaffirmed in Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal. However, AI-generated evidence is not merely an electronic record; it involves algorithmic interpretation and predictive analysis. The Evidence Act does not expressly address such autonomous systems, creating uncertainty regarding their admissibility.

15. Comparison with Scientific and Expert Evidence

Courts have long relied on scientific and expert evidence under Section 45 of the Evidence Act. Forensic techniques such as DNA profiling and fingerprint analysis are admissible when supported by expert testimony. In Selvi v. State of Karnataka, the Supreme Court emphasized reliability, consent, and constitutional safeguards in the use of scientific techniques. However, AI-generated evidence differs because the "expert" may effectively be an algorithm rather than a human witness. Since algorithms cannot be cross-examined, the adversarial process—central to criminal trials—is weakened. This raises questions about whether AI outputs should be treated as expert opinion or as a distinct category requiring separate standards.

16. Challenges to Admissibility

The admissibility of AI-generated evidence raises multiple challenges. First, reliability is a major concern, as AI systems depend on training data that may contain bias or inaccuracies. Criminal law requires proof beyond reasonable doubt, and probabilistic AI outputs may not meet this high threshold. Second, authenticity becomes complex because courts must ensure the integrity of both the data and the algorithm generating the output. Third, transparency and explainability pose difficulties, as many AI systems operate as "black boxes," making it difficult for judges and lawyers to understand how conclusions were reached. Fourth, the right to cross-examination is compromised when the defense cannot meaningfully question the algorithm or access its source code. Finally, algorithmic bias may lead to discriminatory outcomes, thereby affecting marginalized communities disproportionately.

Constitutional Implications

The use of AI-generated evidence directly impacts fundamental rights under the Constitution of India. Article 14 guarantees equality before law, while Articles 20 and 21 protect against arbitrary prosecution and ensure personal liberty and due process. In Maneka Gandhi v. Union of India, the Supreme Court held that fairness and reasonableness are essential components of Article 21. If AI-generated evidence is admitted without transparency or adequate safeguards, it may undermine the accused's right to a fair trial. Moreover, biased algorithms may result in unequal treatment, thereby violating constitutional guarantees.

Need for Legal Reforms

The emergence of AI-generated evidence highlights the inadequacy of the existing evidentiary framework. Legislative reforms are necessary to establish clear standards for admissibility, including requirements of explainability, auditability, bias testing, and human oversight. Courts should adopt a cautious approach and treat AI-generated evidence as corroborative rather than conclusive proof in criminal trials. Judicial training on technological advancements is also essential to ensure informed decision-making.

Findings

The study finds that AI-generated evidence is increasingly used in criminal trials despite the absence of express statutory recognition. Existing provisions of the Indian Evidence Act are inadequate to address algorithmic decision-making. Judicial precedents on electronic and scientific evidence provide only limited guidance, and unregulated reliance on AI poses serious risks to fairness, accuracy, and constitutional rights.

A New Challenge For The Law of Evidence:

Inadequacy of the Existing Evidentiary Framework

The Law of Evidence was originally framed to regulate human-generated evidence such as oral testimony, documents, and material objects. Even the later inclusion of electronic evidence under the Indian Evidence Act, 1872, was intended to address data that is digitally stored or transmitted but still originates from human action. AI-generated evidence, however, represents a fundamental departure from this framework, as it is produced through autonomous algorithmic processing rather than direct human involvement. The absence of any express statutory provision recognizing or regulating AI-generated evidence exposes the inadequacy of the existing evidentiary framework in dealing with such technologically advanced forms of proof. Courts are currently compelled to fit AI outputs within provisions meant for electronic or scientific evidence, an approach that often fails to address the unique complexities of artificial intelligence.

Challenge to the Concept of Human Testimony and Expert Evidence

One of the most significant challenges posed by AI-generated evidence is its impact on the traditional concept of testimony and expert evidence. Under the Law of Evidence, opinions of experts are admissible when they are based on specialized knowledge and can be subjected to cross-examination. AI systems, however, cannot be examined or cross-examined in the conventional sense. While a human operator or developer may testify, they may not be able to fully explain the reasoning process of a self-learning algorithm. This weakens the evidentiary value of AI-generated evidence and challenges the foundational principle that evidence must be capable of being tested through adversarial scrutiny.

Erosion of the Right to Cross-Examination

Cross-examination is a cornerstone of criminal jurisprudence and a vital safeguard against wrongful conviction. AI-generated evidence threatens this safeguard by introducing evidence that cannot be

meaningfully questioned. The accused may be denied access to the source code, algorithmic logic, or training data due to intellectual property or national security concerns. As a result, the right to effectively challenge evidence, which forms an essential part of a fair trial, is substantially diluted. This erosion of cross-examination rights presents a serious challenge to the Law of Evidence, particularly in criminal trials where the liberty of the accused is at stake.

Uncertainty in Assessing Probative Value

Another major challenge lies in determining the probative value of AI-generated evidence. Traditional evidentiary assessment relies on factors such as credibility of witnesses, consistency of testimony, and reliability of documents. AI-generated evidence, by contrast, is often based on probabilistic outcomes and predictive analytics rather than definitive conclusions. The Law of Evidence does not currently provide any guidance on how courts should evaluate such probabilistic evidence or balance it against the high standard of proof required in criminal cases. This uncertainty increases the risk of over-reliance on technological outputs without sufficient judicial scrutiny.

Risk of Algorithmic Bias and Discrimination

The Law of Evidence is premised on fairness, equality, and impartiality. AI-generated evidence poses a challenge to these principles due to the risk of algorithmic bias embedded within training datasets. If AI systems are trained on historically biased data, they may produce discriminatory outcomes that disproportionately affect certain communities. Such evidence, if admitted without rigorous scrutiny, may undermine the constitutional guarantee of equality before law under Article 14 and distort the fact-finding process envisaged under evidentiary rules.

Conflict with Principles of Natural Justice

Natural justice requires transparency, reasoned decision-making, and the opportunity to be heard. The opaque nature of many AI systems directly conflicts with these principles. When courts rely on AI-generated evidence without understanding how the outcome was reached, the decision-making process becomes less transparent and more mechanical. This undermines public confidence in the justice system and challenges the fundamental objective of the Law of Evidence, which is to facilitate fair and reasoned adjudication.

Need for Evolution of Evidentiary Principles

The emergence of AI-generated evidence signals the need for a re-evaluation and evolution of traditional evidentiary principles. The Law of Evidence must adapt to technological advancements without compromising its core values of fairness, reliability, and accountability. This requires the development of new standards for admissibility, including requirements of explainability, auditability, human oversight, and proportional reliance. Until such reforms are introduced, AI-generated evidence should be treated with caution and used only as corroborative material rather than as sole or conclusive proof in criminal trials.OECD, Artificial Intelligence in Society (2019)

5.Mahnur Irfan et al., Synthetic Evidence and Procedural Fairness: Admissibility Standards for AI-Generated Outputs in Civil and Criminal Courts, Intl. J. Law, Policy & Sci. Res. (2025).

Standard of Proof and Probabilistic Nature of AI Outputs

Another significant challenge arises from the probabilistic character of AI-generated evidence. Criminal law requires that guilt be established "beyond reasonable doubt," a standard that demands a high degree of certainty. However, many AI systems function on predictive analytics and statistical probabilities rather than definitive conclusions. For instance, facial recognition systems may generate a percentage-based match, and predictive policing tools may forecast the likelihood of criminal activity based on historical data patterns. Such probabilistic outputs may assist investigation but cannot automatically satisfy the stringent evidentiary threshold required for conviction. Treating statistical correlation as conclusive proof risks undermining the presumption of innocence and diluting the rigorous burden placed upon the prosecution.

Accountability and Attribution of Responsibility

AI-generated evidence also raises complex questions regarding accountability. In traditional evidentiary systems, responsibility for evidence can be traced to a human actor—whether a witness, investigating officer, or expert. With AI systems, determining liability for errors becomes difficult. If an algorithm produces a flawed or biased output leading to wrongful prosecution, it is unclear whether responsibility lies with the developer, the operator, the data provider, or the investigating agency. This diffusion of accountability challenges foundational evidentiary assumptions that evidence must be attributable to a responsible and identifiable source. Without clear mechanisms for accountability, the reliability and credibility of AI-generated evidence remain questionable.

Data Privacy and Surveillance Concerns

The increasing reliance on AI in criminal investigations often involves large-scale data collection, including biometric information, CCTV footage, digital communications, and geolocation tracking. The extensive aggregation and analysis of such data may intrude upon privacy rights. In the landmark judgment of Justice K.S. Puttaswamy v. Union of India, the Supreme Court of India recognized the right to privacy as a fundamental right under Article 21. The unregulated use of AI surveillance tools may conflict with constitutional protections, particularly if data is collected without consent, oversight, or proportional safeguards. Therefore, evidentiary admissibility must also consider whether AI-generated material has been obtained in a constitutionally permissible manner.

Risk of Over-Reliance and Automation Bias

Another emerging concern is the phenomenon of automation bias, where judges, investigators, and jurors may place undue trust in technological outputs due to their perceived objectivity and scientific precision. AI systems are often viewed as neutral and data-driven; however, they may embed hidden biases arising from flawed datasets or design limitations. Over-reliance on AI-generated evidence may discourage independent judicial evaluation and critical reasoning. The Law of Evidence is premised upon human

assessment of facts and credibility, and excessive dependence on algorithmic conclusions may erode judicial discretion and independent fact-finding.

Need for Specialized Judicial Standards

Given these complexities, there is a pressing need to develop specialized judicial standards tailored specifically to AI-generated evidence. Courts may require proof of algorithmic validation, independent technical audits, disclosure of training datasets (subject to confidentiality safeguards), and expert testimony explaining system limitations. Additionally, AI outputs should ideally be treated as corroborative evidence rather than primary or determinative proof in criminal trials. Such standards would preserve the balance between technological innovation and procedural fairness.

Balancing Innovation with Justice

Ultimately, AI-generated evidence represents both opportunity and risk. While it has the potential to enhance investigative efficiency and uncover patterns invisible to human analysis, its uncritical admission may compromise fairness, equality, and due process. The Law of Evidence must evolve thoughtfully to ensure that technological progress strengthens, rather than undermines, the administration of criminal justice.

Conclusion

The admissibility of AI-generated evidence represents one of the most significant contemporary challenges to the Law of Evidence. While artificial intelligence offers efficiency, speed, and analytical capabilities, its use in criminal trials must be carefully regulated. Traditional evidentiary principles, though flexible, are not fully equipped to address the unique characteristics of AI-generated evidence, particularly issues of transparency, bias, and accountability.

Courts must adopt a cautious and rights-oriented approach while admitting AI-generated evidence, ensuring that such evidence strengthens rather than undermines the administration of criminal justice. Legislative intervention, judicial awareness, and procedural safeguards are essential to strike a balance between technological innovation and the fundamental principles of fairness, justice, and due process.

Judicial precedents on electronic evidence, such as Anvar P.V. v. P.K. Basheer, emphasize strict compliance with certification and authenticity requirements, underscoring the judiciary's cautious approach toward technologically generated material. These principles become even more critical in the AI context, where issues of data integrity, training datasets, algorithmic bias, and chain of custody directly affect reliability. Furthermore, there is a genuine risk of systemic bias if AI systems are trained on incomplete or prejudiced datasets, potentially leading to discriminatory outcomes. Courts must therefore insist on transparency, independent audits, expert testimony, and verifiable standards before admitting AI-generated material. At the same time, it would be impractical and counterproductive to reject AI evidence entirely, given its potential to enhance investigative accuracy and judicial efficiency. The law must strike a careful balance between embracing innovation and safeguarding constitutional guarantees. Clear legislative guidelines, procedural safeguards, and judicial standards are essential to ensure that AI-

generated evidence meets the threshold of reliability and fairness. Ultimately, the admissibility of AI evidence should depend not merely on its technological sophistication but on whether it satisfies the fundamental principles of justice that underpin the criminal trial process. The future of evidence law will therefore depend on the judiciary's ability to adapt traditional doctrines to modern realities without compromising the rights of the process.

Reference:

1. Indian Evidence Act, 1872 Information Technology Act, 2000 Constitution of India

2. State (NCT of Delhi) v. Navjot Sandhu Anvar P.V. v. P.K. Basheer Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal Selvi v. State of Karnataka Maneka Gandhi v. Union of India.

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5. European Commission, Ethics Guidelines for Trustworthy AI (2019)NITI Aayog, National Strategy for Artificial Intelligence