CMR University Journal for Dispute Settlement and Arbitration
Vol. 4 (01), June 2025, PP. 48-64

Artificial Intelligence & Confidence in Arbitration & Mediation: Ensuring Privacy & Security in Automated Systems

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Abstract

The integration of Artificial Intelligence (AI) into Alternative Dispute Resolution (ADR) mechanisms, especially arbitration and mediation, is a transformative shift in the legal landscape. AI is the latest technology, and its use in the current legal processes ensures efficiency, speedy disposal of cases, accessibility, and enhanced access to justice. However, such an integration must be with regard to strict compliance with the rules of privacy and confidentiality. This paper explores the evolution, contemporary applications, and prospects of AI in ADR, with a focus on the critical issues of privacy and security. This paper aims to trace the historical evolution of AI models and how they enhance efficiency, expedite case management, and support decision-making in arbitration and mediation. This paper attempts to identify the potential risks and challenges associated with the use of AI in ADR. With the help of several examples, this paper examines how the use of AI may undermine privacy and confidentiality, eroding trust in the ADR processes. Further, this paper identifies key barriers to privacy and evaluates the adequacy of existing regulatory mechanisms. This study further addresses the legal and ethical implications of deploying AI in ADR, emphasizing the necessity for robust control mechanisms, transparent processes, and effective legislative oversight. Lastly, this paper contends that while AI holds immense potential to revolutionize dispute resolution, its responsible integration must prioritize the protection of individual rights and the maintenance of public confidence in automated systems.

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Keywords: arbitration, mediation, artificial intelligence, privacy, confidentiality

Introduction

2017 earmarked the entry of artificial intelligence in the traditional court system, with the installation of the XIAO FA, an AI-powered robot, in over a hundred courts, in order to provide legal advice to the parties. As explained by Du Xiangyang, the founder of Aegis Data, the robot addresses a societal need for cheap and authoritative advice[1]. This development has encouraged the use of artificial intelligence even in the judicial domain, especially in the Alternative Dispute Resolution Systems. As enunciated by Benjamin Liebman and co-authors, "When it comes to making court decisions available online, China is a trendsetter in the authoritarian world, and unusual even among other civil law jurisdictions, and its courts might well 'leapfrog' those of other countries into the future of 'computerized judging'[2]. Contemporarily, there is a huge advancement in the artificial intelligence models and several countries are integrating different aspects of this technology into the Alternate Dispute Resolution Systems. However, every technological development comes with its own pitfalls and challenges. As the technological capabilities of Artificial Intelligence rise, so do the public's privacy and security concerns, including but not limited to customers' personal information, biometric data, identifiers, behaviour logs, and biographical details, etc.[3] Privacy is a fundamental human right. Before the introduction of any technology, the security and privacy concerns of the individuals must be addressed and protected. Technological advancement cannot be an excuse for infringement of the privacy rights of an individual. As expounded in *K.S. Puttaswamy v. Union of India*, "Privacy is a fundamental aspect of human dignity….is a concomitant of the right of the individual to exercise control over his or her personality. It finds an origin in the notion that there are certain rights which are natural to or inherent in a human being. Natural rights are inalienable because they are inseparable from the human personality."[4]

[1] Benjamin Minhao Chen & Zhiyu Li, *How Will Technology Change the Face of Chinese Justice?*, 34 COLUM. J. ASIAN L. 1 (2020).
[2] Id.
[3] Yaou Hu & Hyounae (Kelly) Min, *The Dark Side of Artificial Intelligence in Service: The "Watching-Eye" Effect and Privacy Concerns*, 110 INT'L J. HOSP. MGMT. 103437 (Apr. 2023).
[4] *Justice K.S. Puttaswamy (Retd.) v. Union of India*, AIR 2018 SC (SUPP) 1841 (India).

Artificial Intelligence: Meaning & Scope

The word "intelligence" is derived from the Latin word "intelligentia", which means to understand and comprehend. This word was associated with humans for many years. However, the advancement of technology provided for an alternative theory. To solidify this assertion further, John McCarthy coined the term "Artificial Intelligence" and defined it as "the science and engineering of making intelligent machines"[5] in the Dartmouth Conference of 1956. However, scholars found it difficult to define what is "intelligent machines" or understand the quotient of intelligence as compared to human intelligence. While human intelligence was considered to be unique and empathetic, artificial intelligence came to be known for its long endurance capacity. Harry Surden in his research paper on "Artificial intelligence and law: An overview" emphasized that "The reality is that today's AI systems are decidedly not intelligent thinking machines in any meaningful sense. Rather…. AI systems are often able to produce useful, intelligent results without intelligence."[6] Jack Krupansky noted that "Today's AI systems cannot, nor are they necessarily designed to, match higher-order human abilities, such as abstract reasoning, concept comprehension, flexible understanding, general problem-solving skills, and the broad spectrum of other functions that are associated with human intelligence."[7] Artificial intelligence must be looked at from the perspective of its developer, that is, the humans. It is a technology that is developed and modified by humans to perform tasks that they do in an efficient and fast manner. It is the science of developing machines and applications that perform tasks that would normally require human intelligence. Artificial intelligence should not be deemed as a technology that surpasses human intelligence, but rather, enhances it, provided suitable checks and balances are in place. Current discussions must focus on the control mechanism, proper checks and balances, efficient legislations, and tools for the implementation of these artificial intelligence models. The future development of AI is to enhance, not to replace, the overall intelligence of human beings and promote the

[5] James Moor, *The Dartmouth College Artificial Intelligence Conference: The Next Fifty Years*, 27 AI MAG. 87 (Jan. 2006).
[6] Harry Surden, *Artificial Intelligence and Law: An Overview*, 35 GA. ST. U. L. REV. 1305 (2019).
[7] Jack Krupansky, *Untangling the Definitions of Artificial Intelligence, Machine Intelligence, and Machine Learning*, MEDIUM (June 13, 2017), https://medium.com/@jackkrupansky/untangling-thedefinitions-of- artificial-intelligence-machine-intelligence-and-machine-learning-7244882f04c7 [https://perma.cc/RVZ4- 88NP].

complementation of AI and human intelligence, giving play to their respective advantages to realize the "coevolution" of human and AI machines.[8]

Evolution of Artificial Intelligence in Arbitration & Mediation

Arthur C Clarke, a British fiction writer, stated in his well-known adage, "Any sufficiently advanced technology is indistinguishable from magic."[9]The growth of science and technology is tremendous, and new technologies find their way into every field, be it medical, education, bureaucracy, advocacy, etc. Similarly, the scope of artificial intelligence has also expanded. Today, it is being used in almost every arena, professional, technical, and even in creative domains. The legal profession is also not without the use of artificial intelligence. It is used in academics, research, advocacy, the judiciary, etc. Slowly, the artificial intelligence models have crept into the alternative dispute resolution systems, especially arbitration and mediation.

The conventional courts are burdened with a huge number of cases, and the procedure is tedious and slow. This has necessitated the growth of alternative dispute resolution systems, which are pacific means of settling disputes. The use of artificial intelligence in alternative dispute resolution systems can be traced back to the 1960s-70s, initially used to reduce voluminous data into smaller paragraphs or classifications. Today, artificial intelligence technology has developed considerably. For example, one early ADR system utilizing AI (AIDR), developed by the RAND Corporation in the 1970s and 1980s to support California product liability settlements, modelled human litigators' and insurance adjusters' decision-making processes for a series of hypothetical disputes.[10] However, the application was limited and also had numerous legal and ethical challenges. Subsequently, the concept of online dispute resolution systems started to gain momentum.

Online dispute resolution (ODR) was necessary mainly in cross-border interactions and dispute resolution. The system was also brought in to reduce the burden of courts and ensure efficiency. The first instance of ODR can be traced back to 1996 when the University of Maryland and

[8] Yanyan Dong et al., *Research on How Human Intelligence, Consciousness, and Cognitive Computing Affect the development of Artificial Intelligence*, HINDAWI (Oct. 28, 2020) **https://doi.org/10.1155/2020/1680845.**
[9] CCCBLAB, *Arthur C. Clarke: "Any Sufficiently Advanced Technology Is Indistinguishable from Magic"*, https://lab.cccb.org/en/arthur-c-clarke-any-sufficiently-advanced-technology-is-indistinguishable-from-magic/.
[10] Id.

the University of Massachusetts proposed such projects. As e-commerce grew, many companies started adopting the ODR systems. In the year of 1999, eBay started a project to resolve its dispute through online platforms. "The Perfect Store" (Adam Cohen's book about the early days of eBay) describes how dispute resolution was a part of eBay in the first months after Pierre Omidyar launched the site. As Cohen explains, eBay's first customer support employee "spent a lot of time doing what Omidyar hated: stepping in and trying to resolve disputes."[11] Further, the system was adopted by many companies like PayPal, Modria, etc. This led to the application of similar systems in the ADR process. Arbitration and mediation processes started to be conducted online at the ease of the parties. These developments earmarked the growth of artificial intelligence in arbitration and mediation processes. The COVID-19 situation was another reason for the growth of AI in ADR. While safety and security became the rule, online platforms became the norm. As technology advanced according to necessity, the use of AI for simplifying data, document sharing, discovering of precedents, proposing legal reasoning, and teleconferencing became prominent.

Artificial intelligence models have also evolved over a period of time. It consists of two classes, generative AI and discriminative AI. The term "generative AI" refers to computational techniques that are capable of generating seemingly new, meaningful content such as text, images, or audio from training data.[12] It includes GPT technology, Dall-E 2, etc. Discriminative (conditional) AI is capable of making suggestions on existing data. Apart from that, artificial intelligence includes machine learning and deep learning models. ML describes a set of methods commonly used to solve a variety of real-world problems with the help of computer systems, which can learn to solve a problem instead of being explicitly programmed to do so.[13] Deep learning, on the other hand, refers to a form of hierarchical learning and involves multiple layers of nonlinear processing for learning high-level abstractions in data.[14] It is imperative to understand that artificial intelligence is deemed hungry for data. To generate

[11] Colin Rule, *Designing a Global Online Dispute Resolution System: Lessons Learned from eBay*, 13 U. ST. THOMAS L.J. 354 (2017).
[12] Stefan Feuerriegel et al., *Generative AI*, BUS. INF. SYST. ENG'G (Sept. 12, 2023).
[13] Niklas Kühl et al., *Artificial Intelligence and Machine Learning*, EM (May 16, 2022), accepted Sept. 23, 2022.
[14] Neha Bansal, Arun Sharma & R.K. Singh, *A Review on the Application of Deep Learning in Legal Domain*, in 15TH IFIP INT'L CONF. ON ARTIFICIAL INTELLIGENCE APPLICATIONS & INNOVATIONS 374 (May 2019),
https://doi.org/10.1007/978-3-030-19823-7_31.

one response, thousands of datapoints must be fed into the system to identify or propose a solution. This poses a major challenge in the use of artificial intelligence in legal fields, particularly when curating potential outcomes in arbitration and mediation. Contemporarily, all these models are being used in one form or the other in arbitration and mediation processes. However, despite considerable advancements in this area, there remain many challenges that need to be addressed.

Arbitration & AI

The United States District Court, Southern District of New York delivered a groundbreaking judgment in the case of Monique Da Silva Moore v. Publicis Groupe & MSL Group, allowing the use of predictive coding, or computer assisted coding, by lawyers The court put forward that, "it is in the opinion of this court that the use of predictive coding is a proper and acceptable means of conducting searches under the Federal Rules of Civil Procedure…computer assisted coding shall be used in those cases where it will help secure the just, speedy and inexpensive determination in our e-discovery world."[15] Use of artificial intelligence for the purpose of speedy resolution of cases is being accepted across the country and receiving judicial approval.

Arbitration also gains from the use of artificial intelligence and assisted technologies. Today, AI is used for tasks such as legal research, drafting of contracts, corporate records, preparation of research memos, drafting of pleadings, facilitating document discovery, and providing language translation and interpretation, to name only a few.[16] These tasks can be incorporated into arbitration proceedings to ensure a more efficient, fast, and cost-effective disposal of cases. The application of artificial intelligence in arbitration proceedings can be manifold. One function is that it allows the parties to select the arbitrators suitable to their needs, case data, and expertise. Databases like the GAR arbitrator research tool,[17] ASA toolbox or database

[15] *Monique Da Silva Moore v. Publicis Groupe & MSL Group*, 11 Civ. 1279 (ALC) (AJP).
[16] William S. Veatch, *Artificial Intelligence and Legal Drafting*, AM. BAR ASS'N LEGAL ANALYTICS COMMITTEE NEWSL. (Apr. 2019), https://www.americanbar.org/groups/business_law/publications/committee_newsletters/legal_analytics/2019/201904/ai-legaldrafting/.
[17] *Arbitrator Research Tool*, GLOBAL ARB. REV., https://globalarbitrationreview.com/tools/arbitrator-research- tool.

(Swiss arbitration),[18] CIarb search tool,[19] the search tool of International Arbitration Institute,[20] etc., enable parties to search for qualified arbitrators by examining their profiles, expertise, number of cases engaged, and other information. Where arbitral decisions are public or at least can be sufficiently anonymised to be used in such a database, AI can survey past decisions and expertise of arbitrators to select or recommend the most favourable candidates.[21]

With the advancement in technology of AI, there is also scope for the use of AI as arbitrators. This would involve an AI tool analysing facts and legal arguments to arrive at a determination as to an award, based on legal precedent.[22] This application can be twofold: firstly, only AI-assisted arbitration, and secondly, AI-assisted human arbitration in the proceedings. The former engages AI tools to analyse and predict solutions for the dispute, and in the latter, arbitrators will use the AI tools to examine the documents, conduct legal research, and perform other preliminary functions to arrive at the best possible solution. Apart from these functions, AI can also be used for secondary analysis of data, predictive coding, or easy access to information, cases, and a multitude of other works.

Another important and most widely used application of AI in arbitration is in the system of online dispute resolution. The use of AI in international arbitration has been continuously evolving. For instance, Dispute Resolution Expert Manager (DRExM) 17 has lately been used in Egypt to resolve construction disputes because of its ability to recommend the most appropriate dispute resolution technique depending on the nature of the dispute, the evidence, and the relation between the parties.[23] Several case management platforms were developed by arbitral institutions approximately 20 years ago. For instance, the International Chamber of Commerce (ICC) introduced ICC NetCase, the American Arbitration Association (AAA) developed WebFile, and the World Intellectual Property Organization (WIPO) launched the

[18] *Swiss Arbitration Profiles*, https://profiles.swissarbitration.org/.
[19] CHARTERED INSTITUTE OF ARBITRATORS MEMBER DIRECTORY, https://www.ciarb.org/member-directory/.
[20] International Arbitration Information Meta-Search Engine, https://www.international-arbitration-attorney.com/international-arbitration-information-meta-search-engine/.
[21] Jordan Bakst , Matthew Harden , Tyler Jankauskas, Micaela McMurrough & Mark Morril, Artificial Intelligence and Arbitration: A US Perspective, 16 DISP. RESOL. INT'l 7 (May 2022).
[22] Jordan Bakst, Matthew Harden, Tyler Jankauskas, Micaela McMurrough & Mark Morril, Artificial Intelligence and Arbitration: A US Perspective, 16 DISP. RESOL. INT'l 7 (May 2022).
[23] *Artificial Intelligence 'AI' in International Arbitration: Machine Arbitration*, NAT'L CT. INT'L ARB., https://www.ncia.or.ke.

Electronic Case Facility (ECAF). Yet, the traditional form of arbitration continues to prevail overwhelmingly.[24]

Arbitration as an alternative dispute resolution system was introduced to reduce the burden of courts in dispensing cases and to ultimately ensure speedy and cost-efficient justice. The introduction of AI tools in arbitration will contribute to this cause as it will increase proficiency and efficiency in the procedures.

AI & Mediation

Mediation is an alternative dispute resolution system wherein the mediator acts as a facilitator to resolve the dispute between the parties, and it is potentially the parties who decide the outcomes or solutions, thus making it decidedly a party-centric process. The use of artificial intelligence in mediation has always been a point of contention. Mediation is a process involving complex human emotions, impracticalities, apologies, confused relationships, etc. There arises a question as to whether AI tools can decipher these emotions that are exclusively attributable to humans?

However, contemporarily, with a surge in technological advancements, the use of artificial intelligence has crept into mediation processes as well. The use of AI in mediation can be twofold. The first is predictive analysis, wherein AI tools analyse similar cases, history, and settlement ranges to predict the possibility for resolution. The second is the possibility of AI acting as an alternative to a human mediator. Currently, there is no usage of AI as a mediator because of its inability to understand and gauge complex human behaviour and emotion. Judge Eyad Ayed Alsamhan, in his paper "AI and ODR: Mediation"," has cited the example of Sophia, an AI powered robot designed to interact socially with people, stating that because of developments like Sophia, which seemed distant but not impossible, today, countless programs can recognize and respond to human emotions. While these programs may fully replicate

[24] Crenguta Leaua & Corina Tanase, *Artificial Intelligence and Arbitration: Some Considerations on the Eve of a Global Regulation*, 17 ROM. ARB. J. 31 (Oct.–Dec. 2023).

human interaction, they are getting better all the time.[25] Hence, the use of AI as a mediator is a possible reality.

AI in several forms, however, is being used in mediation. Nextlevel Mediation is a service company whose software provides mediators with the tools they need to resolve disputes quickly and efficiently.[26] Through a cloud-based platform, it leverages advanced decision analytics and AI to help mediators steer clients toward critical thinking and reduce emotionally driven decisions. Tools like predictive analytics and automated negotiation algorithms like SmartSettle One, Negobot, Modria, etc. have assisted mediators, particularly in collaborative negotiation, rather than replacing them.[27] In 2020–21, the UN DPPA Innovation Cell collaborated with the software company Remesh to develop AI-driven "digital dialogues" for UN missions in Yemen and Libya, enabling facilitators to engage up to 1,000 participants with advanced polling and open-ended questions, which provided valuable insights that informed mediation and peace efforts in both regions.[28] These examples allow us to understand the growing scope of AI in mediation. AI can also be used to enable mediators to analyse risk factors, identify potential strategies to be employed, and study case data, in order to ensure that the process goes on smoothly and efficiently.

Confidentiality & Artificial Intelligence

Hillary Clinton remarked, "In almost every profession – whether it's law or journalism, finance or medicine, or academia or running a small business – people rely on confidential communications to do their jobs. We count on the space of trust that confidentiality provides. They are fundamental to our ability to serve the public interest."[29] Confidentiality is one of the most important aspects of the ADR process, especially arbitration and mediation. It guarantees that the parties have trust in the process of dispute resolution, which ultimately aids in the resolution of the dispute. However, the concept of confidentiality has always remained in

[25] Judge Eyad Ayed Alsamhan, *AI and Online Dispute Resolution: Mediation*, 4 J. SCI. DEV. FOR STUD. & RES. 283 (Mar. 2023), https://orcid.org/0000-0001-6227-2667.
[26]NEXT LEVEL MEDIATION, https://nextlevelmediation.com/.
[27] *Will AI Replace Mediators and Neutrals?*, MEDIATE, https://mediate.com/will-ai-replace-mediators-and-neutrals/.
[28] *Department of Political and Peacebuilding Affairs – Innovation*, U.N. POLITICAL & PEACEBUILDING AFFS., https://dppa.un.org/en/innovation.
[29] *U.S. Department of State*, https://2009-2017.state.gov/secretary/20092013clinton/rm/2010/11/152078.htm.

contention. The issues in the debate over ADR confidentiality seem to fall into two categories - "process" issues, relating to the extent to which confidentiality is necessary to achieve the objectives of ADR within the context of the particular dispute, and "public access" issues relating to claims of an overriding public interest in ensuring public access to information communicated during ADR proceedings.[30] The importance of maintaining confidentiality has been asserted by nations through their comprehensive legislative frameworks.

In India, Section 42A of the Arbitration And Conciliation Act, 1996 provides that "Notwithstanding anything contained in any other law for the time being in force, the arbitrator, the arbitral institution and the parties to the arbitration agreement shall maintain confidentiality of all arbitral proceedings except award where its disclosure is necessary for the purpose of implementation and enforcement of award."[31] The Nigerian Institute of Chartered Arbitrators (NICArb) Arbitration Rules 2021, Article 38(1) provides that, "the parties and the tribunal shall at all times treat all matters relating to the proceeding and the award as confidential".[32] Arbitration and mediation rules in the international arena also address the issue of confidentiality. The United Nations Commission on International Trade Law Arbitration Rules 2021 (UNCITRAL), for instance, refrain from expressly presuming confidentiality but uphold private hearings, as reflected in Article 34(5): "An award may be made public with the consent of all parties or where and to the extent disclosure is required of a party by legal duty, to protect or pursue a legal right or in relation to legal proceedings before a court or other competent authority". Similarly, the ICC Arbitration Rules 2021 state in Article 22(3), "upon request of any party, the arbitral tribunal may make orders concerning the confidentiality of the arbitration proceedings or of any other matters in connection with the arbitration and may take measures for protecting trade secrets and confidential information".[33]

These rules help us understand the importance of confidentiality in mediation and arbitration. Thus, one of the most prominent challenges regarding the employment of AI in arbitration and mediation is the concern regarding confidentiality. Currently, there is widespread usage of AI

[30] Edward F. Sherman, Confidentiality in ADR Proceedings: Policy Issues Arising from the Texas Experience, 38 S. TEX. L. REV. 541 (May 1997).
[31] The Arbitration and Conciliation Act, 1996, No. 26, Act of Parliament (1996) (India).
[32] Nigerian Inst. Chartered Arbitrators, *Arbitration Rules*, art. 38(1) (2021) (Nigeria).
[33] Int'l Chamber of Com., ICC Arbitration Rules, art. 22(3) (2021).

for finding case information. At times, this may lead to a breach of confidentiality, like revealing the parties' or third parties' names, uploading of important information, etc. This is one problem in the protection of confidential information. Dispute Resolution Data LLC (DRD) has worked with 20 arbitral institutions to create a case law database. To avoid creating confidentiality issues, the arbitral institutions upload the data themselves, ensuring that the names of the parties and other sensitive details remain confidential.[34] Similarly, FINRA makes its awards available, unredacted, online, but doesn't reveal the supporting materials such as the exhibits and memoranda of law submitted by the parties or motion practice materials.[35] Another possible safeguard that is prevalent is the system of redacted awards. It refers to a system where sensitive or identifying information is removed from an arbitral or mediation award. This serves as an essential safeguard for confidentiality in AI-enabled arbitration and mediation. When AI tools are used to analyse past awards and facilitate decision-making, there is a risk that confidential information about the parties, case details, or sensitive evidence could be inadvertently exposed. Redacting awards helps mitigate this risk by anonymizing and removing details that could compromise the privacy of those involved. Another risk is the involvement of external developers. AI systems and digital tools often require external developers, programmers, or data processors; people outside the arbitration process may have access to—or at least an influence over—the technology being used. This external involvement creates a risk that sensitive information could potentially be exposed to individuals who are not directly involved in the arbitration or who may not be bound by its confidentiality obligations.

At present, laws, be they international or domestic, are not fully equipped to regulate these problems. As expounded above, there are laws pertaining to the strict compliance with confidentiality in these proceedings. But the inclusion of technology presents a different problem, and there arises a need for proper legislative frameworks to address these challenges.

Understanding the Barriers to Privacy

[34] Minchao Fan, Ruian Guo & Dixin Deng, Artificial Intelligence and Arbitration in China: Where Do We Come from? Where Are We? Where Are We Going?, 16 DISP. RESOL. INT'l 29 (May 2022).
[35]Paul Bennett Marrow et al, Artificial Intelligence and Arbitration: The Computer as an Arbitrator—Are We There Yet? 74 DSJ 35, 68 (2020).

Justice Brandeis expounds that "The makers of our Constitution ... recognized the significance of man's spiritual nature, of his feelings and his intellect. They knew that only a part of the pain, pleasure, and satisfactions of life are to be found in material things. They sought to protect Americans in their beliefs, their thoughts, their emotions, and their sensations. They conferred, as against the Government, the right to be let alone - the most comprehensive of rights and the right most valued by civilized men.[36] The sanctity of the right to privacy is enigmatically explained by Justice Brandeis. Privacy is not a new age right, however, barriers to privacy have increased with the advancement in technology. In the case of KS Puttuswamy v. UOI[37], the court had enunciated that "privacy is the necessary condition precedent to the enjoyment of any of the guarantees in Part III. As a result, when it is claimed by rights bearers before constitutional courts, a right to privacy may be situated not only in Article 21, but also simultaneously in any of the other guarantees in Part III. In the current state of things, Articles 19(1), 20(3), 25, 28, and 29 are all rights helped up and made meaningful by the exercise of privacy."[38] These judgments help us understand the importance of the right to privacy.

The integration of AI in arbitration and mediation offers efficiency and data-driven insights, yet it also raises substantial privacy concerns that can affect the confidentiality foundational to these processes. One major concern is the involvement of external AI developers or third-party vendors who are entrusted with the task of designing and maintaining these tools. Often, these developers require access to sensitive case data for tasks such as programming, training, or troubleshooting AI systems, which risks exposing the data that is stored to be exposed to individuals who may not even be directly bound by the arbitration or mediation's confidentiality agreements. This external input could inadvertently risk unauthorized access to sensitive data. The AI systems used in ADR rely on two main aspects: secure storage and transfer of information. However, any susceptibility in these areas could result in data breaches or unauthorized exposure of sensitive details about the parties, case evidence, and resolutions. Moreover, the AI system relies on datasets for its enhanced performance, raising major concerns about the retention of data. The data that is used by AI may be stored longer than

[36] Olmstead v. United States, 277 U.S. 438, 478 (1928) (Brandeis, J., dissenting).
[37] *Justice K.S. Puttaswamy (Retd.) v. Union of India*, AIR 2018 SC (SUPP) 1841 (India).
[38] *Justice K.S. Puttaswamy (Retd.) v. Union of India*, AIR 2018 SC (SUPP) 1841 (India).

necessary or even reused for purposes beyond the original scope, potentially leading to a violation of private information.

Another pressing issue is the opacity inherent in AI technologies. Even though the parties consent to the use of AI technology in ADR processes, they might not be fully aware or have control over how their data is used within AI systems. This lack of transparency can lead to a dwindling sense of control over private information, ultimately eroding trust in the confidentiality of arbitration and mediation. Without proper and strict safeguards, these privacy risks could undermine the benefits of using AI in ADR and may compromise the trust that parties place in the dispute resolution process.

Encryption, anonymization, and secure data-handling are various ways through which several software solutions are addressing the challenges of privacy and confidentiality in AI-enabled arbitration and mediation. For example, Smartsettle ensures privacy by encrypting case data and using anonymized inputs, maintaining confidentiality while facilitating AI-driven insights.[39] Another software is Immediation, which secures all communications, including video and text, with end-to-end encryption and controlled access features, so users can manage who views sensitive information.[40] Meanwhile, Kleros uses blockchain to store case data in a decentralized, tamper-proof manner, enhancing data security and traceability.[41] Other platforms, such as Modria, employ anonymization to feed AI algorithms without revealing personal identifiers, while Verifi provides encrypted document storage and an audit trail for secure data access. These platforms demonstrate a commitment to privacy, offering a balance between AI efficiency and stringent confidentiality safeguards in ADR processes.

Legal & Ethical Implications

AI in arbitration and mediation presents complex legal and ethical challenges, particularly concerning confidentiality and privacy, the two cornerstones of the process. Confidentiality is an essential component of ADR as it promotes open and honest communication. It encourages parties to negotiate and reach agreements without fear of sensitive information being disclosed.

[39] SMARTSETTLE, https://www.smartsettle.com/ (Last visited 11th May 2025).
[40] IMMEDIATION, https://immediation.com/ (Last visited 11th May 2025).
[41] VIDHI, https://vidhilegalpolicy.in/blog/kleros-is-crypto-based-dispute-resolution-the-future/ (Last visited 11th May 2025).

It is pertinent to note that technology is good as long as the users are good. AI tools involve data storage, analysis, and processing by third-party vendors or developers. This involvement of external parties inherently increases the risk of exposure of confidential case information, allowing unauthorized individuals to access sensitive details. Legally, this can lead to breaches of confidentiality agreements, which could undermine the integrity of ADR and even expose practitioners to liability.

Ethically, AI in ADR challenges the notion of informed consent. The parties might not fully understand how AI systems work or handle their data. AI systems require large amounts of data to function effectively, with a possibility of retention of information for longer than necessary. This lack of transparency regarding data use and retention not only violates ethical norms around privacy and consent but also undermines trust, as parties may feel uncomfortable sharing sensitive information if they suspect it may be used in unforeseen ways. Further, there is the problem of bias, which can severely affect the outcomes generated by AI. Raising serious ethical questions about fairness and impartiality, especially if certain demographics are disproportionately impacted by AI-driven decisions.

Several legal frameworks globally have been developed to address these challenges. In India, the Information Technology Act, 2000 (amended in 2008)[42] provides a basic structure for data privacy, including penalties for unauthorized access or data breaches. However, the lack of specific AI regulations in India leaves some privacy concerns unaddressed. The Digital Personal Data Protection Act (2023)[43] seeks to introduce more comprehensive data protection rules and may help define clearer standards for data handling in AI-driven ADR, including provisions for consent and transparency. However, laws exclusive to arbitration and mediation are not prevalent, mainly because of the nascent use of AI in ADR processes in India.

Internationally, the General Data Protection Regulation (GDPR)[44] in the European Union is a leading framework for data privacy and protection, impacting AI's use in ADR. The GDPR mandates that parties are informed of how their data will be used, processed, and stored, thus

[42] Information Technology Act, 2000, No. 21, Act of Parliament, 2000 (India).
[43] Digital Personal Data Protection Act, 2023, No. 22, Act of Parliament, 2023 (India).
[44] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 Apr. 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation), 2016 O.J. (L 119) 1.

enforcing transparency and requiring explicit consent, which is crucial for ADR's ethical integrity. It also provides individuals with rights such as access to their data and the ability to request its deletion, offering further safeguards. In the United States, the California Consumer Privacy Act (CCPA)[45] provides similar protections. However, laws differ across states in the US, complicating uniformity for national ADR processes. The UNCITRAL Model Law on International Commercial Arbitration, a widely adopted framework, emphasizes the importance of confidentiality in arbitration but lacks specific AI-related provisions, leaving confidentiality risks unaddressed.

These laws and regulations reflect the growing need for clear, specific and enforceable standards that account for AI's role in ADR, ensuring that confidentiality and privacy are upheld even with the advancement of technology. Robust regulations like efficient data analysis and decision-making are necessary to ensure a balance between the use of technology for efficiency and safeguarding the ethical standards that are critical to effective arbitration and mediation.

Way Forward

Fei Fei Li, Co-Director of the Stanford Institution for Human-Centered Artificial Intelligence and IT Professor at the Graduate School of Business, states that "artificial intelligence is not a substitute for human intelligence; it is a tool to amplify human creativity and ingenuity".[46] In today's rushed world, artificial intelligence is needed to ensure that parties can interact with each other despite geographical barriers. This echoes the need for developing global standards and regulatory frameworks specific to AI in ADR, which would guide data privacy and confidentiality practices across jurisdictions. Subsequently, there is a need to adopt technical safeguards, such as using encryption, anonymization, and data minimization techniques, to limit the exposure of sensitive information. Developing AI models that rely on anonymized or synthetic data can further enhance privacy without compromising AI's effectiveness. The development of "ethical guidelines and industry best practices" can ensure responsible AI use

[45] California Consumer Privacy Act of 2018, CAL. CIV. CODE §§ 1798.100–1798.199 (West 2020).
[46] NISUM, *Top 10 Thought-Provoking Quotes from Experts That Redefine the Future of AI Technology*, https://www.nisum.com/nisum-knows/top-10-thought-provoking-quotes-from-experts-that-redefine-the-future-of-ai-technology.

in ADR. Primarily, the ADR organizations can adopt codes of conduct that emphasize privacy, transparency, and fairness. It is best to strike the problem at the root, and by developing such codes, each organisation will have its own ethical guidelines. Further, establishing AI ethics committees or data protection officers within ADR institutions would ensure that ethical standards are regularly reviewed and upheld. Training arbitrators and mediators on AI's capabilities and limitations is necessary. It also enables effective integration of AI in the ADR processes. Finally, there must be continuous review and adaptation of regulations and technology. AI is a fast-evolving field, and legal frameworks should be flexible enough to accommodate advances in technology while preserving ADR's foundational principles. Regular audits of AI systems and transparent, public-facing reports on privacy measures can help ADR providers remain accountable and responsive to new challenges.

A combination of all these approaches and strengthening regulatory frameworks, enhancing transparency, adopting technical safeguards, developing ethical guidelines, and maintaining adaptive oversight, can manifold AI's potential while protecting the confidentiality and privacy essential to the ADR process. Thereby, building a future where AI enhances rather than undermines trust in arbitration and mediation.

Conclusion

Eliezer Yudkowsky quotes that "by far, the greatest danger of AI is that people conclude too early that they understood it."[47] AI in ADR is a transformative tool. However, the question is 'whether we are ready for such an integration'? The use of AI in the ADR processes, especially arbitration and mediation, presents both opportunities and challenges. A serious concern is whether the risk outweighs the opportunities it entails. To embrace AI without clear and specific regulations, enforcement agencies and other institutional capacities may undermine the very purpose of the technology. Therefore, it is suggested that the presence of a strong legal framework is necessary to implement AI into the ADR process. Privacy and confidentiality are two integral components of the ADR mechanism. Violation of privacy is a violation of the right to life under Article 21 of the Constitution. Thus, it is pertinent to have robust frameworks

[47] Eliezer Yudkowsky, *Pausing AI Developments Isn't Enough. We Need to Shut It All Down*, TIME, Mar. 29, 2023, at 6:01 PM, https://time.com/6266923/ai-eliezer-yudkowsky-open-letter-not-enough/.

and enforcement mechanisms before the integration of AI into the ADR system. However, on the other hand use of AI in ADR processes increases efficiency and helps in the speedy disposal of cases. The key is to maintain a balance between the opportunities given by AI systems and reduce the challenges it presents.