ARBI(TRAITOR)?: A CASE AGAINST AI ARBITRATORS

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ABSTRACT

This paper covers the notion of delegating the role of arbitrators to Artificial Intelligence (or 'AI') Systems. In recent times, Artificial Intelligence has been permeable in almost every industry. The legal industry is no different. Researchers have wondered if Artificial Intelligence arbitrators can now replace arbitrators as a solution to the problem of arbitral bias. Several countries have also started testing AI in arbitration proceedings. In theory, the idea is intelligent given that the common perception of AI is that it is free of stereotypes and bias, and cannot let prejudice slip into its decisions. However, in other uses of AI, it has been found that the AI is only as unbiased as the ones writing its algorithms and the data upon which such programs are trained. This paper aims to delve into the existing regulatory frameworks, examine whether they can effectively govern an AI-powered arbitrator and see if such parties can truly be the antidote to arbitral bias. The authors will also explain how there is a need for human arbitrators, and why delegating complete responsibility is a bad idea. While AI comes with the promise of providing solutions, it is not risk-free. Therefore, the paper concludes with how AI can be used in some aspects of an arbitration, but it cannot replace human arbitrators directly. Unlike the existing literature, this paper focuses on AI-powered arbitrators and the belief that they can combat arbitral bias, it also highlights whether the Indian regulatory framework allows for the appointment of AI powered arbitrators. The conclusion provides lucid suggestions and the context behind them to make AI-based solutions more viable in the process of arbitration.

1. INTRODUCTION

Legal Tech has recently exploded in popularity in the legal industry. A vast variety of products have been developed in this area to assist practitioners in streamlining existing human operations. Artificial intelligence has

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also aided in the increase of Legal Tech's popularity.[1] As Professor Roger Browns word stated, *"As technology disrupts society further, regulators turn away from the rules in favour of technological solutions or where historic regulatory objectives are simply taken care of by automation".*[2] The automation referred to here is a product of Artificial Intelligence (AI) Systems, i.e., systems that can absorb data from their surroundings and use it to alter or form outputs. What this statement means is that as technology becomes more capable, many regulatory duties and responsibilities can be delegated to machines and technology systems. Solutions powered by AI include products that can help augment human review capabilities human review capabilities like reviewing documents and agreements (for example, predictive coding)[3] in the face of escalating volumes of unstructured data and tight deadlines. Some of these innovations face a huge demand, especially with relation to human language processing, inspiring a whole array of legal tech solutions in the areas of legal research, access to justice, and predicting cases' outcomes.[4]

The field of ADR has also experimented with AI programs. An example of such software is as follows-DRExM, a knowledge-based AI system that shows alternate resolution techniques, has been used in Egypt to resolve construction disputes. The software can recommend the most suitable

1. Aditya Singh Chauhan, *Future of AI in Arbitration: The Fine Line Between Fiction and Reality* (Kluwer Arbitration Blog, 26 September 2020) http://arbitrationblog. kluwerarbitration.com/2020/09/26/future-of-ai-in-arbitration-the-fine-line-between-fiction-and-reality/ accessed 29 September 2021.
2. Roger Brownsword, *Law and Technology: Two Modes of Disruption, Three Legal Mind-Sets, and the Big Picture of Regulatory Responsibilities* (2018) 14 Indian Journal of Law and Technology.
3. Claire Morel de Westgaverand Olivia Turner, *Artificial Intelligence, A Driver For Efficiency In International Arbitration – How Predictive Coding Can Change Document Production* (Kluwer Arbitration Blog, 23 February 2020) http://arbitrationblog.kluwerarbitration.com/2020/02/23/artificial-intelligence-a-driver-for-efficiency-in-international-arbitration-how-predictive-coding-can-change-document-production/ accessed 29 September 2021; Lucas Bento, *International Arbitration and Artificial Intelligence: Time to Tango?* (Kluwer Arbitration Blog, 23 February 2018) http://arbitrationblog.kluwerarbitration.com/2018/02/23/international-arbitration-artificial-intelligence-time-tango/ accessed 29 September 2021.
4. Ibrahim Shaheta, *The Marriage of Artificial Intelligence & Blockchain in International Arbitration: A Peak into the Near Future!!!* (Kluwer Arbitration Blog, 12 November 2018) http://arbitrationblog.kluwerarbitration.com/2018/11/12/the-marriage-of-artificial-intelligence-blockchain-in-international-arbitration-a-peak-into-the-near-future/ accessed 25 August 2021.

dispute resolution technique, depending on the nature of the dispute, the evidence, and the relation between the parties.[5]

One of the newer innovations, however, also uses AI to adjudge disputes. AI decision-making is also being used within the field of online dispute resolution (ODR). These systems are labelled expert systems, which are programmed by experts in the field and integrate rule-based algorithms to assist the program to make decisions based on information received from the parties. An advanced ADR tool called 'Rechtwijzer' in the Netherlands aids couples in the separation or divorce process. Rechtwijzer elicits information about the participants and their connection before presenting options depending on the answers. Legal information and AI systems may already generate extensive decision trees that can offer outcomes to conflicts using sophisticated "branching" and data searching techniques. This is accomplished using a system that mimics human intellect (neural networks).[6]

When it comes to AI that can, in theory, adjudicate matters, one of the most advanced technologies is being used in the Chinese 'Internet Courts'. The court is said to be the first Internet court in the world and focuses on hearing six kinds of civil and administrative Internet-related disputes, including online piracy and e-commerce. China's Internet courts have been experimenting with "AI judges" to help them adjudicate simple, non-complex cases like low-value contract and negligence disputes. These technologies are intended to improve judicial consistency across China while also addressing potential judicial expertise gaps. Such a machine can also perform deviation analysis on draught judgments in some courts by comparing relevant evidence to evidence in earlier court decisions.[7]

If these programs can predict outcomes, and give resolutions it leads to fundamental questions of whether such AI-powered dispute resolution systems can replace human arbitrators (or judges) or not. There is still some skepticism on the complete replacement of arbitrators with AI considering

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5. AA Elziny and others, *An Expert System to Manage Dispute Resolutions in Construction Projects in Egypt* (2016) 7 Ain Shams Engineering Journal 57.

6. Tania Sourdin and Richard Cornes, *Do Judges Need to Be Human? The Implications of Technology for Responsive Judging* in Tania Sourdin and Archie Zariski (eds), *The Responsive Judge: International Perspectives* (Springer, 2018) https://doi.org/10.1007/978-981-13-1023-2_4 accessed 21 November 2021.

7. Mimi Zou, "*Smart Courts" in China and the Future of Personal Injury Litigation* (Social Science Research Network 2020) SSRN Scholarly Paper ID 3552895 https://papers.ssrn.com/abstract=3552895 accessed 21 November 2021.

the highly technical and confidential nature of commercial and international arbitration. Having said that, AI consistently has had breakthroughs that were unexpected for many years.[8]

If such a program is developed it raises the question: *"Are AI arbitrators better than human ones, and if they are, should they be allowed to operate at all?"* Some of the literature advocates that AI is free from prejudice, and therefore, it can do away with the problem of arbitral bias.[9]

The independence and impartiality of an arbitrator are indispensable to an arbitration proceeding. One of the pillars of natural justice is to conduct trials or any other proceedings in a fair and just manner. One cannot hear the cause they have an interest in (also known as *nemo judex in sua causa*). However, when partiality or prejudice is apparent in the way an arbitrator acts, it is termed as arbitral bias. Finding the contention of arbitral bias rising, many jurisdictions across the world,[10] including India,[11] have taken measures to grapple with this issue. There are increasing chances and attempts to delegate the entire process to electronic agents, a notion that may have some clear benefits at face value.[12] However, the ratio of the number of conversations hyping up AI systems and their capabilities to that of the implications of giving AI the reins to essential societal activities is skewed

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8. See Prof Maxi Scherer, 'International Arbitration 3.0 – How Artificial Intelligence Will Change Dispute Resolution', *Austrian Yearbook of International Arbitration* (2018) https://plu.mx/ssrn/a/?ssrn_id=3377234 accessed 21 November 2021. The author explains the DeepMind incident with strong and weak AI which showcases an example of AI progressing faster than expected.

9. Mel Andrew Schwing, *Don't Rage Against the Machine: Why AI Maybe the Cure for the 'Moral Hazard' of Party Appointments* (2020) 36 Arbitration International https://doi.org/10.1093/arbint/aiaa033accessed 26 August 2021; Paul Bennett Marrow and Mansi Karol and Steven Kuyan, *Artificial Intelligence and Arbitration: The Computer as an Arbitrator—Are We There Yet?* (2019) 74 Dispute Resolution Journal 4 https://ssrn.com/abstract=3709032accessed 26 August 2021.

10. Atharva Kotwal and Isha Goel, *Unpacking Bias as Justification for Arbitrator Dismissal Across the World* (Jurist, 22 September 2020) https://www.jurist.org/commentary/2020/09/kotwal-goel-bias-arbitrator/accessed 25 August 2021.

11. Faranaaz Karbhari, *Arbitral Bias* (Mondaq, 27 November 2020) https://www.mondaq.com/india/arbitration-dispute-resolution/1010490/arbitral-bias accessed 25 August 2021.

12. See Lippe, Paul, Daniel Martin Katz, and Dan Jackson *Legal by Design: A New Paradigm for Handling Complexity in Banking Regulation And Elsewhere In Law* (2015) Oregon L Rev 4: 831. The author asserts that lawyers are ill-equipped to handle the complexities of 'the modern legal landscape' and 'new technologies and approaches borrowed from other fields, including the possible application of IBM Watson, law has the opportunity to dramatically increase its ability to manage complexity'.

towards the former.[13] The notion of providing these computer systems with the power to take legal decisions that will directly affect human life must be thoroughly examined and vetted before implementation, and such implementation must continuously go through checks. Keeping this in mind, it seems that AI's intention to provide a solution to this issue is good. However, there are many problems with this proposal. The authors of this paper aim to find out if AI-powered arbitrators are truly the vaccine to the infection of arbitral bias.

The first part of this paper will provide an overview of the regulatory framework of arbitral bias and discuss the appointment of an 'AI-Powered arbitrator.' The second part delves into the capability of and arguments against AI systems replacing human arbitrators.

2. PART 1: REGULATORY FRAMEWORK

A.   A Brief Primer on Arbitral Bias

In 2010, Jan Paulsson started the much-commented upon debate of party-appointed arbitrators being biased, and the requirement of arbitrators to be selected by a neutral body, through a blog post.[14] The contentions raised by him include that the arbitrators appointed by parties were a moral hazard to international commercial arbitration and that it severely undermined the concept of impartiality in arbitration. For arbitration to serve as an actual substitute for litigation, the rule of natural justice, namely, *Nemo judex in causa sua,* must be applied.[15] Therefore, the concept of arbitral bias can be explained as the situation in which an arbitrator is prejudiced towards a party instead of being independent and impartial, which are the two requirements of a fair arbitration proceeding.

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13. *AI Could Be a Critical Tool to Help Save the Planet* (*The Guardian*, 30 April 2019) https://www.theguardian.com/ai-for-earth/2019/apr/30/ai-tech-sustainable-planet accessed 21 November 2021; Rob Toews, *AI will Transform the Field of Law*, Forbes https://www.forbes.com/sites/robtoews/2019/12/19/ai-will-transform-the-field-of-law/ accessed 21 November 2021; *How AI Can Boost Your Company Results* | Scoro (31 October 2017) https://www.scoro.com/blog/how-ai-can-boost-company-results/ accessed 21 November 2021.

14. Jan Paulsson, *Are Unilateral Appointments Defensible?*, Kluwer Arbitration Blog (Wolters Kluwer, 2 April 2009) http://arbitrationblog.kluwerarbitration.com/2009/04/02/are-unilateral-appointments-defensible/ accessed 26 July 2021.

15. See Matthew Gearing, *"A Judge in His Own Cause?": Actual or Unconscious Bias of Arbitrators* (2000) 3 Int'l Arb L Rev.

Under Indian jurisdiction, looking into the history of recent amendments, it is found that the policymakers have worked towards solving the problem of arbitral bias.[16] The Arbitration and Conciliation (Amendment) Act, 2015,[17] gives considerable attention to aspects such as mutuality, independence, and impartiality. The Fifth Schedule also refers to the grounds on which an arbitrator's independence and impartiality can be questioned and therefore, the award so passed can be challenged under Section 12 of the Act.[18]

Sub-section (1) of Section 12 has been revised to require an arbitrator to furnish the parties with a written disclosure of any direct or indirect, past, or present relationship he may have had with any of the parties to the dispute. Furthermore, despite any prior agreement between the parties, Section 12(5) read with the Act's Seventh Schedule also specifies the various categories of persons ineligible to be chosen as arbitrators. In TRF Ltd. v. Energo Engg. Projects Ltd.,[19] a three-judge bench of the Supreme Court strengthened the statutory mandate of an independent, unbiased, and neutral arbitrator. The Supreme Court has ruled that if an arbitrator is rendered disqualified by law, he cannot appoint another arbitrator. The pure norm of adjudicative ethics is based on the idea that the arbitral tribunal authorized by law to try cases and disputes must not only be unbiased, but must also avoid even the appearance of prejudice.[20] As a result, it is critical to guarantee that the arbitration process adheres to the greatest levels of impartiality. However, the mere quality of being human gives rise to some intrinsic, subconscious,[21] latent bias in even the most equitable and ethical human arbitrators,[22] such biases may interfere with the quality of the verdict passed. Thus, it creates a space that some sort of unbiased system can fill.

The goal behind the development and application of Artificial Intelligence Systems is to make life easier and more efficient for humans and thus one

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16. See Udian Sharma, *Independence and Impartiality of Arbitral Tribunals: Legality of Unilateral Appointments* (2020) 9 IJAL 121 http://ijal.in/sites/default/files/Vol9Issue1/ Udian_Sharma-Independence_and_Impartiality_of_Arbitral_Tribunals_Legality_ of_Unilateral_Appointments.pdf accessed 26 August 2021.
17. Arbitration and Conciliation (Amendment) Act 2015 (Act 3 of 2016).
18. Arbitration & Conciliation Act 1996 (Act 26 of 1996).
19. TRF Ltd. v. Energo Engg. Projects Ltd., (2017) 8 SCC 377.
20. State of Arunachal Pradesh v. Subhash Projects and Mktg. Ltd. 2006 SCC OnLine Gau 57.
21. See Divij Jain, *Changing Paradigm of the Arbitrator's Duty to Remain Impartial in the Social Media Age?* Kluwer Arbitration Blog (Wolters Kluwer, 5 July 2021) http://arbitrationblog.kluwerarbitration.com/2021/07/05/changing-paradigm-of-the-arbitrators-duty-to-remain-impartial-in-the-social-media-age/ accessed 26 July 2021.
22. Shwing (n 9).

of their fundamental requirements is to perform equitably[23] - this premise serves as an impetus for the argument of inclusion of AI into arbitration. However, while this requirement is being pursued relentlessly - the results so far do not work out in AI's favor.

B.   Enhanced Adjudication Services: Appointment of AI-Powered Arbitrators

To understand the enhanced adjudication services, an example can be taken from international developments. In a 2017 study, Katz and others used data from US Supreme Court rulings to apply it to a machine learning software that involved the prediction of legal decision-making.[24] After learning from the dataset's sample, the algorithm was applied to the remaining, out-of-sample data and asked to predict two things: 1) whether the Court would affirm or reverse a ruling as a whole; and 2) how each Justice would vote. The model correctly predicted 70.2 percent of Supreme Court rulings and 71.9 percent of Justice votes, demonstrating a high rate of accuracy compared to its predecessors.[25] Looking at the success rates, the model can be treated as an enhanced adjudication system. Based on the data fed to it, of precedents, case laws, statutes, reforms etc. it can come to a decision. This, however, does not allow the system to take the place of a judge - because while 70% is a high rate of success, the 30% discrepancy seems much larger when we consider that it may contain verdicts by which citizens will be condemned or condoned and perhaps more importantly - the system is not capable for providing the 'judgment'[26] but merely a forecast of the verdict. Nevertheless, such models have been used to solve online disputes.[27] One of the main arguments against using AI

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23. Ayanna Howard and Jason Borenstein, *Trust and Bias in Robots* (2019) 107 American Scientist 86.

24. Daniel Martin Katz and others, *A general approach for predicting the behavior of the Supreme Court of the United States* (2017) 12 PLOS ONE https://doi.org/10.1371/journal.pone.0174698accessed 26 July 2021.

25. N Sivaranjani and others, *A Broad View of Automation in Legal Prediction Technology* (Third International Conference on Electronics Communication and Aerospace Technology 2019).

26. As per Section 2(9) of the Civil Procedure Code (1908) – a Judgment is the reasoning behind a verdict.

27. Aditya Singh Chauhan, *Future of AI in Arbitration: The Fine Line Between Fiction and Reality* (Kluwer Arbitration Blog, 26 September 2020) http://arbitrationblog.kluwerarbitration.com/2020/09/26/future-of-ai-in-arbitration-the-fine-line-between-fiction-and-reality/ accessed 25 July 2021; Vivi Tan, *Online Dispute Resolution for Small Civil Claims in Victoria: A New Paradigm in Civil Justice* (2019) 24 Deakin Law Review 101.

in litigation or courts is that they do not possess the emotional intelligence that is required of judges in such scenarios. Categorically speaking, that is not required in international or commercial arbitrations.[28] However, the law is not noticeably clear on the appointment of such AI-powered arbitrators.

The appointment of a computer as an arbitrator is not expressly prohibited by any of the amended international arbitration regulations. The Convention on the Recognition and Enforcement of Arbitral Awards (The New York Convention) refers to arbitrators in two articles, Art. I(2) and Art. V (1)(b),[29] but does not provide or imply that the arbitrators must be human beings. Rather, every term pertaining to the arbitration agreement's legality solely refers to the submission of a dispute to the arbitrators. Parties may appoint a single arbitrator or a panel of arbitrators, according to the definitions of "arbitral tribunal." Because of this circular reasoning, both an arbitration agreement sending the dispute to a Machine Learning System arbitrator and a tribunal consisting entirely of such a machine, would be legal.[30]

However, S. 11(1) of the Arbitration and Conciliation Act, 1996 mentions "A person of any nationality may be an arbitrator." AI does not qualify as a "legal person."[31] Therefore, the inclusion of AI-Powered arbitrators as a substitute to human arbitrators is not under the purview of Indian legislation at present. There is always a chance of amendments to the sections as well as judicial pronouncements, in such a way that AI-Powered arbitrators can be included. Members of the European Parliament, for example, have proposed giving robots legal standing by classifying them as "electronic people" and making them accountable for their actions or omissions. This type of rule would potentially open new floodgates, allowing parties to appoint computers even in countries where "people" arbitrators are required.[32] These discussions however are in a very nascent stage and are not in the realm of dispute resolution. The personhood of machines and AI in particular is still a matter of contention in multiple jurisdictions (both

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28. Sourdin and Cornes (n 6).
29. The Convention on the Recognition and Enforcement of Foreign Arbitral Awards (signed 10 June 1958) 330 UNTS 38 (1959).
30. José María de la Jara and Daniela Palma and Alejandra Infantes, *Machine Arbitrator: Are We Ready?* Kluwers Arbitration Blog (Wolters Kluwer, 4 May 2017) http://arbitrationblog.kluwerarbitration.com/2017/05/04/machine-arbitrator-are-we-ready/ accessed 26 August 2021.
31. Simon Chesterman, *Artificial Intelligence and the Limits of Legal Personality* (2020) 69 International and Comparative Law Quarterly 819 https://doi.org/10.1017/S0020589320000366 accessed 26 August 2021.
32. Jara (n 30).

territorial and subject-matter based) across the world – most progress seems to be made in the areas of Intellectual Property Rights,[33] this too however, is at a somewhat hesitant stage and subject to dispute.[34]

3. PART 2: ARGUMENTS AGAINST AI POWERED ARBITRATORS

At present, there are few areas where computer systems have been given the power to undertake the philosophical jobs[35] of decision making in the legal field. In Lodder and Thiessen, 2003 such a system that would be ideal to take on such a responsibility has been termed a 'Strong Agent'. They define a 'strong agent' as one which enjoys the qualities of autonomy, social ability (communication with other agents or humans), reactivity (taking input from outside environment), pro-activeness, mobility, rationality, veracity (will not knowingly endorse false information) and benevolence.[36] The paper takes a strong stance that if Artificial Intelligence Systems are to ever replace the roles of traditional arbitrators, then these qualities must be fulfilled.

Unfortunately, the systems that have already been deployed are by no means strong agents, and the absence of these qualities has had disastrous consequences.[37] *Lodder and Thiessen* have also defined another type of system – a weak agent – such an agent enjoys the qualities of autonomy, social ability, reactivity, and pro-activeness, but must only be used to assist the Arbitration process, and in no way should it take the decision itself. Such agents are at play and have been employed in the Arbitration process in the following ways:

- For the search and selection of Arbitrators or Mediators based on facts;[38]

- For the administrative work related to ADR;

- For the organizing, sorting and management of documents;

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33. Rebecca Currey and Jane Owen, *In the Courts: Australian Court Finds AI Systems Can Be "Inventors"* https://www.wipo.int/wipo_magazine/en/2021/03/article_0006.html accessed 21 November 2021.
34. *AI Cannot Be the Inventor of a Patent, Appeals Court Rules* (*BBC News*, 23 September 2021) https://www.bbc.com/news/technology-58668534 accessed 21 November 2021.
35. Chauhan (n 27).
36. Arno R Lodder and Ernest M Thiessen, *The Role of Artificial Intelligence in Online Dispute Resolution* 18.
37. Julia Angwin and others, *Machine Bias* (ProPublica 2016) https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing?token=U6YPJH2o8tEdYqJTDehddU4i3TwLH1Jb accessed 25 July 2021.
38. 'Arbitrator Intelligence' https://arbitratorintelligence.com/ accessed 21 August 2021.

- ▪ For Legal Research;[39]

- ▪ For helping parties identify and structure issues during mediation.[40]

While Lodder and Thiessen's vision for the Strong Agent has not been achieved, there are calls for AI being given decision-making powers for the sake of efficiency and objectivity. However, the utilisation of AI in any form, other than a supportive or assistive one (with caveats), is undesirable, as argued below:

A.   Because they are a black box that cannot be judged, monitored or corrected

In *The Trial* by Franz Kafka, the protagonist wakes up one morning and is told that he is being arrested, the reason is unknown to him, and even the police officers that are making the arrest.[41] While Kafka's story is a satire on the mindless bureaucracy of the legal system, and the common man's struggle with it, it also serves as a brilliant metaphor for one of the major problems that plague AI researchers and scientists: The Black Box Problem.

A black box is a system that can be observed by means of its inputs and outputs, however, its inner operations remain unknown. The inner workings of this system are left to the estimation of the observers. Current AI systems face this problem, and because of this problem, an AI system returns an output that cannot be objectively termed as free and fair.[42] It is important to understand that Machine Learning and Deep Learning AI systems are created with the intention to mimic human decision making.

The issue arises when the data from past human decisions were biased and prejudiced to begin with. An example of this issue is Amazon's recent fiasco with its internal hiring algorithm. Amazon was using an AI system to select candidates for interviews, the system was trained based on past employee data. Amazon's internal data reflected that male-employees enjoyed higher levels of success (i.e., more males fit the definition of success that

39. *AI May Help with Alternative Dispute Resolution* https://www.lawtimesnews.com/practice-areas/adr/ai-may-help-with-alternative-dispute-resolution/263579 accessed 19 August 2021.

40. Lodder and Thiessen (n 36).

41. Franz Kakfa, *The Trial* (1995).

42. Riccardo Guidotti, Anna Monreale and Dino Pedreschi, *The AI Black Box Explanation Problem* (*KDnuggets*) https://www.kdnuggets.com/the-ai-black-box-explanation-problem.html/ accessed 19 August 2021.

the machine was taught) than their female counterparts. This observation was inaccurate because the number of males in the company was much higher than the number of females. So even if every single female member qualified under a particular criterion, the overall result would still have more males than females. This led to the AI discarding the applications of women, and applications that mentioned things like 'Women's college,' 'Women's soccer team' etc.[43]

Illustration: This bias may manifest itself in arbitration matters as well, for example an AI-model trained on the economic and societal information of India will believe that male individuals earn more money than female individuals - if such a model is asked to take a decision in a divorce matter, where the wife is in an economically better position than the husband, the AI-model may still suggest a higher number of assets be allotted to the wife, even though she is better off.

Human life has historically been regulated through processes, our social teachings, civil liberties, and most endeavours are built around instructions and processes, but we have also historically had the power to challenge these processes & instructions through appeals, questions and other tools, an AI system does not allow this. Thus, the utilisation of an AI system to make legal decisions goes against the ethics of justice.

B.   Because they can perpetuate human biases

AI Systems have been popularised as objective and reasonable decision-makers that, unlike humans, cannot succumb to fatigue, internal bias, and indecisiveness. However, the notion of an unbiased AI is a dream that has not been achieved yet, and will not be achieved soon because of a simple issue. Most decision-making AI systems are based on Machine Learning algorithms. These algorithms analyse past data and use it to predict what a human would do in a novel situation; this system encounters two main problems:

1. A lack of data results in the algorithm not being able to learn effectively.

2. Existing data being tainted with inherent biases.

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43. Jeffrey Dastin, *Amazon Scraps Secret AI Recruiting Tool That Showed Bias against Women* (*Reuters*, 10 October 2018) https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G accessed 20 August 2021.

While the first problem can be solved by getting access to more data and will correct itself in a few years of continuous usage, the second one poses a threat to justice everywhere. Although discussions are being carried out to rectify these issues, there are roadblocks on that path too.[44]

In 2016, an organization named ProPublica released a report that exposed unequal, unethical, and illogical sentencing schemes that were being made based on an output from an AI system. The AI System that was being used was a Machine Learning-based program that was tasked with predicting the likeliness of a convict committing a crime after being released from prison (recidivism). The output of this machine was in the form of a 'Risk Level' with 1 being the lowest, and 10 being the highest. ProPublica found that African American convicts were consistently being marked as higher-risk individuals, as compared to Caucasian counterparts with similar charges. In fact, Caucasian convicts that were charged with armed robbery were marked as a '3' while African American teenagers that were charged with minor misdemeanours were marked as '8'.[45] This happened because the datasets this Machine Learning System was trained from contained details of African American convicts from over-policed, over-regulated neighbourhoods. This resulted in the AI System believing that being African American or living in African American majority neighbourhoods increases the chances of committing repeated crimes. Thus, the validity of AI as a decision-maker is highly questionable today. Delegating the 'philosophical job' of judges, mediators and other decision-makers will lead to inequitable decision making in the absence of sufficient, unbiased data, or at least a uniform method of identifying and factoring out biased data.

While this may seem a problem that will only be encountered at a later stage, it is important to realise that AI being an inhuman and a non-cognitive being, cannot differentiate between things like tone, context and other non-explicit cues that create meaning, and this leads to an inherent bias that it may hold. For example, in 2016 a huge outcry was raised by netizens on discovering that when an individual would search for 'Professional Haircut' on Google's Image search platform – they would be greeted by images of Caucasian men in business suits, and if one were to search for 'Unprofessional Haircuts', they'd be greeted by images of African American men or women in their traditional natural hairstyles.

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44. *Putting Responsible AI Into Practice* https://sloanreview.mit.edu/article/putting-responsible-ai-into-practice/ accessed 21 August 2021.
45. Julia Angwin and others (n 37).

Google was relentlessly shamed and questioned as many believed that this was a result of something the Tech Giant did, however the truth was that Google's AI algorithm was simply picking up images from photos used in articles or other user-generated web content. Google's algorithm uses the text surrounding an image to determine what is in the image itself, as a result the algorithm took images used in articles that protested racist attitudes towards hair and hair styles, and because these articles must have contained the word 'unprofessional' and 'haircut' several times, the algorithm tagged it as such. The context in which this image was used was extremely different – but the algorithm cannot tell that.[46]

A feedback loop problem is encountered when algorithms find correlations in a biased dataset and then predict outcomes without considering the fact that bias tainted the training data. The predictions then put back into the system make for a harmful cycle.[47] To discuss the implications of this on AI-Powered arbitrators, we can take this example. William Park reported on a case in which the arbitrator responded, "*Italians are all liars in these cases and will say anything to suit their books after one party cited a case involving Italians.*"[48] This material, if it stood as an award, may be used by an AI arbitrator to educate itself that all Italians are liars, preventing new evidence from Italians to be considered by the machine. AI arbitrators can also be biased if the historical data is based on a pattern, for example, to be biased towards corporations instead of consumers or investors instead of host states.[49] Such bias due to the feedback loop problem,[50] may become systematic if not corrected.

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46. *Do Google's "unprofessional Hair" Results Show It is Racist?* (*The Guardian*, 8 April 2016) http://www.theguardian.com/technology/2016/apr/08/does-google-unprofessional-hair-results-prove-algorithms-racist- accessed 30 August 2021.

47. Mark A. Lemley and Bryan Casey, *Remedies for Robots* (2019) 86 University of Chicago Law Review 5 https://chicagounbound.uchicago.edu/uclrev/vol86/iss5/3 accessed 26 August 2021.

48. William Park, *Arbitrator Bias* (2015) No. 15-39 Boston University School of Law, Public Law Research Paper https://scholarship.law.bu.edu/faculty_scholarship/15/ accessed 26 August 2021.

49. Gizem Halis Kasap, *Can Artificial Intelligence ("AI") Replace Human Arbitrators? Technological Concerns and Legal Implications* (2021) J Disp Resol 2, 223.

50. Ignacio N Cofone, *Algorithmic Discrimination is an Information Problem* (2019) 70 HASTINGS LJ 1389.

C.   Because they propagate the letter of law, with disregard for the spirit of the law

The rule of law is an essential principle of any democracy. The rule of law makes sure that every single individual within the territory of the country is subject to the supreme rule of the land – that is the law. It instils equality between the people and encourages the development of virtues like justice within society.[51] To propagate the rule of law, many say that it is necessary to have an objective judiciary,[52] one that treats all those that it seeks to help and punish as equals, irrespective of who such person may be. However, the rule of the law is fundamentally based on the virtue of justice, and such justice is not an objective issue, it requires application and interpretation of the law to best suit the condition, and thus the rule of law prefers the *Spirit of Law* over the *Letter of Law*.[53] The same cannot be said about algorithmic agents.

The notion that Judges should be indifferent to the citizens they serve is not a good one. While an indifferent judge will be the best party to dispose of cases efficiently, such a judge will not be the best one to dispose of justice. Justice follows the Spirit of Law and not just the Rule of Law. Justice follows Constitutionalism and not just Constitutional Law. The law is an incredibly abstract and human concept, to have a computer system understand the nuance and technicalities of law is an impossible feat, no matter how far our technology develops, in such a situation.

Therefore, replacing any form of judicial authority, be it a court-based one or ADR-based one, Artificial Intelligence cannot be allowed to replace the role of Human judges.[54]

Illustration: In the case of Kelner v. Baxter,[55] the plaintiff had been denied payment for the products he had delivered because the contract had

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51. Levine SJ, *The Law and the "Spirit of the Law" in Legal Ethics* (Social Science Research Network 2015) SSRN Scholarly Paper ID 2691710 https://papers.ssrn.com/abstract=2691710 accessed 29 September 2021.

52. Préfontaine DC and Lee J, *The Rule of Law and the Independence of the Judiciary* [1998] World Conference on the Universal Declaration of Human Rights https://biblioteca.cejamericas.org/bitstream/handle/2015/987/rule-law-independence.pdf?sequence=1&isAllowed=y accessed 29 September 2021.

53. Garcia S M, Chen P and Gordon MT, *The Letter Versus the Spirit of the Law: A Lay Perspective on Culpability* (2014) 9 Judgement and Decision Making 479.

54. *21 Fairness Definitions and Their Politics* https://fairmlbook.org/tutorial2.html accessed 29 September 2021.

55. Kelner v. Baxter (1866) LR & CP 174.

been made between the plaintiff and an unincorporated company – the respondents argued that since there was no valid contract (as the company was not 'born') the respondents could not be held personally liable for it as per the prevalent contract law. However, the court discarding the letter of the law and applying the reasoning behind such a law ruled that if there exists a pre-incorporation contract,[56] then the promoters[57] of the company would be liable in the event of any default. AI Arbitrators cannot be expected to exercise such reasoning, even if they are fed the whole history of the law.

D.   Because they require substantial amounts of data

For a predictive/decision-making AI system to make decisions, a large amount of data needs to be fed to it. To accurately predict the outcome of arbitration cases, the required data set would ideally include:

- transcripts from actual arbitration proceedings and their awards,

- reported judicial opinions issued by courts embodying the complete state of arbitration jurisprudence,

- all relevant statutes and rules of the arbitration process,

- all relevant journal and law review materials.[58]

In reality, a model uses only prior examples such as data for predicting the result of actions.[59] As a result, existing awards and their internal content will remain relevant for prediction purposes until a thorough model is established and a database for it is produced.

The quantity and quality of data given to an AI arbitrator, like with other AI systems, will have a significant impact on its efficiency.[60] However, in terms of arbitration, especially international and commercial arbitration, such huge quantities of data cannot be found. This is because arbitration by its very nature is a private process. Compared to litigation, there is hardly

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56. A pre-incorporation contract is a contract made on behalf of a company that has not been incorporated yet.

57. A promoter of a company is an individual that plays a large role in the incorporation of the company. This may consist of acts such as drafting or getting drafted the important documents required for incorporation, etc. From Probir Kumar Misra v. Ramani Ramaswamy 2009 SCC OnLine Mad 1427 : (2010) 154 Comp Cas 658.

58. Marrow (n 9) 36.

59. See Katz (n 12).

60. Karl Manheim and Lyric Kaplan, *Artificial Intelligence: Risks to Privacy and Democracy* (2019) 21 Yale J L & Tech 106, 122.

enough awards openly published, the few that are accessible also tend to be heavily redacted.[61] Compiling the dataset in such limits, with the few numbers of awards also being divided into various fields of law,[62] would make for a very inaccurate data set.

Along with this, the individual facts of the case also must be submitted to the AI system. These facts may often be highly confidential and feeding them to an AI system may also create a risk of leakage or exposure. As we see increased parties opting for arbitration for the sake of protecting their confidential information, this situation becomes a bit precarious. It is important to realise that in the pursuit of efficiency, we must not compromise on one of the fundamental and most sought-after benefits of the arbitration process.

Illustration: Consider a patent dispute between two companies, where both companies are in the business of manufacturing pharmaceutical products, and there is an allegation by one party against the other of corporate espionage and leakage of trade secrets. In the event that the details of such a leak need to be shared with the arbitrator for effective decision making, such arbitrator can be required to maintain confidentiality. However, any data or information fed to an AI-powered arbitrator will inadvertently be stored on some memory device and may become visible to the eyes of an unintended third party, further because AI Machines learn as they act, the same information may resurface during another arbitration matter on similar facts.

4. CONCLUSION

At the current stage, it seems bringing in AI-Powered arbitrators as a replacement to human arbitrators would do more harm than good. While AI may make the process smoother, faster, and more organized, there are still many pertinent issues that can suppress the essence of arbitration altogether. There is no doubt that arbitral bias exists in human arbitrators as well but there still is a chance for improvement, transparency, and accountability; features missing from AI. As Cathy O' Neil puts it,

> "But human decision making, while often flawed, has one chief virtue. It can evolve. As human beings learn and adapt, we change, and so do our processes. Automated systems, by contrast, stay

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61. Maxi Scherer, *Artificial Intelligence and Legal Decision-Making: The Wide Open?* (2019) 36 J Int'l Arb 539.
62. Kasap (n 49).

stuck in time until engineers dive in to change them… Big Data processes codify the past. They do not invent the future. Doing that requires moral imagination, and that's something only humans can provide."[63]

Any technology that can lessen the burden of courts and lawyers is a welcome one. However, it is important to keep a balance between fairness and apparent profit. Replacing human arbitrators with AI-Powered ones that can make enforceable decisions - would open a Pandora's Box that the legal framework of the country is not yet adept to deal with. For instance, an arbitral award given by AI arbitrators can be challenged on the grounds of public policy[64] given that the award is not given by natural persons, or it may be that the impartiality and independence of AI-arbitrators is questioned because of data-drivenness of AI, or that the arbitral award lacks sufficient reasoning. Therefore, if AI is used, the traditional binding nature of an arbitral award can be set aside to allow for an appeal of the award.[65]

Regulation of AI technology, accountability of the creator, the enforceability of the awards, right to explanation and a lot of other hurdles stand in the way of AI-Powered arbitrations.

There is a need for more research, and development of the niche before this question can be revisited. The author recommends the following changes be implemented:

- Emphasis on responsible AI systems being developed;

- Creating standardised rules and regulations about when, how, and where AI can be used;

- Barring the use of AI as a sole position of authority;

- Creating standards for data quantity and quality that a system will use;

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63. Cathy O' Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (Crown, 2016).

64. Guillermo Argerich and others, *Could an Arbitral Award Rendered by AI Systems Be Recognized or Enforced? Analysis from the Perspective of Public Policy* (Kluwer Arbitration Blog, 6 February 2020) http://arbitrationblog.kluwerarbitration. com/2020/02/06/could-an-arbitral-award-rendered-by-ai-systems-be-recognized-or-enforced-analysis-from-the-perspective-of-public-policy/ accessed 29 September 2021.

65. Gülüm Bayraktaroğlu-Özçelik & Ş. Barış Özçelik, *Use of AI-Based Technologies in International Commercial Arbitration* (2021) 12 EJLT 1.

- ▪ Improving the interpretability and explain-ability of AI systems to monitor bias.

It is not so that AI cannot be used in arbitration at all. There are other avenues for the use of such technology. The appointment of arbitrators, the drafting of the award, and the simulation of judicial review might all improve using AI. It might provide arbitration clause drafting ideas, assisting clients and attorneys in identifying blind spots and protecting their interests. To cut expenses, the parties might agree to employ AI for some elements of the arbitration, such as discovery. To save time involved, AI systems can be used to answer the queries of parties before arbitration begins, multiple times.[66] Case administration may be automated or simplified using the software. Longer awards (especially those involving investor-state arbitrations) might have synopses created automatically to aid readers in their decision-making.[67] This would allow the process of arbitration to be more efficient, building a balance between artificial and emotional intelligence and human arbitrators would do what they do best: arbitrate.

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66. *AI May Help with Alternative Dispute Resolution* (n 39).
67. Lucas Bento, *International Arbitration and Artificial Intelligence: Time to Tango?* Kluwer Arbitration Blog (Wolters Kluwer, 2018) http://arbitrationblog. kluwerarbitration.com/2018/02/23/international-arbitration-artificial-intelligence-time-tango/ accessed 27 August 2021.