

## NOTES AND COMMENTS

### TRANSFORMING JUSTICE: THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE JUDICIARY

#### Abstract

Artificial Intelligence (AI) has emerged as a transformative force across various sectors, including the justice system. This paper explores the intricate relationship between AI and the judicial setup, raising critical questions about its role and impact. The introduction elucidates the evolution of AI, from its inception in the 1950s to its current applications in mimicking human behavior and replacing tasks that require human intelligence. Machine learning, a subset of AI, is highlighted for its ability to learn and improve through user interaction, making it the most prevalent AI type. The paper delves into two pivotal research questions: whether AI is a viable addition to the existing judicial setup, and if it poses a disruptive technology for legal professionals. It scrutinizes AI's practicality as a tool in the justice system, emphasizing its application in tasks like drafting legal documents, analyzing case laws, and managing court records. The concept of AI as a judge is explored, with insights into its use in forensic analysis, biometric recognition, and predictive policing. The paper emphasizes that AI should serve as an aid to judges, assisting in mundane tasks, rather than replacing the human element in the courtroom. The complexities surrounding AI's ability to replicate human reasoning and consciousness are discussed, highlighting the limitations of current AI technologies in comprehending context and emotions. The paper underscores the uniqueness of human judgment in legal matters. The article concludes by acknowledging AI's potential as a disruptive technology, particularly in assisting legal professionals, but underscores that it can never replace the irreplaceable human touch, ethics, and accountability in the justice system.

#### I Introduction

*"Machine intelligence is the last invention that humanity will ever need to make"*

Nick Bostrom

ARTIFICIAL INTELLIGENCE is not a new term, it was back in 1956 that John McCarthy coined this word.<sup>1</sup> It was initially only related to the capability of a machine to mimic human behavior in some way. Now, the AI is increasingly being used to replace humans in tasks that involves human intelligence. One of the main reasons for same being that the cognitive bias and unintended errors in judgment could be avoided.

The uniqueness of AI is related to its ability to learn through constant usage. It discovers and learns patterns of usage. Machine learning thus keeps making AI better each day, and thus reliability on machines keeps increasing. AI can be of different types, most

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1 Dartmouth Summer Research Project on Artificial Intelligence (Dartmouth conference) (July-Aug 1956)

common being of two types, that includes ‘Rule based learning AI’ and ‘Machine learning AI’.<sup>2</sup> The former works on pre- formed rules and scenarios which are inserted by the users, which makes it ideal for situations that are mostly static and are not expected to change that often. The latter AI that is machine learning, is the most commonly used AI type, as it learns through user interaction. It uses complex algorithms and formulas to engage with the user behavior and therefore it keeps better with time.<sup>3</sup>

Today, artificial intelligence is used in various sectors, and industries, including, manufacturing, education, health, etc. Even medical processes that were previously impossible due to the complexity are now possible, thanks to the accuracy of the AI. Since, human errors are not so uncommon to occur in situations which are complex, the idea of AI comes into play, as the chances of error is reduced and the result is neutral and non-arbitrary.

The reliability on AI can only increase if it is exposed to enough data and testing. Without the availability of enough training and testing, the efficiency of AI cannot be relied upon. Thus, the role of AI developers thus becomes crucial, as they have to ensure that the correct balance between the input and output of data is maintained.<sup>4</sup>

In case of AI and law, the process of decision making can be said to be problematic, as the role of machine learning here becomes crucial. The interaction of AI with experts of the field, and training in the procedural aspect is essential to ensure that the problem solving process is flawless.

## II Artificial intelligence A ‘replacement of judges’ or ‘tool of judges’

The notion of interest in relation to artificial intelligence and the justice system is one which has grown with a wide range of horizons, giving a two faced definition to this growing approach. The one means of inference is in relation to AI as the tool for providing assistance in the justice delivery system.<sup>5</sup> It has been a long practice of using artificial intelligence in Forensic Analysis, Biometric Recognition, et al., thus helping in the process of the justice delivery system.<sup>6</sup>

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2 Xie, Haoran, Gwo-Jen Hwang, and Tak-Lam Wong. “Editorial Note: From Conventional AI to Modern AI in Education: Re-Examining AI and Analytic Techniques for Teaching and Learning.” *Educational Technology and Society* 24, no. 3 (2021): 85–88. <https://www.jstor.org/stable/27032857>.

3 *Ibid.*

4 Temitayo Bello, Online Dispute Resolution Algorithm: The Artificial Intelligence Model as a Pinnacle, 84(2) *Int’l J. of Arb. Med. & Disp. Man.* 159, 161 (2018).

5 Robert Ryder and Nikhil Naren, *Artificial intelligence and Law Challenges Demystified*, (Law & Justice Publishing Co., 2022).

6 Stuart Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach*, (4th edn., Pearson, 2022).

Various institutions and international governing bodies has used similar practices of justice delivery systems to rest the notions related to wide range of statistical analysis, while gathering similar data. The same technology is even used in reference to the justice delivery mechanism in proposition to the criminal matters, where Robots are used to study the convict's body language and voice change during the trial of the case to determine their guilt on the psychological basis of the human study.<sup>7</sup> Such is possible only on the basis of the well fed data to the machine, to give out better results on the basis of various determination's. Additionally, during the time's of the pandemic various online platforms and algorithms supported by artificial intelligence were used for providing a means to the justice delivery system. It can be marked out through the set boundaries that the AI at the current stage can be best suited for the purpose in the courts to work beside the judge maybe to draft out the algorithm of the case law's for the day, to draft a notice, or maybe to examine a case to be heard on the basis of the pendency in the court, *et al.*<sup>8</sup>

In due passage of developments many companies have also created a system of inference where a mechanism is used aided by artificial intelligence for the basis of conclusive study.<sup>9</sup> The companies like "PredPol" which is one of the leading infrastructure companies in the United states of America provides assistance in relation to the matters related to property crimes, it uses the technology called the "Predictive Policing Algorithm", where in it helps in marking out the zones in different localities where there are a high chances of the crime to take place or might occur through the day.<sup>10</sup> All this basis of conclusions can be drawn only on the mechanisms of the information that has been fed to the AI. Various instances were also highlighted wherein the police have requested the citizens to file the complaints using online platforms aided by AI, so as to upgrade the portions of the data on the sites so that better efficiency of the results can be obtained, both by the citizens using the technology and the department. In various instances, the officers of the "Los Angeles Police Department" has pointed out that such technology can no where replace the experience of there officers but can only work in assistance to provide better results in narrow spans of time.<sup>11</sup>

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7 John McDaniel and Ken Pease, *Predictive Policing and Artificial intelligence*, (First Edition, Routledge, 2022).

8 Serena Quattrocolo, *Artificial Intelligence, Computational Modelling and Criminal Proceedings* (Springer, 2020)

9 Lavika Goel, *Artificial Intelligence: Concepts and Applications* (Wiley, 2021)

10 Macro Iansiti and Karim R. Lakhani, *Competing in the Age of AI: Strategy and Leadership when Algorithm and Networks Run the world*, (Harvard Business Review Press, 2020)

11 Richard McCarthy, Mary McCarthy, Wendy Ceccucci, *Applying Predictive Analytics: Finding Value in Data*, (Second Edition, Springer, 2022)

In contrast, the notion of artificial intelligence as a judge cannot be settled due to the failure of AI in certain specific arenas. The concept of the theory to “Mimic the Human Mind” and the concept of “Emotions” is one which cannot really be settled.<sup>12</sup> It can be viewed as a system which maybe in the future be used as a theory of concept if and only if set boundary of analysis is prepared and analyzed. It is to be noted that sometimes, during the course of a case, new rules are made, new concepts are evolved, for instance in the matters of border disputes, water treaties, communal violence, et al., where rationality is to be established on the basis of laws in the historical approach and how can it be molded in the current scenario to cater the need of both the parties to an extent and avoid any further dispute. But, all these notions can’t be a better proposition in reference to the cases as the AI developed would be fed information by a human mind and if in a situation it outgrows the capability of the human mind, it might be a threat than an aid in the justice delivery mechanism in the society like ours.

### **III Dilemma of human reasoning and consciousness**

The concept of being able to react well towards a given situation and being able to adjust to the surroundings, is one that has to be settled in an approximate manner of consciousness, that can be addressed to only if the best outcomes in to a situation is established. But can the same be achieved in context of the Artificial Intelligence, is the authority of the questions that is to be settled. Although, the current set of notions that are studied in Robots, through the system of AI has shown the “Lack of Consciousness” in different given situations.<sup>13</sup> Though some levels of distinctions can be established on the basis of the Weak AI or a Strong AI, but to draw comparisons in contrast to the human brain can still not be rationally settled.

In the propositions of the idea’s, that were presented by “John R. Searle”, he has established his basis of the study on the basis of the arguments that were delivered in the light of the “Cognitive State”.<sup>14</sup> The ideas presented by him can be settled through the famous “Chinese Room Argument”, where he claims and mentions that the propositions of the study in the concept of Artificial Intelligence can no doubt be used to get out best “outputs” but to also reason that they can best display or manifest such reasoning is a question that can never completely be answered. And it’s so because the “Human Brain Activities” throughout the history of the human civilization has evolved with the passage of times. The context is in relation to the “subjectivity” and “rationality” that a human brain applies in a given situation and also has the capability to express such ideas. Whereas in comparison to the AI the latter would not be possible due to the codes that are inbuilt in the structures of the artificial intelligence.

Also, to construct the propositions on the basis of “Artificial Consciousness” it is important to rely upon the ideas where inputs can only be gathered from the “Third

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12 Marvin Minsky, *The Emotion Machine: Commonsense Thinking, Artificial Intelligence, and the Future of Human Mind*, (Simon & Schuster, 2007)

Person Perspective”. It is where if an AI is being used in case of the justice delivery mechanism in the court room it can be purposely be used for studying data records, biometric studies, et al., but to replace it with the Judge in the court room would never be a course well established in the relation to the judicial setup around the world. As the very ideology of justice delivery mechanism is one which can’t really be fed to any machine through an algorithm, it is something that can be assessed only through the changing needs of the society with time.

### **Ability of parallel processing**

The other notion of interest that can widely observed in any justice delivery mechanism is the ability of parallel processing and adaptation to the upcoming laws in the parliament. Many research scholars, like “Kate Darling” has provided a detailed understanding to the robotic studies. She has pointed out that due to the human tendency of constantly arriving at conclusions and comparisons, a time might come when a fault might have to analyzed in proportion to the damage caused. Then in such a situation, what one can relate through the reaction of the companies in current scenario is that, they might say that it was because of the fault in the algorithm and the company can’t really be held liable. She also tends to establish a relation between “Animals and Robots”,<sup>15</sup> she tends to explain that just like in the historical times when animals were made to go through a trial because they had caused a harm. She tends to raise a question that should same be the scenario in relation to the robots when they might cause a harm or impartially favor or act in a justice delivery system. And further if they are to be analyzed in such a situation, then whom should be held accountable and what measure of punishment and recourse would be offered.<sup>16</sup>

### **Qualitative processing**

The other aspect of approach is in the form of “Qualitative Reasoning” wherein the data is procured on the basis of the quality of inputs that are referred in portions to the given situation. They provide a conclusive basis of data studies in certain texts that to an extent tries to establish a bridge between the reasoning that an AI would provide if a particular algorithm might be applied in a given situation. It can be assessed that such AI support expert systems can be rationed well for obtaining “Measured Outputs” like may be in the field of prototyping, in field related to process control, accounting, et al., where conclusion can be predictable through the understanding to the algorithm applied to a problem.<sup>17</sup>

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13 Susan Schneider, *Artificial You: AI and The Future of Your Mind*, (Princeton University Press, 2019)

14 John R. Searle, *The Mystery of Consciousness*, (Cambridge University Press, 1990)

15 Kate Darling, *The New Breed: How To Think About Robots*, (Henry Holt & Co., 2021)

16 Kate Darling, *The New Breed: What Our History with Animals Reveals about our Future with Robots*, (Henry Holt and Co., 2021)

17 Max Tegmark, *Life 3.0: Being Human in the Age of Artificial Intelligence*, (Allen Lane, 2018)

#### **IV Artificial intelligence as a disruptive technology**

The notion of Artificial Intelligence taking over different practices that are followed in the court room is one that can surely have a negative impact on this industry so as to replace Human Labor with the usage of Machines.<sup>18</sup> It would be in reference to the assistance work that is done by the judicial clerk, juniors, etc. which can to some extent be done with the help of an AI in some parts of the world. It has further created a cap in the number of the available positions for the human beings.<sup>19</sup> It is due to the outputs that are generated by the artificial intelligence in comparison to the human in a short span of time.

In many such ratios of comparison's one is to note that the basis of the domain knowledge of the experts can not completely be replaced, as in the field of law the practical knowledge about the practice is very important while arriving at a conclusion. It is very difficult to supplement the years of knowledge and experience, that one obtains through the passage of the court room arguments and growing with the law. For example, if we take a scenario of Investor State Arbitration, since precedents have little value, the role of knowledge and experience of arbitrator is more, and the same is to be inserted in the AI as a capability is a difficulty task to achieve.

Due to the current notions of the practice we can see that the AI to some extent has taken over the assistive work practices of the court in the course of justice delivery. Also, in the contrast of the harm it might cause to the labor setup in the society, it can to some extent be concluded that it can never completely take over the court room as being a judge.<sup>20</sup> As the levels of hard work that one law aspirant puts in there path to reach the courtroom is much more vibrant and valuable than the one that would be swiftly shifted to the shoulders of the AI for deciding upon a dispute. So, accordingly put this seems to be a far fetched reality in portion to the deliberations that one can make in the very beginning of the situation analyzed.

This can further cause disruption in context of the valuable opportunities that might be created in the format of the "Developing or the Under-Developed Countries", as this would be a different scenario of the approach while the structure of the society would be studied in reference to the "Economic Development Plans" of the country.<sup>21</sup> The famous scholar "Wassily Leontief" had also mentioned his divergent views on

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18 Florian Butollo and Sabine Nuss, *Marx and the Robots: Networked Production, AI and Human Labour*, (Pluto Press, 2022)

19 Thomas Davenport and Steven Miller, *Working with AI: Real Stories of Human-Machine Collaboration*, (MIT Press, 2022)

20 Jeff Wald and David Marantz, *The End of Jobs: The Rise of On-Demand Workers and Agile Corporations*, (Gildan Media, 2020)

21 Paul Daugherty and James Wilson, *Human + Machine: Reimagining Work in the Age of AI*, (Harvard Business Review Press, 2018)

the machines that might overtake and overpower the humans in the society. His famous notion of “Labor becoming less and less important...and machines more relevant” is one that can be seen more adamantly than in the past.

The same scenario if is applied in the notion of AI as the Judge the proposition of the concept of “Ethics”<sup>22</sup> would not be suffice, as the morals of “accountability, societal and environmental well being, and oversight” can never be fully satisfied in the portion of the AI if placed at the superior position in the court room. As the human being in contrast to the AI would be much more accountable and rational in dispensing of matters rather than the artificial intelligence.

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22 Alberto chierici, *The ethics of AI: Facts, Fictions, and Forecasts*, (New Degree Press, 2021)

\* Judge, Delhi High Court