

**T-junction between Law and Artificial Intelligence: An Overview****Dr. Monika Jain<sup>1,\*</sup>****Abstract**

*The concept of artificial intelligence was created as a result of the technological standard. This article examines the application of artificial intelligence to the practice of law in the twenty-first century and clarifies how rapid breakthroughs in technology are benefiting legal professionals. The term artificial intelligence is popular among legal professionals since it has a big impact on lawyers, legal researchers, and law companies. The application of artificial intelligence in law is further explored in this study, along with its benefits and drawbacks. It also addresses the reach and effects of AI technology on the Indian judicial system. The paper gives a brief explanation of how law and artificial intelligence interact. It chooses major themes and arranges them methodically based on a review of legal materials. The paper explains how artificial intelligence is used in law, how it is governed by law, and what theoretical legal issues have been brought up in relation to the advancements in artificial intelligence.*

**Keywords:** Artificial Intelligence, technology, legal profession, research, human, system, judicial.

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**Introduction**

Artificial intelligence is a branch of computer science that deals with the simulation of intelligent behaviour in computers, according to Merriam-Webster. It is represented as artificially intelligent robots.<sup>2</sup> Every field, including the legal profession, has been altered by artificial intelligence. Data administration and paperwork are being replaced by software. The legal industry is expanding quickly and using cutting-edge technologies at the global level.

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<sup>2</sup>Merriam Webster Dictionary

With the exception of those services that depend on knowledge and judgement, everything is susceptible to technological replacement.<sup>3</sup>

The term "Artificial intelligence" (AI) was first used by John McCarthy, who is acknowledged to be the father of AI. Artificial intelligence, according to the Oxford Dictionary, is the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and language translation.<sup>4</sup> The goal of the large field of computer science known as artificial intelligence (AI) is to develop autonomous, intelligent systems. It can be characterised as an intelligent machine with the capacity to reason, comprehend, and act autonomously as well as the ability to mimic a number of human behaviours.<sup>5</sup> Artificial intelligence, then, is the ability of a machine to solve issues that are typically handled by humans using their natural intelligence. The purpose of this essay is to give a succinct, systematic summary of how the two fields interact. Instead of the technical approach used by computer scientists to law, the study will concentrate on how legal scholars approach artificial intelligence.<sup>6</sup>

## Literature Review

According to Barton, the nature of lawyers' daily work changed less than perhaps any other profession throughout it all, evolving from goose quill to typewriter to cloud-based word processors as the tools of research and expression progressed. Although it was not a fundamental component of the law, many legal futurists had predicted the technology.<sup>7</sup> Researchers expressed their belief that the legal profession cannot overlook the opportunities that technology will present in a journal article that was published in September 1986.<sup>8</sup> In one of his publications, legal futurist Susskind (2008) predicted that "disruptive technologies" will have a significant impact on attorneys in the future. Additionally, he makes reference to

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<sup>3</sup>Ashley KD (2017) Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age. Cambridge University Press, Cambridge

<sup>4</sup>J. McCarthy, M. L. Minsky, N. Rochester, C. E. Simon. (2006, Dec.). "A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence, August 31, 1955." AI magazine. [On-line]. 27(4), pp. 12-14

<sup>5</sup>Keppens J (2012) Argument diagram extraction from evidential Bayesian networks. Artificial Intelligence and Law, 20:109–143, 2012

<sup>6</sup>Cyras K, Satoh K, Toni F (2016) Abstract argumentation for case-based reasoning. In: Proceedings of the Fifteenth International Conference on Principles of Knowledge Representation and Reasoning (KR 2016), pp. 549–552. AAAI Press

<sup>7</sup>Ray Worthy Campbell, The Digital Future of The Oldest Information Profession (2016).

<sup>8</sup>Sergot MJ, Sadri F, Kowalski RA, Kriwaczek F, Hammond P, Cory HT (1986) The British Nationality Act as a logic program. Communications of the ACM, 29(5):370–386

the notion of skate where the puck is going (2013) in another book.<sup>9</sup> According to another researcher, as technology advances, law practice finds itself in an uproar. Jyoti Dabass describes how legal AI is gaining relevance and assisting lawyers in their jobs in an article where she predicts that it will replace human competence in the legal area.<sup>10</sup> Law is an information technology, digitalization can make it easier for us to access the law, which will help it better fulfill its intended function. By using a certain set of algorithms, AI can come to a judgment, but it can never create a case, adopt a new rule, or establish a new law. Jamie J. Baker believes that although artificial intelligence (AI) has been overused in legal research, it cannot automate it since legal research is a complex process that requires human intelligence.<sup>11</sup> However, platforms like ROSS intelligence and LexisNexis, which employ NLP programs to help conduct research within seconds with only a limited word search, are growing the use of AI in legal research. As a result, research has become simpler and more accessible to people. The conventional belief that attorneys cannot ever be replaced by AI is contested by the literature on the subject of legal AI.<sup>12</sup>

### **Statement of Problem**

This study focuses on the expanding usage of legal AI in the legal profession and the implications for the near future. The question of whether AI will ever replace human lawyers is the topic of the current study, which is based on quantitative research. Being efficient and effective, AI has a chance to surpass humans, but along with its advantages come a long list of disadvantages, such as AI's bugs and how it can never create something new.<sup>13</sup> Through this paper, the researcher will reach a conclusion regarding the viability of the posed question. Additionally, the researcher will investigate the issue of unemployment related to the use of AI in the legal industry. This study will also address the subject of automation and augmentation.<sup>14</sup> Last but not least, the long-term effects of AI on legal research will be taken into account, and the viability of using AI in the field of law in developed, emerging, and

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<sup>9</sup> Richard Susskind, *Tomorrow's Lawyers: An Introduction to Your Future* (2013)

<sup>10</sup> Jyoti Dabass & Bhupendar Singh Dabass, *Scope of Artificial Intelligence in law* (2018).

<sup>11</sup> Bex FJ, Verheij B (2012) Solving a murder case by asking critical questions: An approach to fact-finding in terms of argumentation and story schemes. *Argumentation*, 26:325–353

<sup>12</sup> Medvedeva M, Vols M, Wieling M (2019) Using machine learning to predict decisions of the European Court of Human Rights. *Artificial Intelligence and Law*, pp. 1–30

<sup>13</sup> Davis E, Marcus G (2015) Commonsense reasoning and commonsense knowledge in Artificial Intelligence. *Communications of the ACM*, 58(9):92–103

<sup>14</sup> Katz DM, Bommarito II MJ, Blackman J (2017) A general approach for predicting the behaviour of the Supreme Court of the United States. *PLoS ONE*, 12(4):1–18

underdeveloped countries will be examined. Research journals, essays, databases, and in-depth primary research on the subject have all addressed the difficulties raised by this study.<sup>15</sup>

### **Objectives**

- To list the challenges that lawyers will confront when utilising AI in the near future.
- To determine whether AI will replace or support legal professionals.
- To draw attention to the widespread application of legal AI and the assistance it offers with research.

### **Hypothesis**

- Despite being effective and efficient, widespread AI adoption will increase unemployment.
- Instead of automating legal experts in the future, AI will bolster them.
- Legal research has become more transparent and accessible as a result of artificial intelligence.

### **Research Design & Methodology**

The doctrinal research approach is used while keeping the paper's goals in mind. The information on AI and law is, however, dispersed throughout a number of papers, specialised books, reports, opinions, notes, comments, etc.

### **Relevance of AI by Law**

Law and legal science can benefit greatly from artificial intelligence. The topic of this section is a subfield in artificial intelligence. The artificial intelligence and law subfield seeks to use AI expertise to resolve, or at the very least, facilitate the resolution of, some legal issues.<sup>16</sup> At the same time, AI generally makes use of tools and approaches that were created to address particular legal issues. Legal science acknowledges the value of AI, particularly for the needs of legal reasoning.<sup>17</sup> Legal reasoning is a broad term that describes the formation and justification of a response to a specific legal topic, such as what verdict should be rendered at

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<sup>15</sup>Ashley KD (2017) Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age. Cambridge University Press, Cambridge

<sup>16</sup>Baroni P, Gabbay D, Giacomini M, van der Torre L (eds) (2018) Handbook of Formal Argumentation. College Publications, London

<sup>17</sup>Gordon TF, Prakken H, Walton DN (2007) The Carneades model of argument and burden of proof. Artificial Intelligence, 171(10–15):875–896

the conclusion of a trial or if and how much a person must pay in taxes.<sup>18</sup> By examining databases of legal texts and determining which cases are pertinent to the specific ongoing judicial processes, AI applications can help with legal reasoning, for instance. Due to its ability to filter out irrelevant information, this tool greatly simplifies legal research.<sup>19</sup>

### **Guideline of AI by Law**

Because of the very nature of AI, it is difficult to regulate it or develop a specific legal framework for it. There are several definitions of AI, but none of them is both generally applicable and completely unambiguous at the same time. This is mostly because it is difficult to define the term intelligence itself.<sup>20</sup> Specific rules pertaining to certain uses of AI systems go hand in hand with the principles of liability, agency, intellectual property, and privacy that govern AI generally. In the fields of autonomous weapons (international law), transportation and the automotive sector, telecommunications, information society services, cybersecurity, crime, stock trading, finance and investment, healthcare, etc., there are specific standards that can be applied to AI.<sup>21</sup>

### **Benefits of Artificial Intelligence in the Legal Profession Sector**

The legal industry in India is still seen as having a labour-intensive nature, hence the entire procedure is stated to be carried out manually. The use of AI in law is still in its infancy because the majority of older generation supporters believe that technology should not be employed widely because it could eventually replace humans.<sup>22</sup> Despite this, many tech-savvy attorneys and sizable legal firms are taking full advantage of technological improvements in order to gain an advantage over rivals. Lawyers might acquire an unmatched advantage in the field of legal study by utilising machine learning technologies.<sup>23</sup>

Artificial Intelligence has myriad benefits in the Legal Profession Sector, such as:

- Legal Research
- Due Diligence
- Contract Preparation

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<sup>18</sup>Mochales Palau R, Moens MF (2011) Argumentation mining. *Artificial Intelligence and Law*, 19(1):1–22

<sup>19</sup>Sartor G (2005) Legal reasoning: a cognitive approach to the law. Vol 5 of *Treatise on legal philosophy and general jurisprudence*. Springer, Berlin

<sup>20</sup>Brüninghaus S, Ashley KD (2003) Predicting outcomes of case based legal arguments. In: *Proceedings of the 9th International Conference on Artificial Intelligence and Law (ICAIL 2003)*, pp. 233–242. ACM, New York, NY

<sup>21</sup>Walton DN, Reed C, Macagno F (2008) *Argumentation Schemes*. Cambridge University Press, Cambridge

<sup>22</sup>Verheij B (2005) *Virtual Arguments. On the Design of Argument Assistants for Lawyers and Other Arguers*. T.M.C. Asser Press, The Hague

<sup>23</sup>Tran V, Le Nguyen M, Tojo S, Satoh K (2020) Encoded summarization: Summarizing documents into continuous vector space for legal case retrieval. *Artificial Intelligence and Law*, pp. 1–27

- Patent Application
- Reduce Costs and Increase Productivity:
- Analysis of Legal Documents:
- Electronic Billing:
- Reinforcement Learning
- Ethical views in Artificial Intelligence
- Legal Accountability
- Recognition by Face
- No place for Bias
- Neural Networks
- Socio-Economic
- Deep Learning

### **Impact of Artificial Intelligence on the Indian Legal Industry**

The Indian legal system has always required a lot of workforce. People in India are unaware of artificial intelligence. Cyril Amarchand Mangaldas, a Canadian provider of mechanic learning software, was the first law practice to enter into a contract with Kira Systems in 2017,<sup>24</sup> to enhance the firm's legal services delivery model's effectiveness and accuracy. More law firms are now using artificial intelligence technologies because of the Supreme Court digitising its records. There would be a change from the current law businesses in India.<sup>25</sup> There is some information about contemporary law offices that would resemble:

1. New Approaches to Serving Customers
2. Shifting the emphasis from sales to maximum profits
3. Technology Change for Growth
4. Strong Brand Value Focus

### **Challenges of AI in Law**

- Legal experts do not accept certain arguments in full
- AI's Legal Personality Is Undefined

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<sup>24</sup>VikasSahita, AI/ML impact growing across Asia, Analytics India Magazine (April 5, 2018)

<sup>25</sup>Attorneys of national legal research group Inc., The Real Impact of Using artificial intelligence in legal research, 2 (2018)

- Inadequate Systems and Data
- Costly
- Personal Data Privacy and Protection<sup>26</sup>

### **Artificial Intelligence would not replace a Lawyer**

Artificial intelligence is new for the legal profession and new software and technologies are used in AI. AI would not replace lawyers because as the saying goes, justice delayed is justice denied.<sup>27</sup> The employment of a lawyer is not threatened by AI and software because legal research and case analysis are different.<sup>28</sup> Therefore, various actions are being taken to ameliorate the situation, such as shortening vacations and strengthening the judges, but more needs to be done, and this is where artificial intelligence may play a part.<sup>29</sup> Since there are many cases of a similar nature that are registered each year, the judiciary needs data science and AI that can help the judges by using predictive technology to make important information about currently-pending cases readily available based on cases of a similar nature in the past.<sup>30</sup> AI analysis can help judges deliver decisions more quickly. According to studies, the role of AI can be very helpful during the evidence stage. This stage is crucial to any case and requires a significant amount of court time. Multiple delays are a common occurrence at this stage for a variety of reasons, including the investigation in-charge's delay, the lack of witnesses, etc.<sup>31</sup>

The job of AI in these situations would be to anticipate delays, which would help the judges because they would be aware of the reasons behind the delays indicated above in some cases that are comparable, like murder.<sup>32</sup> This predictive technology will be helpful because it will enable judges to manage the workload of each case appropriately. It will also assist courts in

<sup>26</sup>Governatori G, Rotolo A (2010) Changing legal systems: Legal abrogations and annulments in defeasible logic. *Logic Journal of the IGPL*, 18(1):157–194

<sup>27</sup>Conrad JG, Zeleznikow J (2015) The role of evaluation in AI and law: an examination of its different forms in the AI and Law Journal. In: *Proceedings of the 15th International Conference on Artificial Intelligence and Law (ICAIL 2015)*, pages 181–186. ACM, New York, NY

<sup>28</sup>Fenton NE, Neil MD, Lagnado DA (2013) A general structure for legal arguments about evidence using Bayesian Networks. *Cognitive Science*, 37: 61–102

<sup>29</sup>Hitchcock DL, Verheij B (Eds.) (2006) *Arguing on the Toulmin Model. New Essays in Argument Analysis and Evaluation* (Argumentation Library, Volume 10). Springer,

<sup>30</sup>Mochales Palau R, Moens MF (2009) Argumentation mining: the detection, classification and structure of arguments in text. In: *Proceedings of the 12th International Conference on Artificial Intelligence and Law (ICAIL 2009)*, pp. 98–107. ACM Press, New York, NY

<sup>31</sup>Pollock JL (1995) *Cognitive Carpentry: A Blueprint for How to Build a Person*. The MIT Press, Cambridge, MA

<sup>32</sup>Reed C, Rowe G (2004) Araucaria: Software for argument analysis, diagramming and representation. *International Journal of AI Tools*, 14(3–4):961– 980

taking proactive steps to stop witnesses from becoming hostile by providing them with additional police protection.<sup>33</sup> One of the significant events that occurred recently was the recent statement made by the Chief Justice of India, S.A. Bobde, stating "*We have a chance of developing Artificial Intelligence for the court system. Only in order to guarantee that justice is administered without unnecessary delay.*" He also made it clear that judges and discretion will not be replaced by AI.<sup>34</sup> We are exploring the possibility of implementing the machine learning system, but it is only the repetitive, mathematical, and mechanical parts of the judgments for which help can be taken from the system.<sup>35</sup> One of the most significant points is that the Chief Justice of India believes that the use of AI technology in the legal and judicial systems will be advantageous. If it is implemented with a suitable legislative framework outlining norms and regulations, the Indian judicial system will tremendously benefit.<sup>36</sup>

## Conclusion

Technology advancements have undoubtedly altered how the legal sector looks. It is clear that AI has many benefits in the legal field, helping legal professionals conduct quick research, helping judges make decisions with its predictive technology, and helping law firms with data collection and other tasks like due diligence.<sup>37</sup> Which makes their work more efficient and quicker, machine learning technology saves time, and it is accurate and has effective results Artificial Intelligence will not decline in the near future.<sup>38</sup> Artificial Intelligence will extend in the year 2020. The focus will not be only on the new technologies and applications in the industry but also will be on its, intersects with society and heralds in technology, for better prospects.<sup>39</sup>

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<sup>33</sup>Roth B (2003) Case-Based Reasoning in the Law. A Formal Theory of Reasoning by Case Comparison. Dissertation Universiteit Maastricht, Maastricht

<sup>34</sup>Verheij B (2020b) Analyzing the Simonshaven case with and without probabilities. Topics in Cognitive Science, 12(4), 1175–1999

<sup>35</sup>Chesñevar CI, Maguitman AG, Loui RP (2000) Logical models of argument. ACM Computing Surveys, 32(4):337–383

<sup>36</sup>Fenton NE, Neil MD, Lagnado DA (2013) A general structure for legal arguments about evidence using Bayesian Networks. Cognitive Science, 37: 61–102

<sup>37</sup>Keppens J, Schafer B (2006) Knowledge based crime scenario modelling. Expert Systems with Applications, 30(2):203–222

<sup>38</sup>Loui RP, Norman J (1995) Rationales and argument moves. Artificial Intelligence and Law, 3:159– 189

<sup>39</sup>Oskamp A, Walker RF, Schrickx JA, van den Berg PH (1989) PROLEXS divide and rule: a legal application. In: Proceedings of the Second International Conference on Artificial intelligence and law, pp. 54–62. ACM, New York, NY



The framework used in the legal industry has changed as a result of technological advancement. It is challenging to think about the legal industry's future without also considering artificial intelligence software.<sup>40</sup> The legal industry is currently customer-focused. The legal investigation is done using web tools, and legal information is only a click away. These programs are being used by law firms and attorneys to draught and review case documents as well as contracts.<sup>41</sup> The information and resources that artificial intelligence has given to lawyers and small legal firms have been beneficial. It is putting them on par in terms of resources with reputable law firms.<sup>42</sup> Technology has become legal research the most crucial component of practice law. The way legal services are provided has evolved as a result of technical advancements in everything from journals and reporters to CD-ROMS and online applications.<sup>43</sup> The development of technology makes it easier for lawyers to do their work quickly and effectively. This does not imply that technology will take the position of solicitors, though. Artificial intelligence has proved helpful in providing knowledge and resources to lawyers and small law firms.<sup>44</sup> It puts them on an equal footing with reputable law firms in terms of resources. Legal research has become the most important aspect of practicing law because of technology.<sup>45</sup> As a result of technical developments in everything from journals and reporters to CD-ROMS and internet apps, the manner legal services are offered has changed. Technology advancements have made it simpler for lawyers to complete their work promptly and efficiently. However, this does not indicate that technology will replace lawyers.<sup>46</sup>

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<sup>40</sup>Rissland EL (1983) Examples in legal reasoning: Legal hypotheticals. In: Proceedings of the 8th International Joint Conference on Artificial Intelligence (IJCAI 1983), pp. 90–93

<sup>41</sup>Simari GR, Loui RP (1992) A mathematical treatment of defeasible reasoning and its applications. *Artificial Intelligence*, 53:125–157

<sup>42</sup>Verheij B (2018) Arguments for Good Artificial Intelligence. University of Groningen, Groningen.

<sup>43</sup>Schweighofer E, Rauber A, Dittenbach M (2001) Automatic text representation, classification and labeling in European law. In: Proceedings of the 8th International Conference on Artificial intelligence and law, pp. 78–87. ACM, New York, NY

<sup>44</sup>Governatori G, Rotolo A (2010) Changing legal systems: Legal abrogations and annulments in defeasible logic. *Logic Journal of the IGPL*, 18(1):157–194

<sup>45</sup>Hafner CL, Berman DH (2002) The role of context in case-based legal reasoning: Teleological, temporal, and procedural. *Artificial Intelligence and Law*, 10(1–3):19–64

<sup>46</sup>Ashley KD, Walker VR (2013) Toward constructing evidence-based legal arguments using legal decision documents and machine learning. In: Proceedings of the Fourteenth International Conference on Artificial Intelligence and Law, pp. 176–180. ACM, New York, NY

