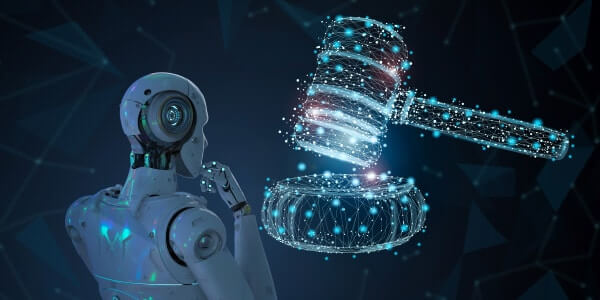
**LEGAL IMPLICATIONS IN ARTIFICIAL INTELLIGENCE**



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**ABSTRACT**

The legal issues that conflict society due to Artificial Intelligence (AI) include privacy and surveillance, bias or discrimination, and potentially the philosophical challenge is the role of human judgment. Concerns about newer digital technologies becoming a new source of inaccuracy and data breaches have risen as a result of its use. The age of artificial intelligence is dawning. Already AI is widespread, appearing in multiple contexts, from medical diagnosis to driving directions to stock trading to social networking to policing. As science fiction writer William Gibson said, the future is already here, it’s just not evenly distributed. It seems likely that every sector of economic activity and every aspect of social and political life will be (is already being) affected by AI. It also seems likely, however, that the full impact of AI is impossible to predict.

In dicta, the judge stated that the idea of a self-driving car could not be patented in the abstract. In yet another case on an AI based invention, the court stated, “To the extent artificial intelligence inventions … involve an inventive concept, they could be patentable even if they have, at their core, an abstract concept,” but that court went on to hold the particular claim before it invalid as embodying an un-patentable "abstract idea."

The legal discourse on the legal and human rights problems with computer science (AI) is established, with many elaborate legal analyses of specific individual problems. But, this field may be a regulative moving target, associate in tending. There is a desire for a wildcat, veronica and looking out at the breadth of problems, curate in a very single place. Critically missing is also a larger discussion and mapping of vulnerability to such problems.  The Research main analysis queries area are: What are the legal, ethical and human rights problems associated with AI? (How) are they being addressed? What are the gaps and challenges and the way will we have a tendency to address vulnerability and foster resilience during this context?

In India, No Laws are existing as on today. Policy-level initiatives by the Ministry of Electronics and Information Technology (MeitY) and programmes around AI by National Association of Software and Services Companies (NASSCOM) and Defence Research & Development Organization (DRDO) have laid the groundwork for future disruption and created a roadmap for AI in India.

In this evolving world of technology with the capabilities of autonomous decision making, it is inevitable that the implementation of such technology will have legal implications. There is a need for a legal definition of artificial intelligence entities in judicial terms to ensure regulatory transparency. While addressing the legal issues, it is important that there is a balance between the protection of rights of individuals and the need to ensure consistent technological growth. Proper regulations would also ensure that broad ethical standards are adhered to. The established legal principles would not only help in the development of the sector but will also ensure that there are proper safeguards in place.

**Role of Judiciary System on Artificial Intelligence]:**

Recently, the Law Minister has said that for implementing phase two of the e-Courts project, there is a need to adopt new, cutting edge technologies of [Machine Learning (ML)](https://www.drishtiias.com/daily-news-analysis/rise-in-ai-adoption-in-india-amidst-pandemic) and [Artificial Intelligence (AI)](https://www.drishtiias.com/loksabha-rajyasabha-discussions/in-depth-artificial-intelligence) to increase the efficiency of the justice delivery system.

**What is the Need of Technology in Judiciary? Pendency of Cases:**

The recent [National Judicial Data Grid (NJDG)](https://www.drishtiias.com/daily-updates/daily-news-analysis/international-judicial-conference-2020) shows that 3,89,41,148 cases are pending at the District and Taluka levels and 58,43,113 are still unresolved at the high courts. Such pendency has a spin-off effect that takes a toll on the efficiency of the judiciary, and ultimately reduces peoples’ access to justice.

**Similar Global Initiatives:**

* **US:** COMPAS (Correctional Offender Management Profiling for Alternative Sanctions).
* **UK:** HART (Harm Assessment Risk Tool).
* **China/Mexico/Russia:** Giving legal advice, approving pensions.
* **Estonia:** Robot judge for adjudicating small claims.
* **Malaysia:** Supporting sentencing decisions.
* **Austria:** Sophisticated document management.
* **Argentina/Colombia:** Prometea (Identifying urgent cases within minutes).
* **Singapore:** Transcribing court hearings in real-time.

AI might produce manageable (non-disruptive) development or change, where it might be vulnerable to legal displacement and where it might lead to international legal destruction.

## A) *AI and Legal Development*

### 1. The Need for New Laws

### 2.  Legal Uncertainty

### 3.  Incorrect Scope

### 4.  Legal Obsolescence

## B ) *AI and Legal Displacement*

### 1. The Automation of International Law

2. The Technological Replacement of International Law

## C ) *AI and Legal Destruction*

### 1. Legal Erosion: AI as Intractable Puzzle for International Law

### 2. Legal Decline: AI as Political Threat to International Law

The prospects for legal displacement appear more chequered. Extensive automation of the negotiation or adjudication processes of international law seems somewhat unpromising, as does substituting a technologically based system of regulating states’ behaviour through non-normative behaviour control. Nonetheless, it appears plausible that more modest applications of AI may strengthen international law in areas such as monitoring, enforcement, or the development of better scientific models and a more refined evidence base to guide diverse governance initiatives.

During this research we have to aim at demonstrating that, with the explosion of AI, queries can return up and legal frameworks can inevitably have to be framed (if nationally: Amendments of Information Technology Act, 2000 & 2008 time to time or Frame New Laws) (if internationally, International Technology Laws) and compelled to adapt.

**Key Words:**

Artificial Intelligence, legal implications, Laws, Judiciary, new laws establishment

**Diagrams: 1**

**Tables: 1**

**INTRODUCTION**

The legal issues that conflict society due to Artificial Intelligence (AI) include privacy and surveillance, bias or discrimination, and potentially the philosophical challenge is the role of human judgment. Concerns about newer digital technologies becoming a new source of inaccuracy and data breaches have risen as a result of its use.

The age of artificial intelligence is dawning. Already AI is widespread, appearing in multiple contexts, from medical diagnosis to driving directions to stock trading to social networking to policing. As science fiction writer William Gibson said, the future is already here, it’s just not evenly distributed. It seems likely that every sector of economic activity and every aspect of social and political life will be (is already being) affected by AI. It also seems likely, however, that the full impact of AI is impossible to predict. Undoubtedly, there is hyperbole in today’s predictions about AI, both positive and dystopian. In thinking about AI, we should keep in mind the observation of another visionary, Roy Amara, founder of the Institute for the Future, who said that we tend to overestimate the short term impact of a new technology, but underestimate its long term impact. While the exact shape of the AI-influenced future is uncertain, there is widespread assumption that the impacts of AI will be profound. [1] As the European Commission said in 2018, “The way we approach AI will define the world we live in.”[2] Or, as Russia’s President said in 2017, the country that masters AI will “get to rule the world.”[3]

Although it represents one of the major technologies of our time, there is no common or accepted definition of artificial intelligence (“AI”). An October 2016 report issued by the Obama Administration said, “Some define AI loosely as a computerized system that exhibits behavior that is commonly thought of as requiring intelligence. Others define AI as a system capable of rationally solving complex problems or taking appropriate actions to achieve its goals in whatever real world circumstances it encounters.”

A 2018 book issued by Microsoft defines AI as “a set of technologies that enable computers to perceive, learn, reason and assist in decision-making to solve problems in ways that are similar to what people do.” (But in key ways AI is not similar to human thinking.) The European Commission’s Communication on AI states, “Artificial intelligence (AI) refers to systems that display intelligent behaviour by analyzing their environment and taking actions–with some degree of autonomy–to achieve specific goals.”[4]

AI offers the potential to solve problems that humans cannot solve on their own, especially those involving large amounts of data and large numbers of options. AI could correct for human error and bias. For example, an AI-based automobile may avoid drunk driving accidents and AI-based risk assessment programs can avoid racial bias in credit and criminal sentencing decisions. However, AI is not magic. All AI programs involve human decisions and trade-offs. Algorithms are not value-free. AI may replicate human error or bias or introduce new types of errors or bias.[5] Judges, regulators, and policymakers need to understand these biases and how they may arise in seemingly objective, data-driven processes. A self driving car may struggle with ethical choices that humans easily process, such as choosing between hitting a shopping cart and a baby stroller.5 An AI system intended to allocate police resources where crime is highest may replicate past bias in patterns of policing.

In 2015, in a case involving the use of an expert system to test equipment operators for intoxication, the Federal Circuit held that the system was not patent-eligible because it constituted an abstract idea in that it was directed at something performed by humans absent automation. The court also held that the claims failed the test of being “sufficiently inventive” because they did not specify how the system would work or if it would provide advantages over existing technology. The court left room for AI claims that involve a “specific implementation,” rather than an abstract idea. In another case, a district court case invalidated a patent concerning the “automated resolution of IT incidents” as being directed to an abstract idea.

1. James X. Dempsey Berkeley Center for Law & Technology, Artificial Intelligence: An Introduction to the Legal, Policy and Ethical Issues, August 10, 2020
2. Darrell M. West and John R., How Artificial Intelligence is transforming the world, April 24, 2018
3. Larre Lewis, CNA Statement to UN Group of Government Experts on Lethal Autonomous Weapon Systems, August 29, 2018
4. Nathalie Smuha - AI HLEG Coordinato, A definition of AI: Main capabilities and scientific disciplines, High-Level Expert Group on Artificial Intelligence, 8 December 2018
5. [Karen Haoarchive page](https://www.technologyreview.com/author/karen-hao/), Should a self-driving car kill the baby or the grandma? Depends on where you’re from, MIT Technology Review, 24 October 2018

In dicta, the judge stated that the idea of a self-driving car could not be patented in the abstract. In yet another case on an AI based invention, the court stated, “To the extent artificial intelligence inventions … involve an inventive concept, they could be patentable even if they have, at their core, an abstract concept,” but that court went on to hold the particular claim before it invalid as embodying an un-patentable "abstract idea."

Robots are considered as artificial agents that realize tasks in an automatic way. Although they may be composed only of software (called bots), robots are associated with physical presence, whether that is humanoid/anthropomorphic (Nomura etal., 2012) such as Honda’s Advanced Step in Innovative MobilityASIMO or not, e.g., industrial robotic arms, nano-robots, self-driving cars (Rödel et al., 2014). Generally, robots depict characteristics such as autonomy, self-learning, physical presence and adaptation of its behaviors and actions to its environment (Nevejans, 2016). The rapid advances in key Information and Communication Technologies (ICT), including Artificial Intelligence (AI), computer vision and hardware sensors / actuators, have resulted in an amazing evolution of robot and their capabilities in the last years. However, with the steep advancements in AI, robots can learn and master a wide variety of practical tasks, which is expected to result to their mass-utilization in modern society by the general population (and not only in factories as it is mostly the case today). The wide interest in robots and their applications are coupled with the economic aspects that pertains the development, commercialization and utilization of the technology.[6]

Law reflects the basic rules under which the behavior of individuals and organizations is regulated. Law is generally divided to criminal law, which deals with harm induced and aims to punish the guilty party, and civil law which resolves the disputes among parties such as individuals or organizations. The world today features different legal systems representing different ways of understanding and applying law. Examples of legal systems are Common law (Anglo-American system) and Civil law (Continental system). Different systems have different approaches, e.g., legal positivism (civil law / Sweden) vs. legal relativism (common law / US).

The goal of this research is to find out what are currently discussed and proposed policy and legislation changes related to the legal person- and agent hood of artificial intelligence (AI) technologies, with the focus being on the European Union. As different AI technologies become more common in all facets of life, it makes sense to analyze the potential need for granting different rights and responsibilities to those technologies. Whether there is a need for it at all, only in specific scenarios or widespread need, has to be analyzed and compared.

Law is considered as a “discrete object of study, clearly defined and labeled with distinct boundaries and categories comprising a recognizable body of knowledge” (Mansell etal., 2015). Such a view reflects the doctrinal view of law. However, as “a legal system has no function in itself but only as it plays a role in the society in which it exists” (Mansell etal., 2015), it makes sense to investigate a “law and society” viewpoint where law is attempted to be understood in its wider world context. Inter-sectionality is proposed to address the issue of how categories are inter-/intra- connected, interact at multiple levels and have an effect on identity. There are three approaches "defined principally in terms of their stance toward categories, that is, how they understand and use analytical categories to explore the complexity of inter-sectionality in social life" which are (i) anti-categorical complexity, (ii) intra-categorical complexity, and (iii) inter-categorical complexity, although these may not be clearly discrete (McCall, 2005). In practice, “the concept of inter-sectionality is often used to grasp the interconnections between the traditional background categories of gender, ethnicity, race, age, sexuality and class” (Staunæs, 2003). As such, using intersectional analysis one can attempt to understand the multidimensional aspects that impact social phenomena, e.g., injustice and social inequality. Applying inter-sectionality however is challenging, for instance Phoenix (2006) points out, that although “many accept that social categories are mutually constitutive and that gender is not clearly separable from other social categories. In addition, although Inter-sectionality is promising to capture and manage complexity via “multilevel models” (Carbin and Edenheim, 2013) there is not adequate justification as a simpler model might be adequate. This work is inspired by intersectional analysis, and utilizes some of its aspects when it approaches the interplay of law, robots and society.[7]

1. Advanced Step in Innovative Mobility, ASIMO - HONDA, Human Robot, 2000 <https://global.honda/innovation/robotics/ASIMO.html#:~:text=ASIMO%20stands%20for%20Advanced%20Step,mobility%20for%20a%20new%20era>.

## Jaun Manuel Davila Delgado, Robotics and automated systems in construction: Understanding industry-specific challenges for adoption, [Journal of Building Engineering](https://www.sciencedirect.com/journal/journal-of-building-engineering), [Volume 26](https://www.sciencedirect.com/journal/journal-of-building-engineering/vol/26/suppl/C), November 2019

Differing opinions all over the world can create a lot of friction and inefficiency when it comes to the development of these technologies and their implementation, thus a better overview of the current and future developments in this field could lead to better understanding and cooperation, both nationally and internationally.[8]

The aim of this research is to analyze the risks and challenges which could stem from the granting of legal personhood or agent hood to AI technologies. The author intends to create an overview of the different policy approaches and practices of legal personhood and agent hood of AI technologies as well as give an overview of some of the opinions that the experts in the field have expressed. The author intends to focus on the legal perspective but other perspectives, such as moral or philosophical, will also be discussed as necessary. The main purpose for this thesis is to be a guidepost to understanding the current and future situation in regards to the granting of legal person or agent hood to AI technologies.[9] Legal Definition of Artificial Intelligence:

Artificial intelligence or AI is the use of machine learning technology and [algorithms](https://www.law.cornell.edu/wex/algorithm) (the automated computational application of rules) to perform tasks, to make rules and/or predictions based on existing datasets. It is defined as: “Any artificial system that performs tasks under varying and unpredictable circumstances without significant human oversight, or that can learn from experience and improve performance when exposed to data sets. An artificial system developed in computer software, physical hardware, or other context that solves tasks requiring human-like perception, cognition, planning, learning, communication, or physical action. An artificial system designed to think or acts like a human, including cognitive architectures and neural networks.

**Impact of AI on Computer Science & Information Technology (Algorithm Relation):**

The relationship between Algorithm and AI as the relationship between “cars and flying cars.” “The key difference, is that an algorithm defines the process through which a decision is made, and AI uses training data to make such a decision. For example, you can collect data from thousands of driving hours by various drivers and train AI about how to drive a car. Or you can just code it [to say] when [it] identifies an obstacle on the road it pushes the break, [or] when it sees a speed sign, [it] complies. So with an algorithm, you are [setting] the criteria for actions,” he explained.

On the other hand, “ AI & we would not tell the [computer](https://www.cmswire.com/information-management/edge-computing-vs-fog-computing-whats-the-difference/) what to do because AI determines [what action to take based on the] data that says this is what people almost always do.”[11]

1. Stamatis Karnouskos, The Interplay of Law, Robots and Society, in an Artificial Intelligence Era, UMEÅ UNIVERSITY, March 2017
2. Riel Miller, Wolfgang Michalski and Barrie Stevens , OECD Secretariat, Advisory Unit to the Secretary-General , 21st CENTURY TECHNOLOGIES PROMISES AND PERILS OF A DYNAMIC FUTURE, by ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, Feb 2021
3. According to the notes of [10 U.S. Code § 2358](https://www.law.cornell.edu/uscode/text/10/2358)  artificial intelligence
4. Kya Ismail, According to Dr. Mir Emad Mousavi, founder and CEO of [QuiGig](https://www.quigig.com/), AI vs. Algorithms: What's the Difference? 26 October 2018

**LITERATURE REVIEW**

**Chris Chambers Goodman (2019)[12]** whether we admit it or not, lawyers increasingly are working with machines in many aspects of their practice and representation, and it is important to understand how artificial intelligence can assist attorneys to better provide justice while recognizing the limitations, particularly on issues of fairness. This article examines current and future uses of technology to address how identity influences decisions about charges, defenses, credibility assessments, and communications in lawyer-client relationships. The article recommends that lawyers take affirmative steps to interact with AI technology developers to serve the interests of justice and fairness more fully.

**Constanta Rosca (2020)[13]** AI research finds itself in the third boom of its history, and in recent years, AI-related themes have gained considerable popularity in new disciplines, such as law. This paper explores what legal research on AI constitutes of and how it has evolved, while addressing the issues of information retrieval and research duplication. Using Latent Dirichlet Allocation (LDA) topic modeling on a dataset of 3931 journal articles, we explore three questions: (a) Which topics within legal research on AI can be distinguished? (b) When were these topics addressed? and (c) Can similar papers be detected? The topic modeling results in a total of 32 meaningful topics. Additionally, it is found that legal research on AI drastically increased as of 2016, with topics becoming more granular and diverse over time. Finally, a comparison of the similarity assessments produced by the algorithm and a human expert suggest that the assessments often coincide. The results provide insights into how a legal research on AI has evolved over time, and support for the development of machine learning and information retrieval tools like LDA that assist in structuring large document collections and identifying relevant articles.

**Maksim Karliuk (2020)[14]** Ethics and law are inextricably linked in modern society, and many legal decisions arise from the interpretation of various ethical issues. Artificial Intelligence (AI) adds a new dimension to these issues. Systems that use artificial intelligence technologies are becoming increasingly autonomous in terms of the complexity of the tasks they can perform, their potential impact on the world and the diminishing ability of humans to understand, predict and control their functioning.

## Most people underestimate the real level of autonomy of these systems. They can learn from their own experience and perform actions their creators did not intend them to perform. That generates several ethical and legal difficulties that will be addressed.

**Rowena Rodrigues(2020)[15]** This article focuses on legal and human rights issues of artificial intelligence (AI) being discussed and debated, how they are being addressed, gaps and challenges, and affected human rights principles. Such issues include: algorithmic transparency, cyber-security vulnerabilities, unfairness, bias and discrimination, lack of contestability, legal personhood issues, intellectual property issues, adverse effects on workers, privacy and data protection issues, liability for damage and lack of accountability. The article uses the frame of ‘vulnerability’ to consolidate the understanding of critical areas of concern and guide risk and impact mitigation efforts to protect human well-being. While recognizing the good work carried out in the AI law space, and acknowledging this area needs constant evaluation and agility in approach, this article advances the discussion, which is important given the gravity of the impacts of AI technologies, particularly on vulnerable individuals and groups, and their human rights.

1. **Chris Chambers Goodman**, Professor (Law), Caruso School of Law, Pepperdine Caruso School of Law, California, Los Angels, USA, Impacts of Artificial Intelligence in Lawyer – Client Relationships, 2 Okla. L. Rev. 149 (2019-2020)

## Constanta Rosca (2020), PhD researcher in Digital Legal Studies, Maastrichits University, Netherlands , Return of the AI: An Analysis of Legal Research on Artificial Intelligence using Topic Modeling, NLLP@ KDD, 2020

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## Rowena Rodrigues(2020), Group Head of External Relations & Engagement at Glen Dimplex Dublin, County Dublin, Ireland, [Legal and human rights issues of AI: Gaps, challenges and vulnerabilities](https://philpapers.org/go.pl?id=RODLAH-2&proxyId=&u=https%3A%2F%2Fdx.doi.org%2F10.1016%2Fj.jrt.2020.100005), [Journal of Responsible Technology](https://philpapers.org/asearch.pl?pub=729853) 4:100005 (2020)

**Samuel Maireg Biresaw (2021)[16]** Legal research is an indispensable skill for lawyers. Therefore, it is always necessary for lawyers to engage in legal research in due course of trying to alleviate various legal problems. Although the purpose and methodology of the research may vary from lawyer to lawyer, doing research is a common activity. As a result, the quest to assess the impacts of artificial intelligence on legal research allows one to measure the influence of AI on the legal profession in general. Moreover, with the advent of Legal AI, it is now evident that the legal profession is not immune from disruption. According to the above, this article discusses the impacts of AI on research in the legal profession in general in accomplishing various lawyerly tasks by different legal professionals.

**Smith, Y. (2018)[17]** Machine Learning and Artificial Intelligence (AI) systems are rapidly being adopted across the economy and society. Early excitement about the benefits of these systems has begun to be tempered by concerns about the risks that they introduce. Concerns that have been raised include possible lack of algorithmic fairness (leading to discriminatory decisions), potential manipulation of users, the creation of ―filter bubbles‖, potential lack of inclusiveness, infringement of consumer privacy, and related safety and cyber security risks. It has been shown that the public – in the widest sense, thus including producers and consumers, politicians, and professionals of various stripes – do not understand how these algorithms work. But it is not only the public that does not understand how algorithms work. Many AI experts themselves are painfully aware of the fact that they cannot explain the way algorithms make decisions based on deep learning and neural networks. Hence there is also considerable concern among AI experts about the unknown implications of these technologies, which raise questions of ethical dilemmas within implementation of Artificial Intelligence. In terms of ethical challenges AI and robotics raise questions that are unprecedented. Given the increasing autonomy and intelligence of these systems we are not just talking about societal implications that merely ask for new ethical and legal frameworks. As the boundaries between human subjects and technological objects are virtually disappearing in AI, these technologies affect our fundamental understanding of human agency and moral responsibility. Who bears responsibility for AI-behaviour is a complex ethical issue.

**Stanley Greenstein (2021)[18]** The study of law and information technology comes with an inherent contradiction in that while technology develops rapidly and embraces notions such as internationalization and globalization, traditional law, for the most part, can be slow to react to technological developments and is also predominantly confined to national borders. However, the notion of the rule of law defies the phenomenon of law being bound to national borders and enjoys global recognition. However, a serious threat to the rule of law is looming in the form of an assault by technological developments within artificial intelligence (AI). As large strides are made in the academic discipline of AI, this technology is starting to make its way into digital decision-making systems and is in effect replacing human decision-makers. A prime example of this development is the use of AI to assist judges in making judicial decisions. However, in many circumstances this technology is a ‘black box’ due mainly to its complexity but also because it is protected by law. This lack of transparency and the diminished ability to understand the operation of these systems increasingly being used by the structures of governance is challenging traditional notions underpinning the rule of law. This is especially so in relation to concepts especially associated with the rule of law, such as transparency, fairness and explainability. This article examines the technology of AI in relation to the rule of law, highlighting the rule of law as a mechanism for human flourishing. It investigates the extent to which the rule of law is being diminished as AI is becoming entrenched within society and questions the extent to which it can survive in the technocratic society.

# Samuel Maireg Biresaw (2021): Senior Lecturer in Laws, University of East Anglia, UK, The Impacts of Artificial Intelligence on Research in the Legal Profession, Preprints, 05 October 2021

1. **Smith, Y. (2018)**: Research Scholar, USA, Christina McDowell Marinchak (University of Alaska Anchorage, Anchorage, USA), I[nternational Journal of E-Entrepreneurship and Innovation (IJEEI)](https://www.igi-global.com/journal/international-journal-entrepreneurship-innovation/1130) 8(2), 20 October 2018

# Stanley Greenstein (2021): Associate Professor (Docent) of Law and Information Technology at Stockholm University, Preserving the rule of law in the era of artificial intelligence, Springer, Artificial Intelligence and Law, 2021

**Teng Hu (2019)[19]** The development of artificial intelligence technology attracts more and more people's attention, especially for the impact of related legal profession, which cannot be ignored by law practitioners. For law science education, it will determine the future of talent training and professional development. Therefore, this paper first combs the current situation of the development and application of artificial intelligence, attempts to deduce the impact on the legal profession at the macroscopic and microcosmic aspect through the application and development trend of artificial intelligence technology at home and abroad in reality, and then analyzes the three issues of "what to cultivate", "how to cultivate" and "with what to cultivate", tries to put forward and explains how law science education responds to the influence of the development of artificial intelligence on the development of law profession.

**Vasiliy Andreevich Laptev (2022)[20]** Advance digital technologies are being actively introduced into healthcare. The recent successful efforts of artificial intelligence in diagnosing, predicting and studying diseases, as well as in surgical assisting demonstrate its high efficiency. The AI’s ability to promptly take decisions and learn independently has motivated large corporations to focus on its development and gradual introduction into everyday life. Legal aspects of medical activities are of particular importance, yet the legal regulation of AI’s performance in healthcare is still in its infancy. The state is to a considerable extent responsible for the formation of a legal regime that would meet the needs of modern society (digital society). This study aims to determine the possible modes of AI’s functioning, to identify the participants in medical-legal relations, to define the legal personality of AI and circumscribe the scope of its competencies. Of importance is the issue of determining the grounds for imposing legal liability on persons responsible for the performance of an AI system. The present study identifies the prospects for a legal assessment of AI applications in medicine. The article reviews the sources of legal regulation of AI, including the unique sources of law sanctioned by the state. Particular focus is placed on medical-legal customs and medical practices. The presented analysis has allowed formulating the approaches to the legal regulation of AI in healthcare.

**VidushiMarda (2018)[21]** Artificial Intelligence (AI) is an emerging focus area of policy development in India. The country’s regional influence, burgeoning AI industry, and ambitious governmental initiatives around AI makes it an important jurisdiction to consider, regardless of where the reader of this article lives. Even as existing policy processes intend to encourage the rapid development of AI for economic growth and social good, an overarching trend persists in India, and several other jurisdictions: the limitations and risks of data-driven decisions still feature as retrospective considerations for development and deployment of AI applications. This article argues that the technical limitations of AI systems should be reckoned with at the time of developing policy, and the societal and ethical concerns that arise due to such limitations should be used to inform what policy processes aspire to achieve. It proposes a framework for such deliberation to occur, by analyzing the three main stages of bringing machine learning to deployment - the data, model, and application stage. It is written against the backdrop of India’s current AI policy landscape, and applies the proposed framework to ongoing sectoral challenges in India. With a view to influence existing policy deliberation in the country, it focuses on potential risks that arise from data-driven decisions in general and in the Indian context in particular.

1. **Teng Hu (2019):** Research Scholar, University of Electronics Science and Technology, China, [Study on the Influence of Artificial Intelligence on Legal Profession](https://www.researchgate.net/publication/338598111_Study_on_the_Influence_of_Artificial_Intelligence_on_Legal_Profession), Conference: Proceedings of the 5th International Conference on Economics, Management, Law and Education (EMLE 2019), January 2019
2. **Vasiliy Andreevich Laptev (2022):** Faculty, The Institute of State and Law of The Russian Academy of Sciences, RU, [Medical Applications of Artificial Intelligence (Legal Aspects and Future Prospects)](https://www.researchgate.net/publication/357426338_Medical_Applications_of_Artificial_Intelligence_Legal_Aspects_and_Future_Prospects), Researchgate, Published in January 2022

# VidushiMarda (2018): Lawyer, Researcher, Senior Program Officer, Article-19, part of the Steering Committee at RealML, and a member of the [Expert Group on Governance of Data and AI](https://www.unglobalpulse.org/policy/data-privacy-advisory-group/) at United Nations Global Pulse, India, Artificial intelligence policy in India: a framework for engaging the limits of data-driven decision-making, The Royal Society, 15 October 2018

**PERSPECTIVES OF ARTIFICIAL INTELLIGENCE IN INDIA**

The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act-2008) is an Act of the [Indian Parliament](https://en.wikipedia.org/wiki/Indian_Parliament) (No 21 of 2000) notified on 17 October 2000. It is the primary law in [India](https://en.wikipedia.org/wiki/India) dealing with [cybercrime](https://en.wikipedia.org/wiki/Cybercrime) and [electronic commerce](https://en.wikipedia.org/wiki/Electronic_commerce). [Secondary or subordinate legislation](https://en.wikipedia.org/wiki/Primary_and_secondary_legislation) to the IT Act includes the Intermediary Guidelines Rules 2011 and the [Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021](https://en.wikipedia.org/wiki/Information_Technology_Rules,_2021).

**Summary:**

The original Act contained 94 sections, divided into 13 chapters and 4 [schedules](https://en.wikipedia.org/wiki/Schedule). The laws apply to the whole of India. If a crime involves a computer or network located in India, persons of other nationalities can also be indicted under the law, [[22]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-PawarKolekar2015-2) The Act provides a legal framework for electronic governance by giving recognition to [electronic records](https://en.wikipedia.org/wiki/Electronic_records) and [digital signatures](https://en.wikipedia.org/wiki/Digital_signature). It also defines cyber crimes and prescribes penalties for them. The Act directed the formation of a Controller of Certifying Authorities to regulate the issuance of digital signatures. It also established a Cyber Appellate Tribunal to resolve disputes rising from this new law. The Act also amended various sections of the [Indian Penal Code, 1860](https://en.wikipedia.org/wiki/Indian_Penal_Code), the [Indian Evidence Act, 1872](https://en.wikipedia.org/wiki/Indian_Evidence_Act), the Banker's Book Evidence Act, 1891, and the [Reserve Bank of India Act, 1934](https://en.wikipedia.org/wiki/Reserve_Bank_of_India_Act,_1934) to make them compliant with new technologies.[[22]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-PawarKolekar2015-2)

**About Artificial Intelligence:**

No Laws are existing as on today. Policy-level initiatives by the Ministry of Electronics and Information Technology (MeitY) and programmes around AI by National Association of Software and Services Companies (NASSCOM) and Defence Research & Development Organization (DRDO) have laid the groundwork for future disruption and created a roadmap for AI in India.

## Amendments: A major amendment was made in 2008. It introduced Section 66A which penalized sending "offensive messages". It also introduced Section 69, which gave authorities the power of "interception or monitoring or decryption of any information through any computer resource". Additionally, it introduced provisions addressing - [pornography](https://en.wikipedia.org/wiki/Pornography), [child porn](https://en.wikipedia.org/wiki/Child_porn), [cyber terrorism](https://en.wikipedia.org/wiki/Cyber_terrorism) and [voyeurism](https://en.wikipedia.org/wiki/Voyeurism). The amendment was passed on 22 December 2008 without any debate in Lok Sabha. The next day it was passed by the Rajya Sabha. It was signed into law by President [Pratibha Patil](https://en.wikipedia.org/wiki/Pratibha_Patil), on 5 February 2009.[[23]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-Sec66A-3)[[24]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-Snooping-4)[[25]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-DeafDumb-5)[[26]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-AmendedCyberCrime-6)

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## Section 66:

## In February 2001, in one of the first cases, the Delhi police arrested two men running a [web-hosting](https://en.wikipedia.org/wiki/Web-hosting) company. The company had shut down a website over non-payment of dues. The owner of the site had claimed that he had already paid and complained to the police. The Delhi police had charged the men for hacking under Section 66 of the IT Act and breach of trust under Section 408 of the [Indian Penal Code](https://en.wikipedia.org/wiki/Indian_Penal_Code). The two men had to spend 6 days in [Tihar jail](https://en.wikipedia.org/wiki/Tihar_jail) waiting for bail.[[27]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-9)

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## In February 2017, A Delhi based Ecommerce Portal made a Complaint with Hauz Khas Police Station against some hackers from different cities accusing them for IT Act / Theft / Cheating / Misappropriation / Criminal Conspiracy / Criminal Breach of Trust / Cyber Crime of Hacking / Snooping / Tampering with Computer source documents and the Web Site and extending the threats of dire consequences to employees, as a result four hackers were arrested by South Delhi Police for Digital Shoplifting.[[28]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-10)

## 22. Sujata Pawar; Yogesh Kolekar (23 March 2015). [Essentials of Information Technology Law](https://books.google.com/books?id=m6mjBwAAQBAJ&pg=PT296). Notion Press. pp. 296–306. [ISBN](https://en.wikipedia.org/wiki/ISBN_(identifier)) [978-93-84878-57-3](https://en.wikipedia.org/wiki/Special:BookSources/978-93-84878-57-3).  14 April 2015.

1. ["Section 66A of the Information Technology Act"](http://cis-india.org/internet-governance/resources/section-66A-information-technology-act). [Centre for Internet and Society (India)](https://en.wikipedia.org/wiki/Centre_for_Internet_and_Society_(India)).  14 April 2015.
2. ["Yes, snooping's allowed"](http://archive.indianexpress.com/news/yes-snooping-s-allowed/419978/0). [The Indian Express](https://en.wikipedia.org/wiki/The_Indian_Express). 6 February 2009.  14 April 2015.
3. ["Deaf, Dumb & Dangerous - 21 Minutes: That was the time our MPs spent on Section 66A. How they played"](http://www.telegraphindia.com/1150326/jsp/frontpage/story_10924.jsp#.VRTZco6upng). [The Telegraph (India)](https://en.wikipedia.org/wiki/The_Telegraph_(India)). 26 March 2015.  6 May 2015.
4. ["Amended IT Act to prevent cyber crime comes into effect"](http://www.thehindu.com/news/national/amended-it-act-to-prevent-cyber-crime-comes-into-effect/article39398.ece). [The Hindu](https://en.wikipedia.org/wiki/The_Hindu). 27 October 2015.  8 May 2015. Vishal rintu -journalists of the new era
5. Ganapati, Priya (19 February 2001). ["Cyber crime that wasn't?"](https://www.rediff.com/money/2001/feb/19cyber.htm). rediff.com. 5 June 2022.
6. ["Four Hackers Arrested in Delhi, Cyber Crime, Gift Vouchers, Hacking, Section 65 / 66 of IT Act, Gyftr"](http://www.itlaw.in/digital-shoplifting-four-hackers-arrested-south-delhi/). Information Technology Act. 10 February 2010.  7 May 2017

**Section 69A**:

On 29 June 2020, the [Indian Government](https://en.wikipedia.org/wiki/Modi_government) banned 59 [Chinese](https://en.wikipedia.org/wiki/China) [mobile apps](https://en.wikipedia.org/wiki/Mobile_app), most notably [TikTok](https://en.wikipedia.org/wiki/TikTok), supported by Section 69A and citing national security interests.[[29]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-22)[[30]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-23)

* On 24 November 2020, another 43 Chinese mobile apps were banned supported by the same reasoning, most notably [AliExpress](https://en.wikipedia.org/wiki/AliExpress).[[31]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-24)[[32]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-25)
* 54 more apps including popular video game [Garena Free Fire](https://en.wikipedia.org/wiki/Garena_Free_Fire) were banned on 14 February 2022 under the same section.[[33]](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-26)

rom its establishment as an amendment to the original act in 2008, Section 66A attracted controversy over its unconstitutional nature:

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Offence** | **Description** | **Penalty** |
| 66A | Publishing offensive, false or threatening information | Any person who sends by any means of a computer resource any information that is grossly offensive or has a menacing character; or any information which he knows to be false, but for the purpose of causing annoyance, inconvenience, danger, obstruction, insult shall be punishable with imprisonment for a term which may extend to three years and with fine. | Imprisonment up to three years, with fine. |

### Table 1: Section 66A and restriction of free speech

Secondary legislation:

The [**Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021**](https://en.wikipedia.org/wiki/Information_Technology_Rules,_2021) suppresses India's Intermediary Guidelines Rules 2011.[**[34]**](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_note-48)

1. ["Government Bans 59 mobile apps which are prejudicial to sovereignty and integrity of India, defence of India, security of state and public order"](http://pib.gov.in/Pressreleaseshare.aspx?PRID=1635206). pib.gov.in.  24 November 2020.
2. Soni, Aayush (6 July 2020). ["Can Chinese apps appeal India's ban? Section 69A of IT Act has the answer"](https://theprint.in/opinion/can-chinese-apps-appeal-india-ban-section-69a-of-it-act-has-answer/455316/). ThePrint.  24 November 2020.

**31**[**.**](https://en.wikipedia.org/wiki/Information_Technology_Act,_2000#cite_ref-24) ["Government of India blocks 43 mobile apps from accessing by users in India"](http://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1675335). [www.pib.gov.in](http://www.pib.gov.in),  24

November 2020.

1. ["Indian government bans 43 apps: Here's the list"](https://tech.hindustantimes.com/tech/news/indian-government-bans-43-apps-here-s-the-list-71606218186438.html). Hindustan Times Tech. 24 November 2020.  24 November 2020.
2. ["Garena Free Fire, 53 other 'Chinese' apps banned: Full list of banned apps"](https://indianexpress.com/article/technology/tech-news-technology/garena-free-fire-and-53-other-chinese-apps-banned-full-list-7772673/). The Indian Express. 16 February 2022.
3. Dalmia, Vijay Pal (4 March 2021). ["Information Technology (Guidelines For Intermediaries And Digital Media Ethics Code) Rules, 2021"](https://www.mondaq.com/india/social-media/1042586/information-technology-guidelines-for-intermediaries-and-digital-media-ethics-code-rules-2021). www.mondaq.com*.*5 March 2021

**PERSPECTIVES OF ARTIFICIAL INTELLIGENCE INTERNATIONALLY**

Global policy makers and industry experts to discuss perspectives on artificial intelligence (AI) policy and potential for global collaboration. The event featured distinguished panelists from major global economies: Juha Heikkilä, Adviser for Artificial Intelligence, European Commission, José Gontijo, Director of the Department of Science, Technology and Digital Innovation at the Brazilian Ministry of Science, Technology and Innovation, Yoichi Iida, Deputy Director General for G7 and G20 Relations, Global Strategy Bureau, and the Japanese Ministry of Internal Affairs and Communications, and Elham Tabassi, Chief of Staff of the

Information Technology Laboratory at the U.S. National Institute of Standards and Technology.

Panelists agreed that while the take up of AI technologies has incredible potential, it is also important to take into account potential risks that it carries. Elham Tabassi stressed in this regard the need to develop standards and increase trust on AI to fully reap the benefits of the technologies, while José Gontijo and Yoichi Iida both remarked how global approaches to AI policy will help support global innovation and economic growth, as well as establishing guidelines for potential regulation around this technology. Yoichi Iida also stressed the value of implementing AI principles based on human centricity and democratic values in a balanced and measured fashion.

*“We all know that developing technology standards development is an increasingly an area of global strategic and economic competition. International standards help overcome trade barriers and expand market access, helping [...] support global economic growth.” - Elham Tabassi, U.S. National Institute of Standards and Technology*

The debate then shifted to how testing and regulation could be enforced across jurisdictions. Juha Heikkilä and José Gontijo both used the example of the European GDPR and the adoption of similar measures by other countries to illustrate what international harmonization on AI measures may look like. Yoichi Iida agreed, adding that interoperability, communication, and mutual understanding between countries was very important. Elham Tabassi echoed Yoichi Iida’s sentiments by outlining the US National Institute of Standards’ actions to work towards a global understanding and interoperability around AI use and risk management. Panelists agreed that there was no one-size-fits-all approach, but that interoperability was crucial.

*“In the area of AI regulation, I personally feel that different countries have to have different frameworks because we have different social requirements. But on the other hand, we need interoperability between these different frameworks.” - Yoichi Iida, Ministry of Internal Affairs and Communications, Japan*

The categorization of high-risk AI cases and potential for global convergence in this regard was then brought to the table. José Gontijo shared Brazil’s approach, explaining how any definition of high-risk AI needs not to hinder innovation in the field. Panelists also discussed that high-risk AI should be based on the use case rather than on the technology itself, and international forums such as the OECD or G20 can play a role to establish a consensus on which uses should be treated as such. Juha Heikkilä stressed that risks to safety and fundamental rights can be the starting point for a common definition of high-risk AI between like-minded jurisdictions.

*“Product safety and fundamental right risks could be seen as the basis for a high-risk AI definition in other jurisdictions who take a similar human-centric approach to AI .” - Juha Heikkilä, European Commission*

During the Q&A, panelists discussed potential next steps to encourage international collaboration and avoid divergence. Elham Tabassi stressed the importance of moving from principles to practice by developing standards and metrics for AI risk-management, while Juha Heikkilä and José Gontijo agreed that cooperation between all parties involved would be a key factor in achieving results and building consensus. Yoichi Iida strongly supported these comments, stressing the need to closely collaborate among like-minded countries towards a human-centric use of AI.

*“We need to involve our national AI ecosystems in global conversations to support the global development of the technology and input on the development of public policies at home.”   - José Gontijo, Brazilian Ministry of Science, Technology and Innovations”[35]*

1. **Report of ITIC:** The **International Tsunami Information Centre** (ITIC) was created by the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO), Global Perspectives on Artificial Intelligence Policy: How to Further Global Cooperation?, 05 October 2021

**legal aspects on the implications of ARTIFICIAL INTELLIGENCE in India**

The adoption and penetration of Artificial Intelligence in our lives today does not necessitate any more enunciation or illustration. While the technology is still considered to be in its infancy by many, so profound has been its presence that we do not comprehend our reliance on it unless it is specifically pointed out. From Siri, Alexa to Amazon and Netflix, there is hardly any sector that has remained untouched by Artificial Intelligence.

Thus, the adoption of artificial intelligence is not the challenge but its ‘regulation’ is a slippery slope. Which leads us to questions such as whether we need to regulate artificial intelligence at all? If yes, do we need a separate regulatory framework or are the existing laws enough to regulate artificial intelligence technology?

Artificial intelligence goes beyond normal computer programs and technological functions by incorporating the intrinsic human ability to apply knowledge and skills and learning as well as improving with time. This makes them human-like. Since humans have rights and obligations, shouldn’t human-likes have them too?

But at this point in time, there have been no regulations or adjudications by the Courts acknowledging the legal status of artificial intelligence. Defining the legal status of AI machines would be the first cogent step in the framing of laws governing artificial intelligence and might even help with the application of existing laws. A pertinent step in the direction of having a structured framework was taken by the Ministry of Industry and commerce when they set up an 18 member task force in 2017 to highlight and address the concerns and challenges in the adoption of artificial intelligence and facilitate the growth of such technology in India. The Task Force came up with a report in March 2018[[36]](https://www.foxmandal.in/core-legal-issues-with-artificial-intelligence-in-india/" \l "_ftn1) in which they provided recommendations for the steps to be taken in the formulation of a policy.

The Report identified ten sectors which have the greatest potential to benefit from the adoption of artificial intelligence and also cater to the development of artificial intelligence-based technologies. The report also highlighted the major challenges which the implementation of artificial intelligence might face when done on large scale, namely (i) Encouraging data collection, archiving and availability with adequate safeguards, possibly via data marketplaces/exchanges; (ii) Ensuring data security, protection, privacy and ethical via regulatory and technological frameworks; (iii) Digitization of systems and processes with IoT systems whilst providing adequate protection from cyber-attacks; and (iv) Deployment of autonomous products and mitigation of impact on employment and safety.[[37]](https://www.foxmandal.in/core-legal-issues-with-artificial-intelligence-in-india/" \l "_ftn2) The Task Force also suggested setting up of an**“Inter–Ministerial National Artificial Intelligence Mission”,**for a period of 5 years, with funding of around INR 1200 Crores, to act as a nodal agency to coordinate all AI-related activities in India.

**Core Legal Issues:**

When we look at the adoption of artificial intelligence from a legal and regulatory point of view, the main issue we need to consider is, are the existing laws sufficient to address the legal issues which might arise or do we need a new set of laws to regulate the artificial intelligence technologies. Whilst certain aspects like intellectual property rights and use of data to develop artificial intelligence might be covered under the existing laws, there are some legal issues which might need a new set of regulation to overlook the artificial intelligence technology.

* **Liability of Artificial Intelligence**

The current legal regime does not have a framework where a robot or an artificial intelligence program might be held liable or accountable in case a third party suffers any damage due to any act or omission by the program. For instance, let us consider a situation where a self-driven car controlled via an artificial intelligence program gets into an accident. How will the liability be apportioned in such a scenario? The more complex the artificial intelligence program, the harder it will be to apply simple rules of liability on them. The issue of apportionment of liability will also arise when the cause of harm cannot be traced back to any human element, or where any act or omission by the artificial intelligence technology which has caused damage could have been avoided by human interventions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. https://dipp.gov.in/sites/default/files/Report\_of\_Task\_Force\_on\_ArtificialIntelligence\_20March2018\_2.pdf
2. <https://dipp.gov.in/sites/default/files/Report_of_Task_Force_on_ArtificialIntelligence_20March2018_2.pdf> pp. 9-10.

One more instance where the current legal regime may not be able to help is where the artificial intelligence enters into a contractual obligation after negotiating the terms and conditions of the contract and subsequently there is a breach of contract.

In the judicial pronouncement of United States v Athlone Indus Inc[[38]](https://www.foxmandal.in/core-legal-issues-with-artificial-intelligence-in-india/" \l "_ftn3) it was held by the court that since robots and artificial intelligence programs are not natural or legal persons, they cannot be held liable even if any devastating damage may be caused. This traditional rule may need reconsideration with the adoption of highly intelligent technology.

The pertinent legal question here is what kind of rules, regulations and laws will govern these situations and who is to decide it, where the fact is that artificial intelligence entities are not considered to be subject of law.[[39]](https://www.foxmandal.in/core-legal-issues-with-artificial-intelligence-in-india/" \l "_ftn4)

* **Personhood of Artificial Intelligence Entities**

From a legal point of view, personhood of an entity is an extremely important factor to assign rights and obligations. Personhood can either be natural or legal. Attribution of personhood is important from the point of view that it would help identify as to who would ultimately be bearing the consequences of an act or omission.

Artificial intelligence entities, to have any rights or obligations should be assigned personhood to avoid any legal loopholes. **“Electronic personhood”****[[40]](https://www.foxmandal.in/core-legal-issues-with-artificial-intelligence-in-india/" \l "_ftn5)**could be attributed to such entities in situations where they interact independently with third parties and take autonomous decisions.

* **Protection of Privacy and Data**

For the development of better artificial intelligence technologies, the free flow of data is crucial as it is the main fuel on which these technologies run. Thus, artificial intelligence technologies must be developed in such a way that they comply with the existing laws of privacy, confidentiality, anonymity and other data protection framework in place. There must be regulations which ensure that there is no misuse of personal data or security breach. There should be mechanisms that enable users to stop processing their personal data and to invoke the right to be forgotten. It further remains to be seen whether the current data protection/security obligations should be imposed on AI and other similar automated decision-making entities to preserve individual’s right to privacy which was declared as a fundamental right by the Hon’ble Supreme Court in **KS Puttaswamy & Anr. v Union of India and Ors****[[41]](https://www.foxmandal.in/core-legal-issues-with-artificial-intelligence-in-india/" \l "_ftn6)**. This also calls for an all-inclusive data privacy regime which would apply to both private and public sector and would govern the protection of data, including data used in developing artificial intelligence. Similarly, surveillance laws also would need a revisiting for circumstances which include the use of fingerprints or facial recognition through artificial intelligence and machine learning technologies.

At this point in time there are a lot of loose ends to be tied up like the rights and responsibilities of the person who controls the data for developing artificial intelligence or the rights of the data subjects whose data is being used to develop such technologies. The double-edged sword situation between development of artificial intelligence and the access of data for further additional purposes also needs to be deliberated upon.

In this evolving world of technology with the capabilities of autonomous decision making, it is inevitable that the implementation of such technology will have legal implications. There is a need for a legal definition of artificial intelligence entities in judicial terms to ensure regulatory transparency. While addressing the legal issues, it is important that there is a balance between the protection of rights of individuals and the need to ensure consistent technological growth. Proper regulations would also ensure that broad ethical standards are adhered to. The established legal principles would not only help in the development of the sector but will also ensure that there are proper safeguards in place.

1. 746 F.2d 977, 979 (3d Cir. 1984)
2. *Gabriel Hallevy,*The Criminal Liability of Artificial Intelligence Entities – From Science Fiction to Legal Social Control , [*https://ideaexchange.uakron*](https://ideaexchange.uakron).edu/cgi/viewcontent.cgi? .[*article=1037&context=akronintellectualproperty*](https://ideaexchange.uakron.edu/cgi/viewcontent.cgi?article=1037&context=akronintellectualproperty)
3. <https://www.theverge.com/2017/1/19/14322334/robot-electronic-persons-eu-report-liability-civil-suits>
4. Writ Petition (Civil) No 494 OF 2012

**AFFECTS OF ARTIFICIAL INTELLIGENCE WITH RESPECT TO**

**COMPUTER SCIENCE & INFORMATION TECHNOLOGY**

With the recent occurrence of the COVID-19 pandemic[42], we've seen a whole shift in dependency on electronic devices and also the web and a sequent surge in cyber security threats in India.

With the constant rise in cyber attacks like Phishing, Trojans, Malware attacks, and Privacy Issues, it's vital to shed light-weight on the prevailing cyber security laws and legal remedies out there to a victim of a cyber attack in Asian countries particularly in India. Cyber attacks in India have gained nice momentum since Feb 2020 because the proportion of cyber attacks has exaggerated to 500 %  in 2020 alone with a lot of expected within the close to future. With subject to Indian Laws regarding cyber laws, cyber security, and remedies out there for cyber attack victims. The Research sheds light-weight on the coming cyber laws in India and their potential impact on cyber security and cyber attacks. It seeks to determine whether or not the prevailing laws additionally to the coming laws are spare to combat the present and future threats to privacy and cyber security whereas conjointly specializing in analyzing the prevailing legislation regarding regarding cyber laws in western countries like America, UK, Europe, and Australia compared to it of Indian cyber laws.

### Artificial Intelligence may be a well-known branch of Computer Science & Information Technology Engineering that remained positioned on the highest in recent years. There are various applications of AI[43], AI Application in E-Commerce, Education, Lifestyle, Navigation, Robotics, Human Resource, Health system, Agriculture, Gaming, Automobiles, Social Media, Chatbots, and Finance etc.most frequently we tend to use them each day. Reprehension Digital Assistant, Spam Email Filtration, obtaining the Shortest on the market Path on Google Maps, all of those are basic applications of AI. We tend to use these on common place. AI proves itself to be a really powerful tool for the digital future. With the tremendous quality that AI has gained over the years, it's major drawbacks too.AI initiated cyber attacks don't seem to be uncommon things any longer. Within the 2010s, it's been seen that AI and ML (Machine Learning) were employed by hackers in information breaches and in exploiting systems. Therefore each AI and ML is getting threats to the long run Various Cyber Laws touch upon the Liability of AI. This paper focuses on the impact of computer science on Cyber Crimes and Cyber Laws, and therefore the limitations of the employment of computer science on a really massive scale.

**ARTIFICIAL INTELLIGENCE IN JUDICIAL SYSTEM IN INDIA**

**Role of Judiciary System on Artificial Intelligence[44]:**

Recently, the Law Minister has said that for implementing phase two of the e-Courts project, there is a need to adopt new, cutting edge technologies of [Machine Learning (ML)](https://www.drishtiias.com/daily-news-analysis/rise-in-ai-adoption-in-india-amidst-pandemic) and [Artificial Intelligence (AI)](https://www.drishtiias.com/loksabha-rajyasabha-discussions/in-depth-artificial-intelligence) to increase the efficiency of the justice delivery system.

Also, to explore the use of AI in the judicial domain, the Supreme Court of India has constituted an Artificial Intelligence Committee. The committee has identified application of AI technology in Translation of judicial documents, Legal research assistance and Process automation. It was conceptualized with a vision to transform the Indian Judiciary by ICT (Information and Communication Technology) enablement of Courts.

It is a pan-India Project, monitored and funded by the Department of Justice, Ministry of Law and Justice, for the District Courts across the country.

Objectives of the Project:

* To provide efficient & time-bound citizen-centric services delivery.
* To develop, install & implement decision support systems in courts.
* To automate the processes to provide transparency and accessibility of information to its stakeholders.
* To enhance judicial productivity, both qualitatively & quantitatively, to make the justice delivery system affordable, accessible, cost-effective, predictable, reliable and transparent.

1. Covid-19 Pandemic, 2 years 6 months & ongoing, Wikipedia

# Applications of AI: Avijeeth Biswal, Senior Research Analyst at Simplilearn, India, AI Applications: Top 14 Artificial Intelligence Applications in 2022, 13 July 2022

1. Drishti IAS Academy, New Delhi, India, Artificial Intelligence in Judiciary, 08 March 2022

What is the Need of Technology in Judiciary? Pendency of Cases:

The recent [National Judicial Data Grid (NJDG)](https://www.drishtiias.com/daily-updates/daily-news-analysis/international-judicial-conference-2020) shows that 3,89,41,148 cases are pending at the District and Taluka levels and 58,43,113 are still unresolved at the high courts. Such pendency has a spin-off effect that takes a toll on the efficiency of the judiciary, and ultimately reduces peoples’ access to justice.

**What are Examples of Use of Technology in Judiciary?**

Virtual Hearing: Over the course of the Covid-19 pandemic, the use of technology for e-filing, and virtual hearings has seen a dramatic rise. SUVAS (Supreme Court Vidhik Anuvaad Software): It is an AI system that can assist in the translation of judgments into regional languages. This is another landmark effort to increase access to justice. [SUPACE (Supreme Court Portal for Assistance in Court Efficiency):](https://www.drishtiias.com/daily-news-analysis/ai-portal-supace) It was recently launched by the Supreme Court of India. Designed to first understand judicial processes that require automation, it then assists the Court in improving efficiency and reducing pendency by encapsulating judicial processes that have the capability of being automated through AI.

**Similar Global Initiatives:**

**US:** COMPAS (Correctional Offender Management Profiling for Alternative Sanctions).

**UK:** HART (Harm Assessment Risk Tool).

**China/Mexico/Russia:** Giving legal advice, approving pensions.

**Estonia:** Robot judge for adjudicating small claims.

**Malaysia:** Supporting sentencing decisions.

**Austria:** Sophisticated document management.

**Argentina/Colombia:** Prometea (Identifying urgent cases within minutes).

**Singapore:** Transcribing court hearings in real-time.

**What are the possible uses of AI & ML in the Judiciary?**

Increasing efficiency of Judiciary: It has the possibility of helping judges conduct trials faster and more effectively thereby reducing the pendency of cases.

It will assist legal professionals in devoting more time in developing better legal reasoning, legal discussion and interpretation of laws.

Creating Judge Analytics: After “training” the application on a huge historical set of precedents, the application is capable of highlighting key points that are relevant in specific contracts. This will help analyze thousands of previous cases and create a ‘judge analytics’.

**Side-effects of AI:** As AI technology grows, concerns about [data protection, privacy](https://www.drishtiias.com/daily-news-analysis/data-protection-in-india), human rights and ethics will pose fresh challenges and will require great self-regulation by developers of these technologies. It will also require external regulation by the legislature through statute, rules, regulation and by the judiciary through judicial review and constitutional standards.

**ARTIFICIAL INTELLIGENCE IN JUDICIAL SYSTEM INTERNATIONALLY[45]**

AI may change the international legal situation both directly and indirectly. Directly, it generates new legal situations by creating new legal entities or by enabling new behaviour. Indirectly, AI may shift the incentives or values for states interacting with international law. Out of this, we may distinguish three types of legal impacts effected by any sufficiently disruptive technology such as AI. The first is legal development (change of elements leading to a need for legal change to accommodate or address the new situation), the second is legal displacement (systemic substitution of regulatory modality; the ‘automation’ of international law) and the third is legal destruction (systemic disruption of key premises; erosion).

1. Matthijs M Maas, Postdoctoral Research Associate, Centre for the Study of Existential Risk, University of Cambridge. , Senior Research Fellow (Law & AI), Legal Priorities Project, "International Law Does Not Compute: Artificial Intelligence and the Development, Displacement or Destruction of the Global Legal Order" [2019], Melbourne Journal of International Law, Melbourne Journal of International Law, Australia, 20 January 2019

## A) AI and Legal Development

### 1 The Need for New Laws

### 2 Legal Uncertainty

### 3 Incorrect Scope

### 4 Legal Obsolescence

## B) AI and Legal Displacement

### 1 The Automation of International Law

2 The Technological Replacement of International Law

**C )AI and Legal Destruction**

### 1 Legal Erosion: AI as Intractable Puzzle for International Law

### 2 Legal Decline: AI as Political Threat to International Law

The prospects for legal displacement appear more chequered. Extensive automation of the negotiation or adjudication processes of international law seems somewhat unpromising, as does substituting a technologically based system of regulating states’ behaviour through non-normative behaviour control. Nonetheless, it appears plausible that more modest applications of AI may strengthen international law in areas such as monitoring, enforcement, or the development of better scientific models and a more refined evidence base to guide diverse governance initiatives.

**SUMMATION AND SUGGESTION**

Artificially Intelligent agents square measure a lot of and a lot of gift in society. They need the potential to boost our standard of living and welfare. But, the introduction of AI already brings some technologic, industrial and restrictive challenges. The robots in operation autonomously, while not the intervention or awareness of humans can raise queries concerning attribution of rights or restrictions / obligations for them, liability for his or her actions, taxation, information privacy, and robotic machine exchange human labour. The amendment of liability paradigm from the operator of the vehicle to the manufacturer started with the imposition of liability for damages arising from Associate in action autonomous automobile.

Ought to robots pay taxes? Perhaps it's not truthful to tax by artificial means intelligent agents for taking advantage of public expenditure, as a result of the utilization of public services or infrastructures by Associate in tending AI agent it’s not a profit for the agent, except for the user or designer. It is often a necessity, for reasons associated with neutering patterns of consumption or employment among the economy. The chance of losing management over AI agents isn’t solely associated with damages, however conjointly to the protection of private information and public safety. This will happen because of malfunctions, security breaches, the superior latent period of computers compared to humans, unsafe explorations, hacking so on. During this research we have to aim at demonstrating that, with the proliferation of AI, queries can return up and legal frameworks can inevitably have to be framed (for instance, International Technology Laws) and compelled to adapt.[46]

1. World Intellectual Property Organization, WIPO 2019 trends in Artificial Intelligence, 24 January 2019

**EXPECTED OUTCOME**

In this chapter, an effort was made to enumerate and discuss the future impacts of AI on legal research in the legal profession. As some scholars try to portray, the law is neither rocket science nor entirely repugnant of technology. Hence, legal research in particular and legal practice, in general, is amenable to and influenced by AI both positively and negatively. Moreover, it is evident from the study that the positive impacts of AI are far greater than its negative externalities, which are usually temporary and related to the disruptive effects of technology on the legal profession. It should also be emphasized that legal research, which includes multifaceted activities is a core lawyering skill and an integral part of legal practice.

All types of legal professionals (judges, lawyers, legislators, and academicians) must undertake legal research in due course of delivering various types of legal services and the quality of their research determines the quality of the services they provide to clients. are expected to develop the capability to deliver efficient legal services by autonomously undertaking legal research that is destined to sort out legal problems that will require human empathy, judgment, and creativity and thereby satisfy client expectations. During this research we have to aim at demonstrating that, with the explosion of AI, queries can return up and legal frameworks can inevitably have to be framed (if nationally: As a result, when one tries to assess the impact of AI on legal research, s/he is also implicitly assessing such an impact on the entirety of legal practice to which the research is an integral part. In the future, with the advent of Strong AI, which has a massive computational and analytical capacity of a vast amount of data and brute force of processing, the impact of AI on legal research will be far greater than mere automation (pre-programmed decision making). With such a leap in computational capacity and advances in algorithmic reasoning, AI tools Amendments of Information Technology Act, 2000 & 2008 time to time or Frame New Laws) (if internationally, International Technology Laws) and compelled to adapt.

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