SCOPE OF ARTIFICIAL INTELLIGENCE AS A JUDGE IN JUDICIAL SECTOR

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Abstract:

The use of computing technology within the sector of judicial purpose is spreading its feet at a very rapid rate. With the time of digitalisation, we are only a step away from using AI in our daily work. For this purpose, we, Indians have administered a multidisciplinary research related to the possible application of AI within the judiciary worldwide. Our main objective wasn't only to point that AI requires a definite approach both from legislative and executive aspects, but also to produce possible solutions concerning the implementation of AI within the judicial sector. Likewise, we covered almost all the emerging ethical concerns and tackled the issue of transparency, responsibility, and non-discrimination. The analysis gradually verified the initial hypothesis of our article that in spite of the increasing pervasion of AI, we need to limit its use and adjust both our legal and ethical framework to pander to these new concerns. This article discusses current applications of legal AI and suggests deep learning and machine learning techniques that will be applied in future to simplify the cumbersome legal tasks.

Keywords: *Artificial Intelligence, Judiciary, Legal, Computer Technology, Software*

Introduction

Let's understand the meaning of Artificial Intelligence first. What is Artificial Intelligence? Artificial Intelligence [AI] is also an automatic processing system able to perform tasks that ordinarily require human intelligence. Many of these AI systems are powered by machine learning, variety of them are powered by deep learning and some of them are powered by very boring things like rules. This comes with learning which involves garnering the principles and knowledge for using the information. All thanks to data-based service industries it's becoming very popular and necessity. As per the father of computing, "The science and

engineering of constructing intelligent machines, especially intelligent computer programs"[1]. Artificial Intelligence can be how of construct a computer, a computer-controlled robot, or a software who think intelligently, within the similar manner as the intelligent humans think.

AI is accomplished by studying how human brain thinks, and therefore the way humans learn, decide, and work while trying to resolve a problem, so using the outcomes of this study as a basis of developing intelligent software and systems. Philosophy of AI While exploiting the power of the pc systems, the curiosity of human, lead him to wonder, "Can a machine think and behave like humans do?" Thus, the event of AI started with the intention of constructing similar intelligence in machines that we discover and regard high in humans.

Goals of AI

- To Create Expert Systems − The systems which exhibit intelligent behavior, learn, demonstrate, explain, and advice its users.
- To Implement Human Intelligence in Machines − Creating systems that understand, think, learn, and behave like humans.

How is AI computing affecting our daily life?

Artificial intelligence may well be a technology that's impacting our lives in an exceedingly positive manner and which is additionally participating in our daily schedule which acts as kind of a reminder for meetings, suggesting articles & news of our interest. Within the near future, its impact is maybe visiting spread on entire database industries. Artificial Intelligence has the potential to immensely modify the fashion that human interact, not solely with the digital world but also with one another, through their work and through other socioeconomic institutions, for better or for worse. If we are to substantiate that the impact of engineering science are positive, it'll be essential that each one stakeholders participate within the debates surrounding computing.

AI has been dominant in various fields like –

• Gaming − AI plays crucial role in strategic games like chess, poker, tic-tac-toe, etc., where machine can consider sizable amount of possible positions supported heuristic knowledge.

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[1] John McCarthy

• Natural Language Processing − it's possible to interact with the pc that understands language spoken by humans.

• Expert Systems − There are some applications which integrate machine, software, and special information to impart reasoning and advising. they provide explanation and advice to the users.

• Vision Systems − These systems understand, interpret, and comprehend visual input on the pc. as an example, o A spying aeroplane takes photographs, which are accustomed figure out spatial information or map of the areas. o Doctors use clinical expert system to diagnose the patient. o Police use computer software which is able to recognize the face of criminal with the stored portrait made by forensic artist.

• Speech Recognition − Some intelligent systems are capable of hearing and comprehending the language in terms of sentences and their meanings while somebody's talks to it. It can handle different accents, slang words, noise within the background, change in human's noise due to cold, etc.

• Handwriting Recognition − The handwriting recognition software reads the text written on paper by a pen or on screen by a stylus. It can recognize the shapes of the letters and convert it into editable text.

• Intelligent Robots − Robots are able to perform the tasks given by somebody's. they have sensors to detect physical data from the 000 world like light, heat, temperature, movement, sound, bump, and pressure. they have efficient processors, multiple sensors and massive memory, to exhibit intelligence. additionally, they're capable of learning from their mistakes which they'll adapt to the new environment.

Why AI is very important for Indian legal framework?

In recent times we've got seen computing being implemented at atiny low but highly effective scale in various Industries, from robotic concierges in hotels to automated entertainment or in Cell phones. AI has changed the form of multiple industries. The Indian legal sector has seen little innovation in terms of technology and lawyers nowadays still comfortable and looking forward to the methods and solutions that were designed years ago. AI can play a giant part in changing the way lawyers operate and therefore the law is checked out in India.

One of the largest disruptions which will be caused by computing in law is that within the field of legal research. The Indian system is vast and constantly changing and with the utilization of computer science,

lawyers can get unparalleled insight into the legal domain within seconds. Currently to urge legal research done a major number of man-hours are required and this significantly reduces the profit-making ability of a business firm, however, with computer science the whole legal fraternity may be balanced. An artificially intelligent platform for research can get research exhausted seconds and be it a firm with 400 lawyers or single practising lawyer, computer science can balance the expenditure required for in legal research making the standard of research uniform. It can provide lawyers with highly efficient and advanced tools helping lawyers become better in advising clients or litigating. Artificial intelligence will be useful to lawyers in making well-planned, prudent decisions and also improving the standard of their advocacy. Besides e-discovery and document analysis, it can assist lawyers by performing faster and detailed legal research, predicting legal outcomes with more accuracy, generating automatic pleadings, and more such time-consuming tasks.

A slew of Indian legal tech startups i.e. (SpotDraft, CaseMine, NearLaw, Pensieve, Practice League)[2] etc are building language Processing [NLP] based applications and introducing next-generation legal research platforms that help law firms transcend simple, keyword-based research, thereby making it less time-consuming. Many legal startups are fast rising in AI research capabilities, a number of who have their own AI research labs.

Artificial Intelligence Can Improve the "Quality" of Judicial Trials Judicial AI proponents hope to use the technology to analyse similar cases supported big data, formulate corresponding guidelines for evidence standards, verify and compare such standards, preclude defective evidence, exclude illegal evidence, avoid external interference, and improve judicial credibility. With the assistance of the web, an AI-assisted system can realize the complete disclosure of the trial process and also the court's case-handling process. As a result, judicial justice can become more transparent. With the assistance of massive data and a unified platform, judicial AI may be accustomed prompt the case record management system to depart marks throughout the method and achieve the effect of comprehensive supervision of the case trial process. the identical kind of cases can obtain the identical or similar judgement results.

Through data sharing, one is able to do the goal of identical cases leading to the identical sentence. additionally, not only can judicial AI provide a brand-new solution for the treatment of adverse cases. It can even facilitate unify the standards of judicial decisions. Computer science Intervention Can Improve the

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[2] Renowned law websites

"Effect" of Judicial Trials With the assistance of speech and image recognition technology and neural network technology, the judge is liberated from repetitive labour. additionally, the time the judge requires to retrieve relevant legal provisions and similar cases is shortened. Moreover, the judge can even realize the one-click creation of referee documents, effectively alleviating the shortage of judge resources. In short, the judicial application of computer science facilitates litigation procedures, enabling judges to focus more energy on solving difficult problems and improving judicial efficiency.

Let's say a settlement is regularly reached in cases that are less routine. To bring about a settlement, there is software that can analyze the parties' points of view and present an optimum result based on the parties' input. Only in those cases that are not settled, is the end product of the court proceedings a judgment in the strict sense of the term.

In the criminal justice system, routine cases are handled (at least in the Netherlands) by the Public Prosecution Service, and only those cases where a judgment is required are brought before a court. Here, too, there is a wide range of cases from the relatively simple to the extremely complex.

In all complex cases, in which the judge or the panel has to give a judgment in order to bring the case to a conclusion, the need for information technology mainly consists of knowledge systems that make legal sources easily accessible, and a digital case file that can present large amounts of information in an accessible manner.

Artificial intelligence is also information technology, and consequently the AI can also have different uses for different cases.

Some of the advantages of AI in the legal field:

- The first and foremost significance of artificial intelligence in the field of law is that it saves a huge amount of time. AI can solve difficult and complicated legal problems without any error within a very short span of time, which is not possible in the case of humans. Moreover, machines can accurately perform complex legal tasks and can deal with more information as compared to humans within a fraction of seconds. On the other hand, it is natural for human beings to make mistakes. Thus, AI saves time, which in turn saves money as the number of lawyers involved in solving a legal problem is reduced.

- Artificial intelligence machines are programmed with predictive codes as well as previous case laws. Therefore, whenever a similar legal dispute arises, these machines help the lawyers to recognize and examine the potential risks so that they can reduce the chances of these risks in the courts. Furthermore, this allows the lawyers to advise their clients more accurately about the dos and don'ts of a legal suit.

- Machines work selflessly without any breaks. They are programmed to work for long hours efficiently overcoming the drawback faced by humans who need time to take a break and sleep to work in a well-organized, systematic manner. Thus, AI helps in increasing productivity as well as producing higher-standard work.

- The entire legal world revolves around the clients so the lawyers need to adjust to the changing demands of the clients. Since AI saves a lot of time by performing tedious repetitive tasks, lawyers now get enough time to build and improve the relations with clients.

- Lastly, human decisions are generally based on emotions. Emotions not only affect the nature of the decision but also a greater time is taken to convey the decision. On the other hand, machines resolve the matter rationally, logically, and not emotionally. The non-existence of emotions and feelings allows machines to make the right decisions in a short period.

But every system has its disadvantages. The undermentioned points are some of the cons that the system has:

- One of the chief disadvantages faced by machines is that it lacks originality, creativity, and innovative skills. Machines can never replicate man. It will continue its performance repeatedly if no command is given. As a result, it would not be possible for machines to survive in this dynamic environment without human assistance. If machines are used instead of judges to decide a case, they will give the judgments based on pre-determined cases, which may not be applicable in all circumstances because each case differs from the other in some way or the other.

- Applications of AI in the legal sector is still an emerging concept, mainly in the developing countries of the world. This is because traditional legal practitioners are reluctant in using machines, as most of them are not comfortable with it. Moreover, in the developing countries, technologies and machines are still outdated as compared to the developed countries of the world and thus, they are still not reliable. Finally, the most important reason for lawyers not to use AI is the risk of unemployment.

Now that AI is getting more prevalent, there is a high chance of large-scale unemployment. Since machines are more efficient in performing low-skilled repetitive jobs, industries are willing to invest in machines rather than in humans, and as a result, there is a high possibility that machines will replace humans in doing tedious tasks such as many paralegals may lose their job as most of their tasks can be done by machines.

- Another major disadvantage is that these complex machines incur huge installation costs as well as maintenance and repair costs, which only a few organizations can afford. Moreover, with the changes in the environment, there is a continuous need for upgrading the software programs that also require a huge fund.

- The legal personality of artificial intelligence is still not clear, as it is not properly defined in any of the laws. The current legal framework does not define whether the common laws apply to AI and machines. This creates confusion in case of disputes that involve the legal status of robots or machines.

- Whenever it comes to machines, the first thing that strikes our mind is data security. The AI-powered machines must be designed in such a way that client data remains secured and protected so that they are not misused. However, in reality, there are various instances, where the personal information of the clients has been exploited.

What would be the face of future Law firms?

Over the past few years, the legal industry not only India however globally has seen a high growth within the extent of competition. Now it's become imperative for law companies to appreciate competitive blessings by understanding the advancements in technology and client requirements. people who would flip a blind eye to those changes would, sadly, be obsolete within the subsequent few years. Future Law Firms would be completely different from what we tend to work out nowadays it shed some light on some characteristics of what the advanced law firms would be like:

1. Innovations in servicing clients: The way clients are serviced and treated would drastically change within the future. Law Firms would approach their clients with some innovative ideas and more authentic and economic legal solutions. Nowadays, in India Law Firms billed their services supported the time is taken for it to supply the services or in alternative words, the billable hour method, however, this billing method would go obsolete within the future. To service their clients better, law firms would examine innovating their pricing

strategies and implement say a Performance-Based Pricing Strategy [PBPS]: because the name suggests, this pricing model would be extremely client friendly as client shall only pay once they achieve targets and same would strengthen the professional relations between the clients and Law Firms.

2. Focus from Revenue to Higher profits: Nowadays Law Firms have focused on increasing revenue and if we glance closely the competition between law firms have constantly been increasing and also the demand for legal services has been stagnant making growth in revenue extremely difficult. Therefore, in future law firms wouldn't specialise in revenue, but on higher profits and margins.

3. Making Technology the muse for growth: In the previous couple of years, we've noticed a big introduction of recent AI-based solutions aimed toward making the legal sector more efficient and client friendly. From E-Discovery solutions to automation in contract drafting, trademark search, various legal tech startups have come up to boost the lives of a lawyer or firm. Artificially Intelligence based legal solutions help law firms become more efficient and possibly reduce costs and gain higher profits. the long run firm wouldn't only adopt these technologies but also will add synergies with various companies to create AI-based solutions that would further improve the legal sector.

4. High consider brand value: In future firm would focus heavily on their brand presence. a bit of sloppy or negligent advice from some people can easily damage a firm's reputation therefore so on develop the brand value business concern must rely on AI-based legal solutions and platform and tech-savvy lawyers. On the alternative end law firms also must organize more and more conferences and make their appearance on cross border seminar and workshops.

AI Related Start-Ups and Their Impact

- **Spot Draft:**

This is an AI based start-up by Shashank Bijapur, who is a Harvard Law School alumni and Madhav Bhagat an ex-Google employee. This AI driven business has the ability to scrutinise legal documents and it reduces the paperwork by giving the customers an option to create business contracts. This revolutionary platform offers its clients an option to draft and sign contracts it also has features of automatic reminders and payments.

- **CaseMine:**

This is a legal research platform. This start-up aims at using AI technology in order to draw links between different case laws and thus makes it simpler for the legal researcher to have an in depth and comprehensive research.

- **CaseIQ:**

This machine learning software acts like a legal assistant in researching case laws, it also analyses the legal language and works like an assistant by pointing out any potential points of law which might be missing, suggests alternative arguments, highlights relevant judgements and case laws for a comprehensive legal research.

- **NearLaw:**

This Mumbai based start-up offers AI based solutions to legal practitioners and law firms. NearLaw is said to be using NLP technologies to assist in legal matters by understanding case rankings.

- **Practice League:**

This is a Pune based legal tech law firm which has used AI capabilities to transform the working model for more than 8,000 lawyers. Reports highlight that this firm is working with tech giants like Google and Amazon in order to weave AI abilities into its working solutions.

Recent Growth of AI in Judicial Domain

- **Supreme Court Vidhik Anuvaad Software (SUVAS):**

The Supreme Court of India has launched an official AI driven application which is specially created by using machine assisted translation technology trained by AI. The primary focus of this app is to translate English legal documents and Orders into 9 vernacular languages. This is the very first step taken by our judiciary to include AI in Legal domain.

- **Multilingual Official Mobile app. of Supreme Court of India:**

The apex court of our country with assistance of the National Informatics Centre has launched an app which would provide the citizens with the authentic access to the display board, cases, daily orders, judgements, important circulars and much other vital information with just a click.

- **E-courts:**

This is one of the most important developments done by the judicial reforms it has made a huge impact in terms of saving time, energy and money as all the important data regarding judgments, court orders is available online at zero cost for the users.[7]

- **IIT-Kharagpur developed AI system to read legal orders:**

Researchers at IIT Kharagpur have come up with an AI aided technology which can read orders and judgements and it also possess the ability to highlight the laws which are being violated, all this is being done via machine learning technology.

Artificial Intelligence is not the replacement of a lawyer?

Nowadays there is a burning question among the lawyers that whether Introduction of engineering science in legal sector would replace the lawyer and legal analyst or the AI-based solutions and platform would increase the efficiency and productivity of Firms and Lawyers. The legal sector has seen the introduction of the various new solutions where technology has improved the efficiency of lawyers, contract analysis, trademark search software, legal research software and much more. However, none of the AI-based software or program target to need a lawyer job and each one the IA based software and programmes are increasing the authenticity, accuracy of research and analysis and also the identical are more result oriented now.

The profession is extremely driven by analysis, deciding, and representation which cannot be automated. AI-based software and programmes can reduce a lawyer time and energy considerably and should help the lawyers and firms provides a more authentic and result oriented suggestion to their clients. The legal industry remains developing in India and looking out forward to more IA based and automatic assisting tools and software.

However, these IA-based and automatic assisting tools and software don't seem to be visiting replace the lawyer job where analysis, deciding and stratification is required but would actually make them more efficient & competent while automating various clerical tasks. Earlier we have got discussed that AI algorithms are being employed in certain countries to perform sort of clerical and info collecting tasks in court structures. In other words, AI carries out a style of legwork to support lawyers and judges. Still, the foremost question to be answered here sounds like "Could AI be ever accustomed fully replace men within the judicial system?" Let's

study out the thing reviewing the following info! Sticklers for "AI will replace judges" opinion mention that AI is also able to eliminate any bias connected with the judgment-making procedure. to keep thereupon, all the verdicts should be built exclusively on the current legal precedent/facts in hand.

Well, that thing is anticipated to be the everyday behaviour for human judges. Here, we shouldn't dump the imperfection of attribute. Any person is liable to unconscious bias and incomplete knowledge (even for the foremost effective of reasons). That is why you shouldn't think that if they pronounce the word "law" it automatically means "simple." "Fine" and "evil" demeanor isn't black and white. It is, as a rule, highly nuanced. One of the key responsibilities conferred upon judges is making decisions in terms of the offender's punishment post-conviction.

Note that those decisions vary from small forfeit to such radical things as long-term imprisonment. Don't chuck such a thing because the execution as well! Judges make all sentence decisions taking into account style of sentencing guidelines which rely upon the aspects rather like the crime severity, its influence on the victims, previous conviction, and also the offender's inclination to re-offending. Nowadays, that is the realm where judges appeal to AI/predictive algorithms to receive support within the decision-making process. Surely, judges may fully ignore AI recommendations if they think the choice reached by AI is proved to be wrong. But the selection might not be possible if human judges were entirely removed from the procedure. Areas where technology are helping the legal industry It is believed that computing has great scope for Indian Legal Sector and a mixture of computing and law will witness immense growth within the near future.

Currently, there are many fields or arena during which pc science in law is proving to be useful these are as follows:

Due Diligence -To review a contract, conduct legal research or performing electronic discovery functions to undertake to to due diligence, AI legal software are proving to be helpful and time effective.

Prediction Technology- AI legal software also predicts the probable outcome of the cases being adjudicated before the Court of Law. Legal Analytics- applied science provides for the data points from past case laws, and also provides judgements and precedent law to be used by lawyers in their present cases.

Automation of Documentation- By just submitting the specified documents which you'd prefer to include in your written material get your documents ready within minutes.

Intellectual Property- Tools of AI helps in providing the insights into the IP portfolios i.e. search and registration of a trademark, Patent, Copyrights etc. Electronic Billing- engineering legal software also helps the lawyer and Firms in preparing the invoices as per the work done by them. It makes for accurate billing for the work done by a lawyer. Thus, helps both lawyers and clients. Artificial Intelligence Contribution To Human Productivity: Boon Or Bane? There is also a wrong assumption among the lawyers and Law Firms that engineering science or Machine Learning may be a threat to their existence, or put simply, that AI goes to interchange Lawyers.

The evidence, from other industries and verticals like e-commerce, healthcare and accounting is that computing will only enable lawyers and law firms to do and do more with less, to become much more productive than their predecessors.

I hope that the utilization of AI would start from what's traditionally called the general intelligence shall extend itself wherein even Judges could utilize the ability of NLP Summarisation to collect the sum of the contentions of both parties Judges could quickly deduce which part contains merit as per the Acts/Statutes and therefore the latest case laws on the topic of law regarding the dispute.

Based on the above discussion I didn't find one reason that computer science goes to require over the roles of execs. In fact, IA based program will make the professionals more productive, efficient, better, more accurate and output focused. AI Judges: a theme to Being Biased? The greatest advantage of using AI to pick punishment is that algorithms don't have any bias. This factor might make AI the perfect legal decision-maker because the decision would be supported evidence instead of subjective. The last is sometimes the prerogative of human judges. that appears wonderful, agree? Unfortunately, it's not that simple! In this regard, AI algorithms don't seem to be flawless because they require to initially be coded by humans.

The thing contributes to unintended bias right from the very start. AI algorithms can even study and fabricate bias from their human analogues and therefore the data they need been practiced earlier. Could algorithms ever be able to get eliminate that? One more problem rises here. Who will supervise AI-based judges? Will it's possible that their decision-making procedures to be postponed for an additional date? Will the verdicts of judges prevail over those reached by their AI counterparts, or vice versa? It seems that these days we've got more questions than answers to them. it's still unclear regarding the role which will perfectly fit AI algorithms within the judicatory and therefore the ways governments will select to watch that.

To sum up the above-mentioned, let's ask the question "Can AI replace the staff within the judicial system?" another time. Now, the solution seems like both "sure" and "never." When we answer "sure", it presupposes the advisory or supportive roles of AI and other algorithms within the system. AI-based judges will evaluate the probabilities of re-offending and gather evidence. Here, some "easy" functions are meant. For example, nowadays, at the most important court within the world, i.e. the court of la Country in California, Gina the Avatar supports citizens in managing their traffic citations. Gina talks five (!) languages and assists around seven thousand clients per month. Well, Gina isn't the AI-based figure to the core but she has built a foundation for more advanced automation.

Use of Technology and AI during Covid-19 in Law

The pandemic caused due to the highly infection disease coronavirus has taken a toll on the lives of people. In context of law, it has most certainly made the lawyers and judges realize the importance of technology and the need of using AI and machine learning software to get the work done. Since social distancing has led to a lockdown situation the courts are taking up only urgent matters via video conferencing methods and e- filing of legal documents as per the order passed by the Supreme Court. The Apex Court in the case of *Swapnil Tripathi v. Supreme Court of India* has itself recognized the principle of live streaming of proceeding except certain cases like rape, matrimonial cases etc.

"The wheels of justice cannot be halted because of lockdown" as correctly pointed out by Justice Sikhri, delivery of justice also comes under essential services and during the time of Covid-19 technology has played a vital role from e-filing, e-payment of court fee etc. Delhi High Court has even took a step forward by setting up e-rooms by making some court rooms entirely paperless, and one can check their case details on their online portal. Thus, given the situation we all are in, technology is the only friend who is here to stay for a long time, it's time to embrace the advancements in technological fields including AI and move towards the path of development.

Conclusion

The application and development of computing technology within the judicial field are in no time. it's predictable that the intelligence technology are used more and more widely in cases where the facts are fully proved and easier to type, even in difficult and sophisticated cases, the new trial mode of "human-computer collaboration" could also be realized. it's mainly supported the neural network and machine depth learning

theory breakthrough. Improving the applying efficiency of technology within the judicial trial field is that the direction of our future efforts. The contribution of this text is that it tries to elucidate the whole process of the judicial application of computer science supported close integration into the standard judicial pattern. This study pays close attention to the event of existing theoretical research and tries to settle on the optimal operating framework. ranging from the speculation of judicial computing and therefore the regular judicial pattern of Chinese litigation procedure's principle and proof mechanism, the paper analyses the idea and practice of AI applied within the judicial field supported the interior and external factors affecting judicial decisions. The article seeks to demonstrate the function, functional expectations, limitations and risks of AI within the litigation field. additionally, it analyses the legal aspects of computing, the moral issues generated by the event of computing, the response stimulus, the thorough integration bottlenecks of computing and legal reasoning, and possible solutions to resolve problems.

This article is principally about a summary of phenomenon interpretation and general rules, that is, the judicial application process of computer science is discussed from the macro perspective. However, so as to comprehend the successful operation of computing within the judicial field, the applying of AI technology within the judicial field has to be studied from the macro-level furthermore because the micro-level. Therefore, the deficiency of this text lies within the lack of necessary thinking on a way to make sure the implementation and do the concept of fair trial within the process of application when it faces very detailed and important problems, like a way to achieve the balance between "fairness" and "efficiency" within the process of application.