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Court Proceedings and Artificial Intelligence - New Horizons

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Abstract

At the beginning of the XXI century, as never before, the topic of artificial intelligence has been in the focus of scientific interest. This is due to the galloping pace of information technology and digitalization that the judiciary and law must inevitably follow.

Artificial intelligence is a new challenge for court proceedings. This is because using artificial intelligence tools in court proceedings is expected to improve access to justice, increase the speed of court proceedings, and reduce the costs of conducting them.

The subject of this paper's analysis is the various applications of artificial intelligence through which the court procedure can potentially be automated. These are the following applications: an application for the search for the best evidence, an application for the summary analysis of previously made court decisions, an application for the electronic management of court proceedings, a lawyer - robot application, a judge - robot application, an application for the simultaneous resolution of several repetitive actions (lawsuits), an application for simulating court decisions with algorithms, an application for tracking a person while serving a sentence (compass system), an application for examining cases of domestic violence, sexual abuse, and others.

By analyzing the applications of artificial intelligence in court proceedings, the authors of this paper want to point out the advantages and weaknesses in the use of artificial intelligence in them. Undeniably, the benefits of artificial intelligence can be used to streamline and reduce the costs of court proceedings without violating any basic human rights or information security breach.

Keywords: Artificial intelligence, court proceedings, applications, benefits, access to justice

Introduction

At the beginning of the 19th century, the breakthrough of artificial intelligence in all spheres of social life was felt more clearly than ever before. Of course, the judicial system and court procedures are not an exception to this, which are beginning to be reformed through artificial intelligence tools. This is completely justified because the benefits of artificial intelligence in court proceedings should initially mean strengthening the principle of procedural economy in terms of reducing the time and costs of initiating, conducting and completing court proceedings. From here, the question of how and which applications of artificial intelligence can improve access to justice in court proceedings without infringing on some basic human rights is justified.

The Meaning of Artificial Intelligence and the Benefits of Artificial Intelligence in Court Proceedings

Artificial intelligence can be described as allowing a machine to behave in such a way that it would be called intelligent if a human being behaved in such a way (McCarthy, 2016) or the ability of a machine to mimic intelligent human behavior. In other words, machines' ability to function in meaningful ways in relation to the specific tasks they are intended to perform and the situations they are intended to operate in. Artificial intelligence is also the area of science and technology that is about studying, understanding, and developing machines with intelligent behavior.

Since the machine can simultaneously process more information than a human can immediately, artificial intelligence can speed up the initiation, management, and completion of court proceedings. By reducing the duration of court proceedings and reducing trial costs, artificial intelligence is expected to facilitate access to justice in the future (Gómez Fröde, 2020).

The penetration and application of artificial intelligence in the justice system was initially connected with the article „*Some Speculation About Artificial Intelligence and Legal Reasoning*" by authors Bruce G. Buchanan & Thomas E. Headrick, from 1970. This is because the authors of this article emphasized the need for a connection between law and informatics, the lawyer/judge and the computer, which will be the starting point for overcoming the traditional ways of judging (Buchanan & Hendrick, 1970).

The legal systems within the common system's framework, especially those of the most economically developed countries, will react expressly to this scientific benefit.

The breakthrough of artificial intelligence in the court proceedings either is much more visible in the legal culture of the common law system as opposed to the civil law system. However, more recently, the trend of approximating the legal procedural systems also causes reforms in the civil law system in the direction of encouraging some national legislators to carry out reforms in the procedural laws (pioneers Estonia and Holland) to create a legal basis for the application of artificial intelligence in court proceedings.

Hence, the penetration of artificial intelligence in court proceedings is indisputable. However, we are not talking about an automatic process, but about a process of using the benefits of artificial intelligence in a way that does not violate the basic legal principles that refer to court procedures, as well as in a way that does not shift the position of judicial power in the system of separation of powers. Implementation of Artificial Intelligence is a process that is expected to transform the judicial procedure (Susskind, 2020).

The use of artificial intelligence in the judiciary is also supported by the European Union. In this context, the European Commission for the Efficiency of Justice (CEPEJ) adopted a European Ethical Charter on the use of Artificial Intelligence in Judicial Systems and their environment (European Commission for the Efficiency of Justice [CEPEJ], 2018).

Applications of Artificial Intelligence in Court Proceedings

In comparative procedural law, the influence of artificial intelligence is already present in court proceedings. Proof of this are the following applications: an application for the search for the best evidence, an application for the summary analysis of previously made court decisions, an application for the electronic management of court proceedings, a lawyer - robot application, a judge - robot application, an application for the simultaneous resolution of several repetitive actions (lawsuits), an application for simulating court decisions with algorithms, an application for tracking a person while serving a sentence (compass system), an application for examining cases of domestic violence, sexual abuse, and others. Each of these applications can be used in court proceedings if it is precisely and carefully legally regulated and limited according to the needs of the courts. In doing so, care should

be taken that artificial intelligence does not lead to the deconstruction of the trial and the weakening of the position of the judicial authority, nor to allow technology to gallop in front of reason and the law.

An Application for the Search for the Best Evidence

A variety of Artificial Intelligence tools can be used during the systematic review or evidence synthesis process. These may be used to assist with developing a search strategy, locating relevant articles or resources, or during the data screening, data extraction, or synthesis stage. They can also be used to draft plain language summaries (Alshami, 2023).

Artificial intelligence can help the courts in their work because it uses an algorithm that allows them to simultaneously process data in a capacity that is not available to a human. Big Data technology can be exclusively useful for this (Ávila Paz de Robledo, 2023).

Big Data is a set of technologies that allow the processing of massive amounts of personal data from various sources using algorithms, with the aim of being able to give them a utility that provides value. In other words, big data allows the processing of data whose size (volume), complexity (variability), and speed of growth (velocity) make it difficult to capture, manage, process, or analyze using conventional technologies and tools.

Big Data, as a set of technologies, can be useful for the search for the best evidence before the court. This is more evident in the common law system because the law of evidence is a special branch of law that exists independently of the rules on civil procedure.

Before the national legislatures is the challenge to regulate the legal regime for electronic evidence in court proceedings. Once the legal regime for electronic evidence is regulated, the application of artificial intelligence tools to find the best evidence will be invaluable (Seng & Mason, 2021).

An Application for the Summary Analysis of Previously Made Court Decisions

Artificial intelligence connects to the justice system through predictive justice (Queudot & Meurs, 2018).

Predictive justice is the process of predicting the final decision or part of the court proceedings by artificial intelligence. Namely, with the help of special algorithms, an analysis of many previously processed court decisions for the same or similar cases is performed (Lopes, 2024). In this way, with the help of the benefits of artificial intelligence, court precedents are easily reached, and, in this way, the work of lawyers and judges is made easier.

However, given the fact that the court decision is not a formal source of law in the civil law system, the application for a summary analysis of previously made court decisions is much more necessary and is used in the judicial system of the states of the common law system. This is because the precedent way of decision - making is a basic rule in the judicial procedures of Anglo - American law. However, even though in the civil law system, the court decision is not a formal source of law, it is a factual source of law that is becoming increasingly formalized. This is so because the courts of first instance follow and very often respect the decisions of higher courts on the same or similar cases.

An Application for the Electronic Management of Court Proceedings

Artificial intelligence has special algorithms with the help of which the complexity of the court case can be assessed from the moment of submission of the initial act (complaint). This algorithm of artificial intelligence is quite useful because it predicts the resources that should be invested in solving the court case, as well as the limits within which the judicial authority should be engaged.

A Lawyer - Robot Application

Artificial intelligence can be a good advisor for lawyers, too. The app DoNotPay is the world's first robot lawyer (McDonough, 2023). A robot lawyer is set to represent a defendant in an actual court case for the first time in history. This is all powered by DoNotPay's artificial intelligence, which touts itself as the world's first robot lawyer. The defendant will be wearing an earpiece (apparently Apple AirPods) and will be coached in court by the Artificial Intelligence on what to say. The case involves a minor traffic offense. The goal is to guide the defendant with the use of DoNotPay's technology to possibly get the speeding charges and fines dropped. A lawyer - robot application was used for the first time in the USA law in 2023.

A Judge - Robot Application

In the world, China is the country that first introduced the Smart Judge project. The aim of the project is to speed up the resolution of simple cases. The first cases decided by this Judge - robot were undisputed copyright cases as well as cases related to the violation of online trade (Wideroth, 2020).

The judge - robot application is also a special project of Estonian law. The goal of this project is to use artificial intelligence to make a robot judge who would have the authority to initially resolve disputes of small value. This project is justified because it will relieve the courts of the simpler cases of low value, and as a benefit of artificial intelligence, it can be further applied in other court cases where there is no classical administration of justice. However, given the fact that the correctness of the work of this judge - robot cannot be predicted in advance if the judge - robot - decides, and the parties consider that it is illegal, the parties can refute it by submitting an appeal to a classic court.

An Application for the Simultaneous Resolution of Several Repetitive Actions (Lawsuits)

With the help of artificial intelligence tools, it is possible to solve several court cases related to the same or similar factual and legal situation at the same time. It is precisely for this reason that the tools of artificial intelligence in court proceedings are expected to find application in several repetitive actions. This alone would speed up the work of the courts in making decisions.

An Application for Simulating Court Decisions With Algorithms

A group of American academics has developed a machine learning application that claims to be able to predict the outcome of a case at the Supreme Court of the United States (SCOTUS) with an accuracy of 70.2%, and the voting behavior of individual judges with 71.9% accuracy (Katz et al., 2017). In addition to information about the case, this application uses information about the political preferences and past voting behavior of the individual justices. The most extensively described application is one that claims to be able to predict decisions of the European Court of Human Rights (ECHR). This tool uses natural language processing and machine learning to predict whether, in a particular situation, the Court will rule that a particular provision of the European Convention on Human Rights (ECHR) has been

violated. The tool works with information from earlier judgments. This application claims 79% accuracy.

Artificial intelligence can overcome judicial subjectivism in making judicial decisions and thereby ensure impartiality in decision-making. However, artificial intelligence alone is not enough to solve the problem of judicial impartiality. Namely, the use of artificial intelligence to simulate court decisions hides one danger in itself - mistakes in court decisions and the spread of those mistakes in the same or similar future cases.

Hence, the implementation of artificial intelligence in the decision - making phase of court proceedings opens several issues that are legally necessary to be regulated: who will be responsible for the errors that artificial intelligence can potentially introduce into the court decision, the personal responsibility of the person who controls the computer program in case of potential errors as well as the protection against hacker attacks on the judicial system.

Artificial Intelligence is swiftly becoming a relevant component in judicial decision - making processes around the globe (Barysė & Sarel, 2024). In China, "internet courts" already provide an online dispute resolution mechanism, also involving Artificial Intelligence components. In the US state of Wisconsin, judges utilize algorithms to derive recommended criminal sentences. Assessments of the defendant's risk of engaging in violent acts are increasingly used in many countries with varying degrees of accuracy. Such technologies are typically referred to as Algorithmic Decision Making.

An Application for Tracking a Person While Serving a Sentence (Compass System)

In the common law system, or more precisely in the USA, in California, a special Compass system is used (Prakken, 2018). This system is a special software, a creation of artificial intelligence, which aims to assess the probability of repeating the crime. With this alone, the Compass system helps the judge in deciding on the criminal sanction that would be a substitute for detention.

Artificial intelligence algorithms in criminal proceedings can be used to assess the risk of escape and recidivism, and can also be a tool for predicting the outcome of criminal proceedings and for examining cases of domestic violence and sexual abuse.

Conclusion

What good can AI do for justice, and what does it take? Not all court work is complex custom work. Therefore, the need for information technology is not the same for all cases. AI, after all, is also information technology, and can be useful in diverse ways for distinct types of cases. Some AI has already proven itself in practice. The use of AI - based IT systems is possible in the judiciary as systems that support the work of the judge in all types of cases. It is a recommended solution given the growing number of disputes settled by the courts and the abundant body of judicial decisions. In turn, the introduction of automated artificial intelligence systems would require amendments to the state constitutions. The right to justice in its content does not only include the right to have one's case examined by any specific public authority, but this authority must have certain attributes. Independence in adjudication is attributed only to judges, which is why an electronic court based on AI would not meet this requirement. Namely, automated systems that replace a judge will not work in all types of court cases, most of all in complicated ones. This is why, they should not be applied in all case types and they should not be applied in cases of judicial review of administration. In criminal cases, their application could be limited only to a few cases of a lower rank, for example, those in which a penal order may be issued. The greatest possibilities of the use of AI - based IT systems may be seen in civil proceedings. We can assume various categories of cases that should be examined in such a manner. It seems reasonable to implement such a system for cases now heard in the electronic writ of payment proceedings, which are already largely done mechanically.

AI tools can enhance efficiency and accuracy in legal proceedings, but they also raise ethical concerns, such as bias, accountability, and the potential for undermining the human element in justice. Due to the development of technologies and the changing world, the use of AI systems in the judiciary will only be a matter of time. The introduction of such systems is certainly advocated by factors such as shortening the time of examination of court cases, reduced court costs or the fact that when it comes to analytical capabilities such systems exceed perceptive skills of even the best of judges (Nowotko, 2021). However, the imperfection of such a change cannot be overlooked. In the last context, one needs to remember the social functions that the judiciary has. The introduction of AI to the judiciary poses a risk of dehumanization of the justice system. When introducing such systems, their transparency and security should be ensured to eliminate unauthorized interference in the content of passed judgements. The introduction of AI should be

preceded by an educational campaign addressed to people who do not have relevant IT (technical) knowledge and suitable transition periods. The feasibility of using AI in resolving issues that require processing a large amount of information and documents in electronic form. This will ensure procedural savings and reduction of time for consideration of disputes on the merits through speed and error - free calculations. Electronic justice at the present stage of development of information technology has moved to a qualitatively new level. Traditional document flow in paper form is being actively replaced by documents in digital format.

AI holds immense potential to revolutionize the legal landscape, from transcription and translation services to aiding judges in their duties. It can improve the efficiency and effectiveness of the legal system, making justice more accessible to all. There is not (yet) any evidence that robots (are going to) judge. A lot of work is still needed before AI can comply with this standard of a proper procedure. Legal information needs to be more structured and endowed with meaning. AI is already able to help individuals, litigants, and judges with organizing information. As the legal information is enriched, it can also help with advice and suggestions. Judges must understand what the AI is doing to make adequate use of it. Courts must digitize their information and provide it with legal interpretation to make it more usable for AI. Courts must constantly monitor their AI for effectiveness and adjust it if necessary. For courts and court systems, set up and run as production organizations, this kind of development work is a huge new task.

The proposed forecast for the stages of implementation of judicial - AI is primarily based on the level of development of information technology. At present, AI has not yet been created that is close to the cognitive abilities of the human brain and its billions of neurons. It is necessary to use AI in matters that require processing a large amount of information and documents in electronic form. So, for example, if AI transfers certain routine functions of the court records department and the judge himself, the judge will have additional time for a more detailed study of the case materials and analytical work (Laptev & Feyzrakhmanova, 2024). AI will provide procedural savings and reduce the time for considering disputes on the merits through the speed and accuracy of calculations.

It can be argued that the technology of AI should be open, reliable, and transparent for all citizens, business entities, and society. This approach will ensure public confidence in the court and the modern information technologies introduced into its work: AI and cloud computing. The development of digital technologies in the era of information society and big data has proven the prospects for introducing AI in

court. All the above does not change the fact that, with reference to the use of AI in judicial application of the law, one needs to ask a question about when and to what degree this will take place, not whether this will materialize at all. These changes are indeed unavoidable.

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