Artificial Intelligence and Law: What Do People Really Want?

Example of a French Multidisciplinary Working Group

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ABSTRACT

This paper addresses issues related to the ethical consequences of using AI technologies in court decisions. With the prodigious technological leap made in the field of artificial intelligence in recent years, disruptive innovations have affected many business sectors, with economic, social and ethical consequences.

But what do people really want about the application of artificial intelligence technologies in the law system? This article presents a general methodological approach to take into account the ethical aspect of the introduction of a new technology in a given domain. We apply this methodology in the specific case of the introduction of AI technologies in the law system. As a multidisciplinary working group interested in this application in the case of France, we have organized a series of workshops to discuss this topic and highlight the respective values and interests of each stakeholder. The result of this work in presented in the form of an ethical matrix that can be used as a tool by the public authorities to help decision-making on the subject with a prioritization of certain values in order to reflect the respect for fundamental rights.

CCS CONCEPTS

• **Social and professional topics** → **Codes of ethics**; • **Computing methodologies** → **Artificial intelligence**; *Knowledge representation and reasoning*; *Machine learning*; • **Applied computing** → **Law**.

KEYWORDS

artificial intelligence, justice, value, ethical matrix

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1 INTRODUCTION

Artificial intelligence (AI) can be considered as "a set of scientific methods, theories and techniques whose aim is to reproduce, by a machine, the cognitive abilities of human beings"[7]. Today AI can prove invaluable in helping in the legal field. More specifically applied to judicial decisions, two uses of AI can be found:

(1) the studies on the justifications of judicial decisions, from a perspective of basic research, in order to identify judicial decision explanation and know the share of the law and judges in the building of the court decisions
(2) the development of 'predictive justice' tools, from a business point of view, in order to anticipate the chances of success of a case or for example the amounts of compensation in civil proceedings.

While the first form of use is highly framed and restricted to members of the research community alone, the second form is not. Following the classical research process, the production of knowledge on how justice is done is realized under the critical supervision of pairs. The contributions of AI on judicial decisions studies in a research perspective are then made according to established ethical rules specific to the scientific approach process. It is not the case for predictive justice, which potentially affects the entire civil society when it is affected by judicial decisions and thus requires the production of appropriate ethical rules.

In 2012, a journal article has presented in a 50-paper selection a retrospective of 25 years of publications of the *International Conference on AI and Law* [4]. The article's introduction was ended with reference to the fact that technology advances rapidly in computer science and that "the emergence of the World Wide Web in particular has had an enormous impact on legal informatics, both what is feasible and what is desirable."

Concerning the 'desirability' contained in this statement, an implicit but crucial element concerns the subject of this desirability. Do we all have the same expectations –or the same wishes– regarding the applications of AI technologies to law? What do people really want? Do magistrates, lawyers, litigants, public authorities, researchers in the field of law or Legal Tech companies want the same things? Through the proposal of a general methodology for studying the ethical consequences of the introduction of new technologies in a given domain, this paper presents the result obtained by a multidisciplinary working group interested by the application of AI technologies in court decisions in the French legal system.

2 STATE OF THE ART

At the turn of the 2000s, various interdisciplinary groups were formed to look at the consequences of ethical aspects related to AI in North America or Europe (e.g., the *Future of Humanity Institute* founded at the University of Oxford in 2005, or the *Future of Life Institute* in Boston area in 2014). A new field of research was born during this period: 'machine ethics' [3]. These various initiatives have recently led to a set of guidelines for AI research: the "23 Asilomar AI Principles."[1]

In the early 2010s, with the establishment of powerful companies in the digital world, researchers, members of the civil society and Internet activists have wondered about the use these companies make of our data and the personal and social implications it has [13]. But the use of personal data is not the only purpose and we have to wonder about the personal and social implications of the use of artificial intelligence as a solution to make automatic decisions instead of human's decisions, as administrative decisions or judicial decisions. Reflections are in progress in North America, as the subproject "Ethical and Socio-Political Issues of AI and Autonomization," about the use of algorithms for justice in Canada,[2] or in Europe, e.g., in the European Union with a report on "Ethical guidelines for trustworthy AI"[3] or in the Council of Europe with the publication of an "European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their environment" [7].

3 GENERAL METHODOLOGY

Applied ethics focuses on situations where there are different stakeholders with different and conflicting interests. In such circumstances, John Rawls argued that 'reasonable' or 'justifiable' principles are required which enable us to determine which actions would be 'just and right' [14]. For Rawls, such principles should be acceptable to any impartial competent judges, and it is required that the judgment be intuitive with respect to ethical principles.

Following this Rawlsian decision-making tradition, the **ethical matrix** developed by Ben Mepham uses a 'principled' approach to ethics [10, 12]. Initially intended to provide help on bioethical issues (e.g., the use of genetically modified fishes [9] or policy interventions in the obesity crisis [11], the ethical matrix has become a valuable versatile tool for analysing ethical issues in technology assessment, and has been designed as "an aid to rational thought and democratic deliberation, not a substitute for them". As originally conceived by its author for ethical questions about the impact of new technologies in food and agriculture, "the ethical matrix is based on three ethical principles, respect for wellbeing, for autonomy and for justice. These three principles are not mutually exclusive and they cannot be said to exhaust every legitimate ethical concern."

These three principles constitute in practice values which form the **columns** of the matrix. The **rows** of the matrix consist of the 'interest groups' –different groups of people and also non-humans (e.g., animals, plants, environment)– caught up with the issue in question. Each cell of the matrix specifies the main criterion which would be met if a particular principle were respected for a particular interest group. So, the structure of the ethical matrix consists of stakeholders on the y-axis, principles on the x-axis, and questions and answers in their intersections. The ethical matrix can then be seen as a checklist of concerns, structured around established ethical theory, but it can also be used as a means of provoking structured discussion between the different interest groups.

Nevertheless, the study and evaluation of the ethical matrix highlight some limitations of this approach, especially for certain points of a given principle, if some of them express an advantage or a violation of the principle [15]. How could the different facts be weighed against each other? The ethical matrix does not give an answer to this rather essential question.

Changes to the content can be made by considering the x- and/or the y-axis flexible in terms of content, and then a choice can be made to decide which principles and which stakeholders can be included in the matrix. We must take into consideration the legitimacy of the stakeholders. Some of them do not have the ability to represent themselves but their interests will be affected by the introduction of this new technology. Depending on the context, two different approaches can be followed: (1) in a top-down approach, the specifications of the ethical matrix principles are largely set by the organizers, which can may appear to be undemocratic, and is more vulnerable to intentional or unintentional abuse, and (2) a bottom-up approach, where the organizers provide less explicit guidance, and defer to the majority views of the (usually) inexpert participants in specifying the principles and conducting ethical deliberation.

4 OUR APPROACH

4.1 Motivation

In France, the consequences of the French law voted in 2016 (October 10) "*loi pour une République numérique*" to provide public access to all decisions rendered by the courts have sparked much debate. In the context of this intellectual effervescence, a series of reflection workshops was organized to discuss the knowledge, concerns and problems of the different actors involved in these developments, from a theoretical perspective.

It seems to us relevant to find a way to use and adapt the ethical matrix, in order to structure the debates and to identify the differences of points of view implied by the different stakeholders in the case of the introduction of artificial intelligence in the legal field, better identify the ethical issues associated [10, 12].

The subject area can then be defined as the introduction of AI technologies in the field of law in France, and the ethical concerns about the three parts of the whole process:

(1) at the input of the system: access to the data constituting the documents of the court decisions –data that will feed the machine learning models– with questions about privacy preserving concerns [1, 2]
(2) the automated system as such: implementation of decision models simulating judgments learned on a large set of court decisions made by (human) judges, and their consequences on biases associated with the learning model, e.g., risk of producing models of stereotyped judgments in the presence of implicit discrimination in the data, hence the need for

[1] https://futureoflife.org/ai-principles/
[2] https://www.ajcact.org/en/organisation/
[3] https://ec.europa.eu/digital-single-market/en/news/ethics-guidelines-trustworthy-ai

adapted treatment strategies, such as the management of imbalanced datasets [6, 8]

(3) at the output of the system: the use of these models of court decisions, for what purposes, in what contexts, with what consequences.

4.2 Workshop Organization

To personalize the ethical matrix, we need to define the relevant interest groups –i.e., the different stakeholders affected by the introduction of the AI in the legal field–, and specify the principles for each interest group –i.e., retain a number of values relevant to this type of ethical problem.

The positioning of the stakeholders was done via the workshop. Definition of the selected values was made through the study of the principles presented by the *European Commission for the Efficiency of Justice* (CEPEJ) which we will detail below. To promote exchanges and the construction of shared knowledge, this workshop was organized in the form of five successive sessions, between September 2018 and February 2019. Each, over a full day, allows to hear three or four speakers, allows time for discussion, and is the subject of a detailed report to ensure a better collection of knowledge, especially as each member of the seminar can be prevented from participating in this or that session.

4.3 Workshop Participants

The selection of participants for the workshop was made in order to have the maximum diversity of views, interests and opinions on the subject. The stakeholders represented in this seminar are the researchers at the initiative of this project and representatives of several disciplines (law, computer science, economy), but also practitioners (lawyers and magistrates), representatives of the institutions concerned (Ministry of Justice, Bar) and legal publishers who participate in the Legal Tech movement and wish to produce new data for the legal world. These actors have been fairly widely recruited from a call for contributions. The topics covered are the effects of these tools of decision-making on the very conception of law and jurisprudence in a country of written law (questions of the renewal of the modes of production of the right), on the treatment of cases (assessment of quantums, role of the judge, increased mediation) or the possible judge profiling as a means of highlighting the uncertainty of the law, leaving aside voluntarily the stakes protection of personal data widely treated elsewhere.

4.4 Selected Values

To clarify the principles relevant to each interest group, certain values had to be chosen to construct the ethical matrix. So, we conducted a literature search on various sources, e.g., the 'Universal Values' identified by Shalom H. Schwartz [16], a list of necessary values for the proper functioning of life in society published in a recent French book [5], and some principles that must necessarily be guaranteed according to an organization such as the *European Commission for the Efficiency of Justice* (CEPEJ). In the "European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their environment" adopted by the CEPEJ during its 31st Plenary meeting (Strasbourg, 3–4 December 2018), under the aegis of the *Council of Europe* [7], five principles are considered essential.

The first principle (Principle 1) of using artificial intelligence in judicial systems and their environment is to ensure that the design and implementation of artificial intelligence tools and services are compatible with the **principle of respect for fundamental rights** guaranteed by the *European Convention on Human Rights* (ECHR) and the *Convention on the Protection of Personal Data* ("Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data," ETS No. 108 as amended by the *Council of Europe Treaty Series* (CETS) amending protocol No. 223). The reference to the ECHR is particularly aimed at the intangible right of access to a judge, necessarily independent and impartial, capable of leading a contradictory debate and ensuring the equality of arms and respect for the adversarial process.

Still in reference to fundamental rights, the **principle of non-discrimination** (Principle 2) of the CEPEJ Ethical Charter focuses on the development or intensification of any discrimination between individuals or groups of individuals. This Second Principle targets the need to specifically prevent the development or intensification of any discrimination between individuals or groups of individuals, provided that the tools used can, via automatic decisions imposed as proposed, resuming pre-existing biases in purely human decisions and thus leading to their perpetuation or reinforcement. The capacity of the computer tools must also be used to expose such discriminations and neutralize them for the future.

The third principle is the **principle of quality and security** of the tools (Principle 3). As long as they rely on the mass processing of jurisdictional decisions or, more broadly, on judicial data, it is essential to ensure that reliable and certified sources are used and that the data extracted from them are quality models, which implies not only a quality technological environment but also a solid conception, ensured by a multi-disciplinary team. It is indeed necessary to make sure that there is no alteration, voluntary or not, likely to change the content or the meaning of the decisions processed.

This quality requirement is associated with a fourth principle: the **principle of transparency, impartiality and fairness** (Principle 4). Data processing methods must be accessible, comprehensible and subject to external audits. It is therefore necessary to strike a balance with the rules of intellectual property in order to ensure the primacy of the interests of justice.

The last principle concerns the **"use under control"** (Principle 5): the tools thus produced must not be prescriptive; they must leave the users –and in particular the magistrates– to be informed of their decisions, remaining enlightened actors and masters of their choices, always likely to return to the initial data and to deviate from the proposed solutions. As for litigants, they must be duly informed of the use of an automatic decision concerning them. They must have the right to oppose it, the right to be assisted and a right of appeal to a court within the meaning of the ECHR.

In the French book *Petit Traité des Valeurs* [5] ("Little Treatise of Values"), 35 values are proposed.[4] Among them are those that are

[4]The values mentioned in [5] are the following: art (l'art), authenticity (l'autenticité), beauty (la beauté), childhood (l'enfance), competency (la compétence), confidence (la confiance), creativity (la créativité), dignity (la dignité), equality (l'égalité), eroticism (l'érotisme), freedom (la liberté), friendship (l'amitié), health (la santé), honor (l'honneur), humbleness (l'humilité), humor (l'humour), impartiality (l'impartialité), interesting (l'intéressant), justice (la justice), knowledge (la connaissance), life (la vie), love (l'amour), luxury (le luxe), pleasure (le plaisir), power (le pouvoir), property (la

equivalent to the principles proposed by the CEPEJ Ethical Charter: *justice*, *competency*, *transparency*, *equality*, *usefulness*, and *privacy*.

5 RESULTS: ETHICAL MATRIX

At the end of these workshops, our collection of information resulted in the ethical matrix presented in Table 1. In this table, one can meet situations where the positioning of the different stakeholders can be similar but with different objectives. For example, research and legal knowledge producers as well as Legal Tech companies have every interest in having information about judges, lawyers or litigants. The former need information to carry out longitudinal studies (e.g., for the study of judicial processes of people or companies, or for the study of the differences of judgments according to the judges), while the latter need information to make machine learning algorithms work, and deep learning only works with large amounts of data (*big data*). Legal Tech companies may even be tempted to do *profiling*[5] of judges, lawyers or litigants for predicting, respectively, a specific way that a particular judge interprets the law, the skills and chances of success of a given lawyer in a competitive legal world, or the situation of a given litigant to make targeted advertising.

We have written "Not concerned" in some cells of the Table 1 to indicate cases where the considered value is not relevant for a given stakeholder. For example, the value 'justice' has no interest as such for the field of researchers and producers of legal knowledge in the context of a scientific study, even if it is a value for which researchers are concerned as citizens.

We can notice that the positioning of the values of the public authorities is not mentioned on the Table 1 for two reasons. Firstly, the values considered in the ethical matrix are very different from one state to another. Thus, for France and the other countries that have signed the *European Convention on Human Rights*, the defense of all these values is important, unlike other countries which have made other choices than France and already use artificial intelligence technologies in the legal field. Secondly, because the values of public authorities concern political choices, and the ethical matrix is a tool for positioning the debate on the public stage so that decisions can be taken according to the legislative process in force.

6 CONCLUSIONS AND FUTURE WORK

The whole of this series of workshops organized with participants constituted in a multidisciplinary working group aims at giving a maximum of points of view on the expectations, the wishes and the fears concerning the introduction of a predictive model based on AI technologies in the court decision process in France.

Although all of civil society is affected more or less directly by change induced by new technology, it is the lawyers who are in the front line and who need to reinvent their practices. It is thus normal to meet among lawyers the most contrasted opinions concerning the arrival of artificial intelligence: some lawyers consider Legal Techs as actors of unfair competition, others consider they are companies providing a new technology to integrate into their practices to reap benefits with, in return, a new business model to find.

The rules of law already produced by French law echo the values set out when they tend to protect litigants. Thus, adopting the rules introduced by *Regulation 2016/679* of the *European Union*,[6] Article 21 of the Law of 20 January 2018 submits the possibility of resorting to algorithmic processing to automatically produce decisions under protective conditions of users.

By imposing transparency, the law entrusts users and their counsels, possibly the source of a judicial remedy, with the role of controlling these tools. With regard to the control of conciliation, mediation or arbitration activities proposed online, the law[7] is preparing to provide in the same way that, when they are proposed "by means of an algorithmic treatment, the person concerned must be informed by an explicit mention and must expressly consent to it." In addition, "the rules defining this treatment, which the person responsible must ensure control and its evolution, as well as the main characteristics of its implementation are communicated to the person who requests it." Finally, online services providing these services "may be certified by an accredited body." We find the requirement of transparency, here expressly associated with competence and the possibility of users to escape an automated treatment of their situation.

The article 19 of this law "loi de programmation" stipulates the obligation to anonymize court decisions before making them available to the public and decide the debate which has developed around the anonymisation of the names of the magistrates who rendered these decisions and of the registry official who participated: Their names will not be obscured, but their identity data "can not be the subject of a reuse the object or effect of which is to evaluate, analyze, compare or predict their actual or alleged professional practices," under pain of sanctions. The public character of justice (transparency) thus seems to prevail over the claim of a protection of justice professionals via their secret of their identity. It can thus be concluded that there are already a number of laws to protect the different parties from the ethical consequences of the introduction of AI into the law system, as well as values considered as priorities over others, but that there are still issues to be covered in an area that evolves very quickly.

Predictive justice tools have their potential but also their limitations. In a world becoming increasingly complex, the appearance of artificial intelligence tools in the legal field must be understood as an aid that legal professionals must be able to seize, and this in order to continue their role: to best defend the interests of the litigants, and then of the citizens.

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propriété), privacy (la vie privée), righteousness (la vertu), sacred (le sacré), solidarity (la solidarité), sublimate (le sublime), tasty (le savoureux), tradition (la tradition), usefulness (l'utilité), and wellbeing (le bien-être).

[5] Profiling is defined in section 4 of the *General Data Protection Regulation* (GDPR, EU Regulation 2016/679). It is processing an individual's personal data in order to analyse and predict his/her behavior or his situation, such as determining his/her performance at work, financial situation, health, preferences, lifestyle habits, etc.

[6] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, http://data.europa.eu/eli/reg/2016/679/oj

[7] Article 3 of "loi de programmation 2018-2022 et de réforme pour la Justice" (currently under discussion in French Parliament), amending Article 4 of the law No. 2016-1547 of 18 November 2016.

Table 1: Ethical matrix used in the ethical analysis of the introduction of AI-based models of court decisions.

Respect for:	*Justice*	*Equality*	*Privacy*	*Competency*	*Transparency*	*Usefulness*
Judges	Keep control of decisions; Guarantee respect for the judicial authority	Ensure there is no discrimination in the AI system; Correcting the existing implicit discriminations made by human in court decisions	Prevent judge profiling; Prohibit the profiling of their litigants	Have guarantees on the excellence of the quality of models providing real added value as a legal decision support system	Need to fully understand the model to trust the judgment proposed by the AI model	Save time in professional practice; Be helped by the proposal of standards or scales (especially useful for young practitioners)
Lawyers	Uphold the justice and the rights of their clients in conformity with the guarantees of a fair trial	Enforce the rights of their clients with impartiality and equity	Prevent lawyer profiling; Guarantee the privacy preserving of the litigants they represent	Have guarantees on the excellence of the quality of models providing real added value as a legal decision support system	Need to fully understand the model to trust the judgment proposed by the AI model (additional argument to convince the clients)	Save time in professional practice; Be helped to convince the clients about the defense strategy to adopt
Litigants	Have the opportunity to refuse and/or challenge in front of a human judge	Be assured of equal treatment without discrimination	Guarantee the privacy preserving; Prevent harmful profiling	Ask that decisions made about them are made by tools of good quality	Refuse to be judged by a "black box" system whose motives are unknown	Benefit from court decisions made cheaply and quickly
Legal Tech Companies	Correctly define the limits of the AI tools produced	Not concerned	Need as much information as personal data to feed the machine learning algorithms	Have multi-disciplinary skills in AI and law to produce reliable models (in economic interest)	Keep the manufacturing secret (intellectual property)	Produce services for all kinds of customers
Law Research & Knowledge Production	Not concerned	Highlight the objective criteria that explain the determinants of court decisions	Use personal identifiers for a scientific interest	Have quality models produced according to a scientific approach to advance knowledge	Have understandable models for critical analysis purpose	Not concerned

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