Automating court decisions:
How far to go?

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Abstract:
Predictive algorithms provide judges with tools of unmatched efficiency for assisting their decision-making. Predictions related to behavioral profiling and court decisions are going to increasingly be factored into the work of judges, who, though independent, will be unable to ignore them. Can we imagine that machines will sooner or later make decisions in place of courts of law, perhaps in cases of routine litigation? The judge's work will gradually be automated, but this likelihood raises questions so awesome that only a new, multidisciplinary approach can address them.

"*For the rational study of the law, the black-letter man may be the man of the present, but the man of the future is the man of statistics and the master of economics*", O.W. HOLMES (1897)

For the founders of American legal realism, were they still alive, the advent of big data would probably be the ultimate outcome of plans for using experiences to predict the decisions judges are going to make (JAMIN & JESTAZ 2004)… but with a major difference: as predictive tools will be more and more systematically used during the 21st century, judges themselves might some day have nothing human.[1]

In the era of humanoid robots, entrusting justice to artificial intelligence (AI) is tempting to anyone who thinks that machines have, now and tomorrow, capacities equivalent or superior to humanity's (ALEXANDRE & BABEAU 2016, ALEXANDRE 2017). True, AI experts have announced that the evolution of machines during the next fifteen years will be entirely concentrated on humanizing robots with the goal of making them behave like, and efficiently communicate with, human beings (STONE *et al*. 2016). "*The extraordinary attraction exercised by the delegation to machines*" (GARAPON & LASSÈGE 2018) is a phenomenon exacerbated by the demonstrations that, like the successive victories in the games of go and chess by Google's DeepMind, are often widely reported in the media and supposed to prove the superiority of computers.

In the legal field, ever more publications, by mixing informatics, the legal sciences and humanities, are gradually defining a new discipline: computational legal studies (*cf*. ASHLEY 2017, THORNE-MACCARTY 2018, GARAPON & LASSÈGUE 2018). Among practitioners of the law, the idea of a "robot lawyer" is rife, the example being Ross, the computer designed by IBM, whose services law offices have retained.[2] Given the foreseeable evolution of AI, some pundits are predicting that the legal professions will eventually be dismantled. Richard and Daniel Susskind (2015) have defined the "*AI fallacy*" as the widespread belief that certain legal tasks will always be out of reach of computers because machines will never manage to think like humans, since only the latter are endowed with creativity and imagination. Referring to Watson, the computer system that won at the game of jeopardy, the Susskinds argue that robots will become extraordinarily efficient without needing to think exactly like humans.

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[1] This article, including quotations from French sources, has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor's approval, completed bibliographical references.
[2] https://www.huffingtonpost.fr/2016/05/13/premier-robot-avocat-embauche_n_9954520.html.

In the era of algorithms (O'NEIL 2016), the time is drawing nigh when computers will be fully involved in judicial decision-making. The figure of the "robot judge" seems not only credible but even reassuring. Why not? What could be better than a machine for a thorough, deductive application of the rules of the law to cases without risk of error or arbitrariness? If we stick to the image of the judge as the "mouthpiece of the law", the mechanical application of the law guaranteed by robots seems more appropriate than a justice rendered by "*a person influenced by his own ideology and the context of the judgment*" (ALEXANDRE & BABEAU 2016). Upon closer examination however, this is not the principal improvement now delivered by software.

AI and machine learning are mainly used to process immense databases in order to identify recurrences and, if the analyzed data are big and relevant enough, to predict behaviors or trends. By profiling behaviors and predicting decisions, computers could gradually become more and more appreciated in judicial decision-making.

Profiling behaviors

Till recently, data analytics in judicial matters was mainly limited to analyzing the masses of documents transmitted during the processes with which jurists in common law are familiar, namely: discovery and disclosure. Software programs for technology-assisted review (sometimes called "predictive coding") have been developed to examine all the documents and records forwarded by the parties to a case and select those that are relevant. Jurisdictions in English-speaking countries now widely accept document review software.[3] This trend does not yet seem present in France, where the volume of documents analyzed for a trial is much smaller. As foreseen in the bill of law programming the Ministry of Justice, 2018-2022, the dematerialization of proceedings could be an occasion for developing similar software in France. In the meanwhile, automated document review would make a small step toward automation in comparison with the strides made by the profiling tools used for assisted decision-making.

Algorithms can now predict many events and behaviors. For instance, they can analyze consumers' online purchases to detect whether a baby is expected and send advertisements to women identified as pregnant (BASDEVANT & MIGNARD 2018, p. 92). Likewise, profiling can detect, even predict, offenses (*Ibid*, p. 107). Several "predictive police" programs (PredPol in the United States and INDECT in Europe) are being used to work out strategies for preventing criminality. Profiling techniques can also assess the risks of recidivism, by honing the evaluation of the risk that such and such an offender will commit a second offense. Though they do not at all reflect actual, proven facts, the predictions made by algorithms can serve as the grounds for judges' decisions. An "algorithmic justice" could thus arise.

Approximately twenty of the United States have decided to base decisions about releases on bail or on parole on assessments made by software programs (such as COMPAS: Correctional Offender Management Profiling for Alternative Sanctions) that finely calculate the risk of a defendant becoming a recidivist. Since 1 January 2017, New Jersey has abolished the previous system for setting bail and replaced it with judicial decisions based on PSA algorithms (Public Safety Assessment), which calculate the risk that a defendant might commit a second offense or not show up in court.[4] The method seems even more legitimate in that its granular risk assessment replaced a system of release on bail that tilted in favor of wealthier defendants (LAPOWSKY 2017). The computer analyzes the characteristics of the case at hand, processes data from 1.5 million cases and then makes a recommendation, which the judge may or may not follow. In this example, since the decision ultimately comes from a human judge whose hands are not tied, the algorithms can be perceived as a tool for assisting decision-making.

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[3] Since 2012 in the United States: see *Monique da Silva Moore,* et al.*, v. Publicis Groupe SA & MSL Group*, n°11 Civ. 1279 (ALC) (AJP) (S.D.N.Y. Feb. 24, 2012), available at: http://ctrlinitiative.com/Da%20Silva%20Moore%20v.%20Publicis%20Group/. For the United Kingdom, see: Pyrrho Investments Ltd v. MWB Property Ltd [2016] EWHC 256 (Ch).

[4] https://www.nbcnews.com/specials/bail-reform.

However there remains but a single step to take from the algorithm's recommendations to its decisions — a nearly imperceptible step since it is hard to question the efficiency of algorithms. According to an American study, using algorithms of this sort can reduce crime "*by up to 24.8% with no change in jailing rates; or jail populations can be reduced by 42.0% with no increase in crime rates*" (KLEINBERG *et al*. 2017, p. 1). Understandably, judges can but fall under the sway of the machine's recommendation.

Quite logically, this method has been challenged on the grounds of the right to a fair trial. In State of Wisconsin v. Loomis,[5] the defendant, sentenced to six years in jail following an assessment by COMPAS that described him as high-risk, based his plea on the fact that he could not challenge this description because the methodology underlying it had not been disclosed to him. Although this plea was dismissed, similar challenges have been introduced in other jurisdictions. A very recent study, criticizing the reliability of COMPAS's predictions, has concluded that the algorithm was "*no more accurate or fair than predictions made by people with little or no criminal justice expertise*" (DRESSEL & FARID 2018, p. 1).

In France, there is not yet an example of judicial decisions made by using profiling tools. Will this situation hold? When asked to evaluate someone's behavior, is it not tempting to rely on granular statistical analyses that are all the more reliable since they are based on processing vast databases? It does not seem unlikely that we will soon see big data gradually interfering in the arguments formulated by French judges, for example when they have to evaluate negligence (BEN-SHAHAR & PORAT 2016). For sure: the use of profiling tools will deeply alter the judicial process and the argumentation used during proceedings.

Predicting court decisions

An additional threshold will be crossed toward algorithmic justice when the computer, instead of assist decision-making by predicting human behavior, tries to predict the court's decision itself. For data scientists, this is no different: algorithms assess the probability of the decision to be made by analyzing a database with information on past court decisions. For jurists however, this "predictive justice" is different from behavioral profiling. The intent is to predict not behavior (the likelihood of a purchase or a second offense) but an official decision, which, in principle, ensues from a logical process of deliberation for applying a general rule to a specific case.

Results in the prediction of court decisions are spectacular. In October 2017, CaseCruncher won a challenge pitting it against confirmed lawyers in London. Nearly 800 hundred cases involving fraudulent sales of insurance policies were submitted to both parties. The AI software obtained an accuracy rate of 86.6% compared with the lawyers' rate of only 66.3% (CELLAN-JONES 2017). The creators of CaseCruncher modestly emphasized that the software is superior only when precise questions are asked. Findings from scientific studies back up this remark. Information scientists have designed an algorithm capable of predicting the decisions made by the European Court of Human Rights. Its accuracy rate was an impressive 79%, but the challenge was simply to make a prediction about whether or not there was a violation of the European Convention on Human Rights by examining the key words in submitted applications (ALETRAS *et al*. 2016). These findings are close to those of a similar study that, conducted on US Supreme Court decisions, claimed an accuracy rate of 70.2% (KATZ *et al*. 2017).

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[5]   State of Wisconsin v. Loomis, 881 N.W.2d 749 (Wis. 2016).

In France, startups are proposing algorithms to predict the outcome of certain court cases (alimony, breaches of sales contracts). These software programs, which have convinced practitioners, operate on data provided by public services (in particular Légifrance) or collected by the startup's developers. For-free open data on court decisions, as foreseen under Article 21 of the Digital Republic Act,[6] are going to improve these predictive tools by providing them with gigantic databases containing all French case law. True, till now, "*less than 1% of the decisions made by courts of first instance and of appeal are available on line at Légifrance*"[7] compared with the more than four million decisions made by French courts in 2016 (nearly 3.8 million by non-administrative tribunals).[8]

For time being, this opening of public data on court decisions is still in waiting, since it has been difficult to safeguard the privacy of individuals (MISSION… 2017). But what will happen once the privacy issue is solved and these decisions are available for free? Predictive tools will undoubtedly provide reliable, precious assistance to law practitioners. The latter will, for each type of litigation, be able to calculate in advance the probability of success or estimate the probable award of damages in compensation. This makes it likely that lawyers and their clients will be spontaneously induced to negotiate in the light of the most probable result. Is it not usually said that a lawsuit is filed when the litigant's expectations of what he can obtain from the judge are unrealistic (GOULD 1973, POSNER 1973)? In simple language, instead of negotiations "*in the shadow of the law*" (MNOOKIN & KORNHAUSER 2010, G'SELL-MACREZ 2010), discussions will take place in the shadow of algorithms — a shift that, for sure, makes us shudder.

As for the rest, while expecting that there will be more negotiations and out-of-court settlements, what about the cases that, though probably fewer in number, will actually pass before a judge? Will judges use predictive software and be swayed by the results when making decisions? Will they be tempted to rely on computers, especially when they have to handle masses of routine cases (cases of the same sort with the same grounds in the law)? Will the judiciary as an institution eventually want to use software for simple, reiterative cases so as to formulate recommendations or even issue predrafted decisions that a judge need but sign? What will happen whenever the progress in AI will produce software that analyzes both past court decisions and the spirit (intent or purpose) of the law (as a general rule to be applied to a specific case)?

Meanwhile, we have to admit that the automation of court decisions is incipient in France. However our glimpses of the future suggest awesome — legal, ethical and philosophical — difficulties. Algorithms can reproduce or even amplify the biases and discrimination present in the data they retrieve, as several studies have shown (ANGWIN *et al*. 2016, EUBANKS 2018). At a fundamental level, doubt can be cast on the compatibility of the recourse to algorithms with basic human rights, starting with the right to a fair trial. After all, will predicting the future by relying on the past not gradually shift law toward a system based merely on precedents? What would then become of the general rules that safeguard equality before the law? Might the very idea of the rule of law not be dissolved in a vast set of items (behaviors, rules, decisions) that would be nothing other than unhierarchized data (GARAPON & LASSÈGE 2018, pp. 219ff.)? Only a revived, multidisciplinary approach — or rather an approach via a novel discipline yet to be built, computational legal studies, called "law and mathematics" by Garapon and Lassège (2018, p. 104) — seems capable of taking up this challenge and breathing life into a foundational debate that has just started.

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[6] Act n°2016-1321 of 7 October 2016 for a "digital republic" available at
https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000033202746&categorieLien=id

[7] DIDIER E., French Senate, Compte rendu analytique of 27 April 2016. Available at
http://www.senat.fr/cra/s20160427/s20160427_mono.html#par_480.

[8] MARRAUD DES GROTTES G., "*Open data* des décisions de justice. Le point sur les arbitrages et garanties proposés par la mission Cadiet", 10 January 2018. Available at:
https://www.actualitesdudroit.fr/browse/tech-droit/start-up/11191/open-data-des-decisions-de-justice-le-point-sur-les-arbitrages-et-garanties-proposes-par-la-mission-cadiet.

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