

	<p>Speaking notes Round table on artificial intelligence in the legal domain Second Chamber of Parliament Permanent Commission for justice and security Thursday, March 29 2018, 10:00-12:30</p> <p>Mr. Dr. A.D. (Dory) Reiling</p>	
---	--	---

AI for courts, in brief (this is the summary)

What use can artificial intelligence (AI) have for courts, and what does that take? In court cases, judges reduce complexity, but all court work is by no means complex, bespoke work. Courts do not process all cases in the same way, and consequently, they need information technology suited to the different ways. Therefore, AI can be useful for different types of courts cases in different ways. Some forms of AI have already proven themselves in practice. But will robots replace judges, as some people have been claiming for more than twenty years? There is still no evidence to support it. Article 6 of the European Convention on Human Rights prescribes fair procedure. It will take a lot of work to make AI conform to that standard. Legal information needs to be structured and given meaning, in order to make the information not only readable, but also actionable, including decision making. Providing an explanation is, in the foreseeable future, not yet feasible for AI. AI can help people looking for information, parties in a case and judges with structuring information, and if legal information is enriched, also with advice and suggestions.

What, actually, is the work of the judge?

Not all court work is complex, bespoke work. Consequently, the different work processes need different kinds of IT support.

The Netherlands courts handle about 1.5 million cases a year. The complexity of the information in a case and the degree to which the outcome can be predicted, largely determine the work processes in administrative and civil cases. Routine cases make up a relatively large proportion of the total caseload. In these cases, the outcome is predictable. Here, the judicial decision is produced largely automatically based on the information provided. The decision document provides a title for execution.

Routine work also prevails in family and labor matters. The court, in a kind of notarial role, examines an arrangement proposed by the parties for legality. This can be a mediated divorce, but also a parental authority or the termination of a labor relationship. Here, too, the decision is a document that is largely produced automatically confirming that the arrangement is in conformity with the law.

Less routine cases are settled quite often. And only in those cases where this does not happen, is the product of the judicial process a judgment.

For criminal cases, the routine matters are handled largely by the prosecution, and the courts only deal with cases that require a judgment. And there, too, we distinguish simple cases from cases that are relatively or extremely complex.

For these distinct processes, the needs for information technology, and hence also AI, are different.

What can artificial intelligence mean for the courts?

Artificial intelligence can fulfil different roles for different case types/disposition processes in the courts. Some of them have already proved to be useful.

1. Structuring information. In complex cases, pattern recognition can be useful in test documents and case files. An example from the US is eDiscovery, automated document examination for disclosure. eDiscovery uses learning artificial intelligence, which learns through training what the best algorithm is to extract the relevant sections from a large quantity of information. The parties in the case agree on the search terms and coding to be used. The judge decides on the agreement. This methodology for document research

is recognized by courts in the US and the UK. It is faster and more accurate than examination done by humans.

2. Advising. AI that can advise can be useful for people who need a solution for their problem, but also for legal professionals. In this case, AI not only collects relevant information, but it also answers a question. The user is free to decide whether he or she will follow the advice. This function can help people help themselves more, and thereby prevent disputes. If that is unsuccessful, support in finding a solution is an option. Support for working out a solution, or at least parts of it, can help make the judicial examination more of a routine exercise. A proven example is the Solution Explorer at the Civil Resolution Tribunal in British Columbia in Canada, which uses simple AI.

3. Predicting. There is high level of interest in AI that says it can predict outcomes of judicial proceedings. An unpredictable outcome of a court case is a risk. With more complex cases, this risk increases. Hence, there is a lot of interest in AI that claims to limit that risk. In the US, AI tools are on offer commercially. This means that the workings, as trade secrets, are not transparent. Nevertheless, some tools provide some insight in how they work.

A group of American scholars has developed an application which says it can predict the outcome of a case before the Supreme Court of the United States.¹ The application uses information about the case, but also about the political preferences and the voting conduct of the individual judges. The application claims 70% accuracy.

The application that describes its workings in most detail is one that claims to predict outcomes of decisions by the European Court of Human Rights. This tool predicts whether in a given situation the Court will decide whether a certain clause of the Convention was breached. The tool works with earlier judgments.² This means that the material the AI works with is already the result of a lot of complexity reduction. The tool claims 79% accuracy. The researchers themselves think the tool can be a useful help for judges because of its pattern recognition in a text document.³ Another example from the US is predicting recidivism in criminal cases. US judges use this tool in their daily practice. Meanwhile, the tool has been proven to overestimate recidivism in African-American defendants because it uses data from the past.⁴

4. Profiling. One last example: judge profiles. At least one legal tech firm in the US offers them for a fee. Their workings are not public, I have no information about their accuracy.

What is needed to make AI useful for courts and judges?

Article 6 of the ECHR requires from courts and judges a fair procedure. It requires a transparent procedure, equality of arms for the parties, and also a reasoned judicial decision. Judgments, in their complexity reduction, must be reasoned, transparent, and offer equal opportunities for the parties. AI operates with legal information. In order to let AI work with legal information, the information needs to be operable for machines. This involves, among other things, the following.

Obviously, bad data reduce the quality of the AI-result.⁵ Correlations and statistical relations do not suffice as a foundation for a judgment. If AI needs to process and understand legal information, it needs to be structured and legally significant.⁶ Right now, text documents need to be supplemented with structure and significance retroactively. AI will be much more useful if legal information like judgments can be enriched for machine reading before publication with textual readability, document structures, identification

¹ Katz DM, Bommarito MJ II, Blackman J (2017) A general approach for predicting the behavior of the Supreme Court of the United States PLoS ONE 12 (4).

² Nikolaos Aletras, Dimitrios Tsarapatsanis, Predicting judicial decisions of the European Court of Human Rights: a Natural Language Processing perspective. PeerJ Computerscience, 24 oktober 2016.

³ Henry Prakken, Komt de robotrechter eraan? Nederlands Juristenblad 2018-04 no. 207.

⁴ Julia Angwin, Machine Bias, ProPublica, 23 mei 2016

⁵ Kristian Lum en William Isaac, To Predict and Serve? Significance magazine.com, October 2016

⁶ Marc Van Opijnen, Legal(ly) linked data, Computerrecht 2018/2 no. 55.

codes and metadata. If legal meaning is added in the shape of structured terminology and meaningful relations, AI's potential increases even more. All that is still in the future. The general opinion is that AI, when applied in courts, must be able to explain how it reached its result. This can be an explanation of the process, but also with regard to the content of the end result. Research shows that generally speaking, AI is capable of this kind of explanation we now require from humans, but that in practice humans can explain some aspects much more easily than the AI.⁷

⁷ Finale Doshi-Velez en Mason Kortz, Accountability of AI under the law, arCHIV November 2017