COUNCIL OF EUROPE

HUMAN RIGHTS, DEMOCRACY AND THE RULE OF LAW

DROITS DE L'HOMME, DÉMOCRATIE ET ÉTAT DE DROIT

CONSEIL DE L'EUROPE

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European Commission for the Efficiency of Justice

Commission européenne pour l'efficacité de la justice

The European Ethical Charter on the use of AI in judicial systems and their environment

Clementina Barbaro
CEPEJ Secretariat

Background

New developments in CoE member states

1. Judicial decisions increasingly made available in the form of open data

2. New AI applications for the judiciary brought to the attention of policy makers

Objectives of CEPEJ work

1) Provide a scientific, unbiased view of the possibilities and limits of some AI applications

2) Highlight concerns and help identifying « positive » solutions

3) Advise on governance and ethical aspects

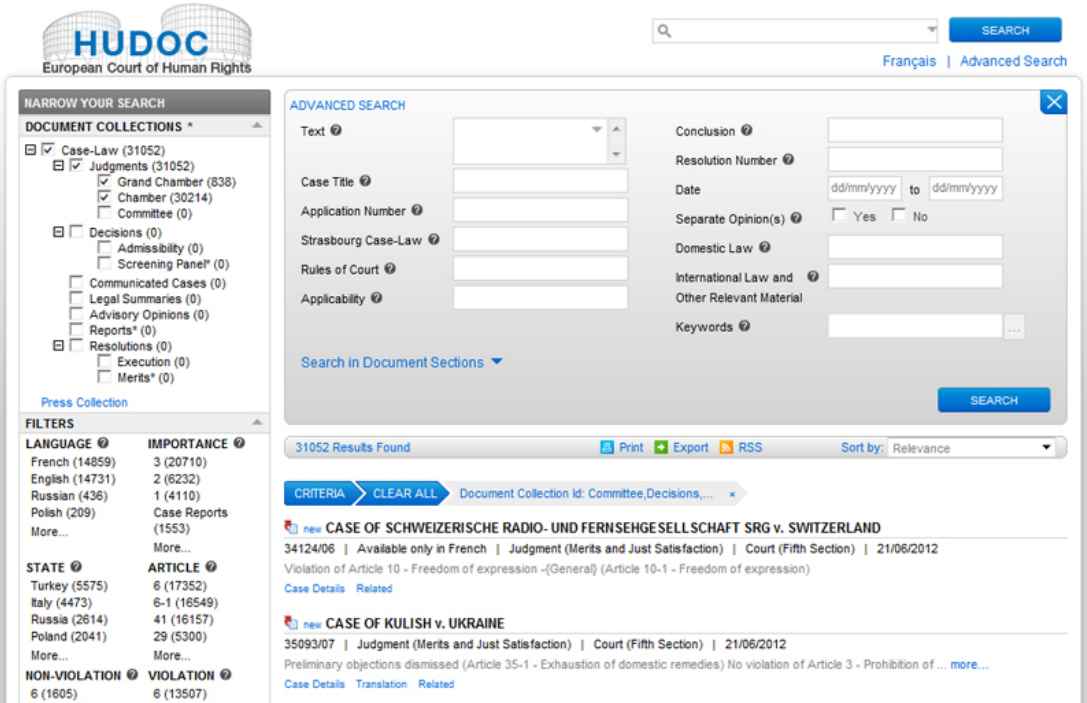
Case law in open data: fuel for AI applications

As part of a global movement calling for transparency and accountability of public action, growing tendency (including in Europe) to make available data coming from public institutions (including courts' decisions) in the form of **freely downloadable databases**

Case law in open data – points of attention

Open data: Access to data not to information

2/ Open data policies are not a new way to ensure directly an **access to judicial decisions: this is access to information**

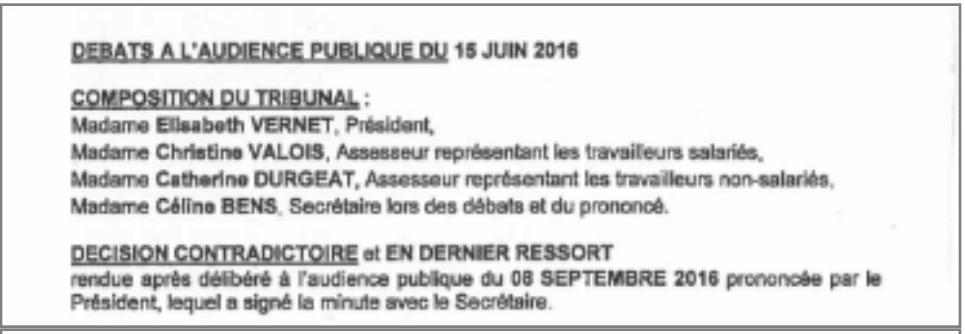


Access to decision is already ensured by search engines in almost all Council of Europe member States (89%)

Case law in open data – points of attention

Open data: Access to data not to information

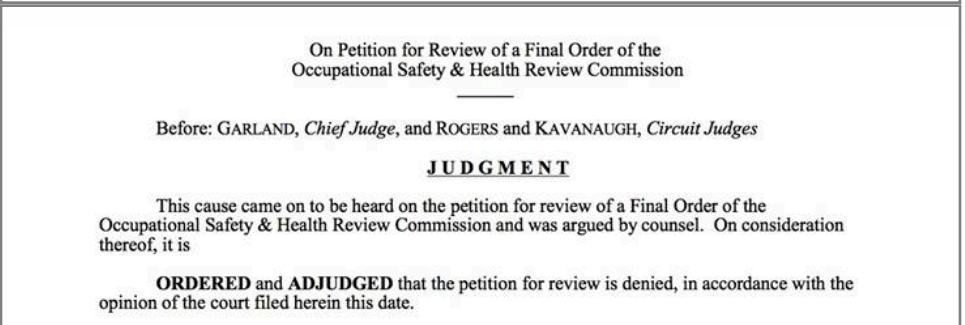
3/ Open data policies per se do not improve the **publicity of court decisions** nor the **transparency of justice**



DEBATS A L'AUDIENCE PUBLIQUE DU 15 JUIN 2016

COMPOSITION DU TRIBUNAL :
Madame Elisabeth VERNET, Président,
Madame Christine VALOIS, Assesseur représentant les travailleurs salariés,
Madame Catherine DURGEAT, Assesseur représentant les travailleurs non-salariés,
Madame Céline BENS, Secrétaire lors des débats et du prononcé.

DECISION CONTRADICTOIRE et EN DERNIER RESSORT
rendue après délibéré à l'audience publique du 08 SEPTEMBRE 2016 prononcée par le Président, lequel a signé la minute avec le Secrétaire.



On Petition for Review of a Final Order of the
Occupational Safety & Health Review Commission

Before: GARLAND, *Chief Judge*, and ROGERS and KAVANAUGH, *Circuit Judges*

JUDGMENT

This cause came on to be heard on the petition for review of a Final Order of the Occupational Safety & Health Review Commission and was argued by counsel. On consideration thereof, it is

ORDERED and **ADJUDGED** that the petition for review is denied, in accordance with the opinion of the court filed herein this date.

Name of the judge, court clerks, parties must be written in court decisions

Open data does not guarantee as such this transparency goal: on the contrary, it can lead to possible misuses (profiling, forum shopping,...)

Case law in open data: fuel for AI applications

Case study : France

2016 law on the « digital Republic » → all court decisions at all instances to be disseminated in the form of open data, for free and **with respect for the privacy of the persons concerned**

This public availability is preceded by an analysis of the risk of reidentification of the persons concerned – not yet in place

→ **Data protection concerns :** names, addresses, sensitive data included in judicial decisions

→ At best pseudonymisation and not anonymisation

→ **Careful about the possible use which can be done of these data (names of parties, witnesses , judges) by third parties**

IA applications

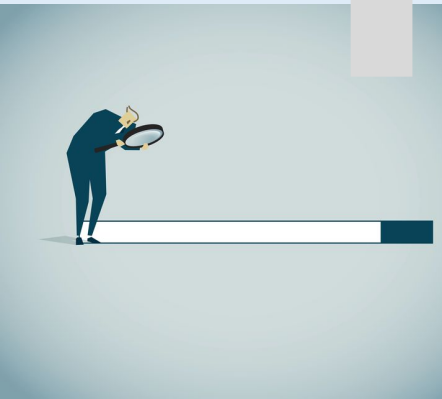
Artificial intelligence (AI) : possible use with case law

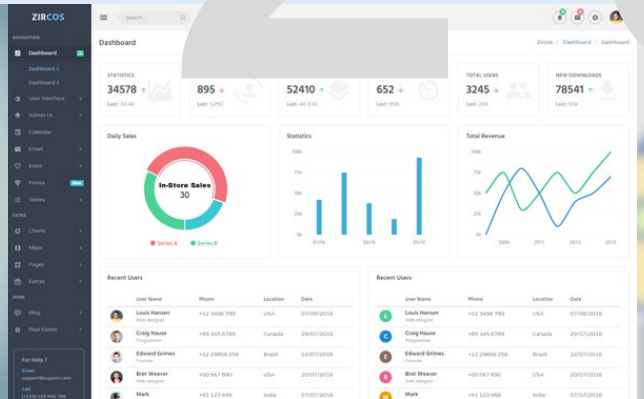
1 Search engines

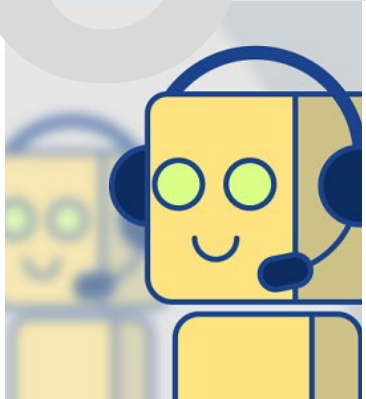
2 Administration of justice

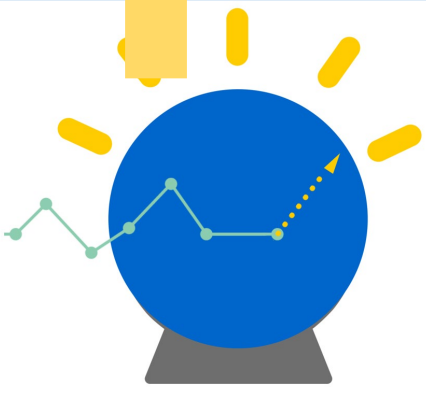
3 Chatbot

4 **Predictive justice**









Application

« Predictive » justice?

Software anticipating a judicial decisions based on the analysis of a large quantity of case law

Definitions

A « predictive » justice?

Predictive : Word coming from hard sciences, which describes methods allowing to anticipate a situation

Prae(before) / *Dictare*(say) : Say before something happens

Prae(before) / *Visere*(see) : See before something happens, based on visibile findings (empirical and measurables)

In a narrow sense, building anticipation tools relates more to forecasting than predicting

Study

Study of the University College of London based on 584 decisions of the ECtHR:

79% of decisions anticipated

AI predicts outcomes of human rights trials

24 October 2016

The judicial decisions of the European Court of Human Rights (ECtHR) have been predicted to 79% accuracy using an artificial intelligence (AI) method developed by researchers at UCL, the University of Sheffield and the University of Pennsylvania.

The method is the first to predict the outcomes of a major international court by automatically analysing case text using a machine learning algorithm. The study behind it was published today in *PeerJ Computer Science*.

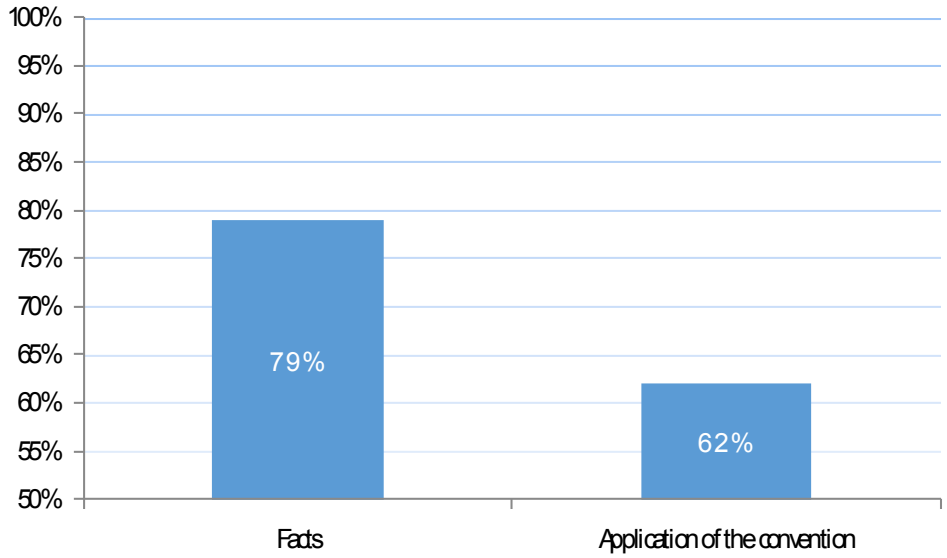
Study

A machine that operates a probabilistic treatment of lexical groups

The joint processing of automatic natural language processing and automatic learning enabled the machine to identify lexical groups and classify them according to their frequency in violation or non -violation decisions

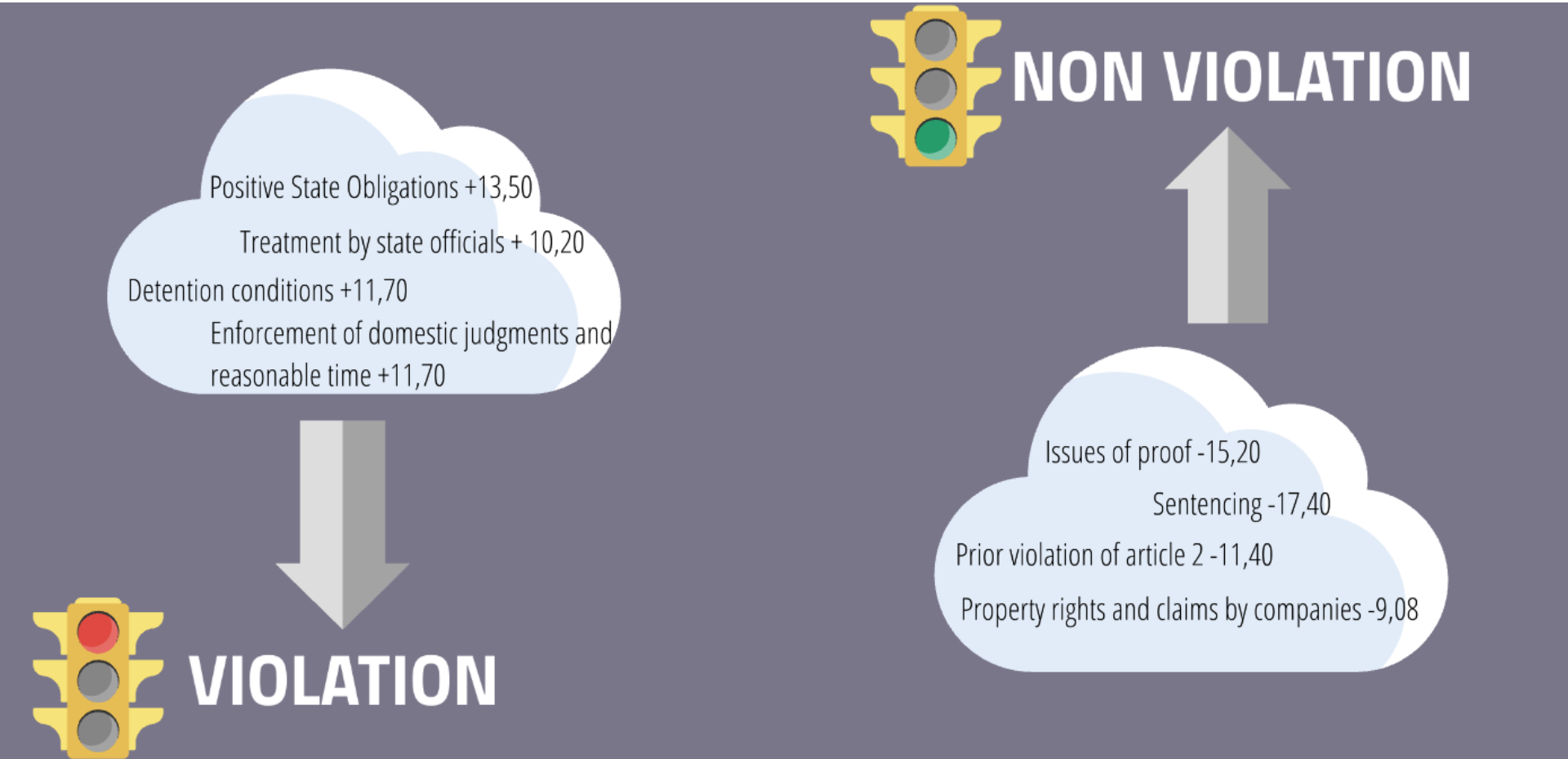
A machine that gets better prediction results on the "facts" part

The success rate of replication of the result is 79% on the "facts" part and drops to 62% on the application part of the Convention

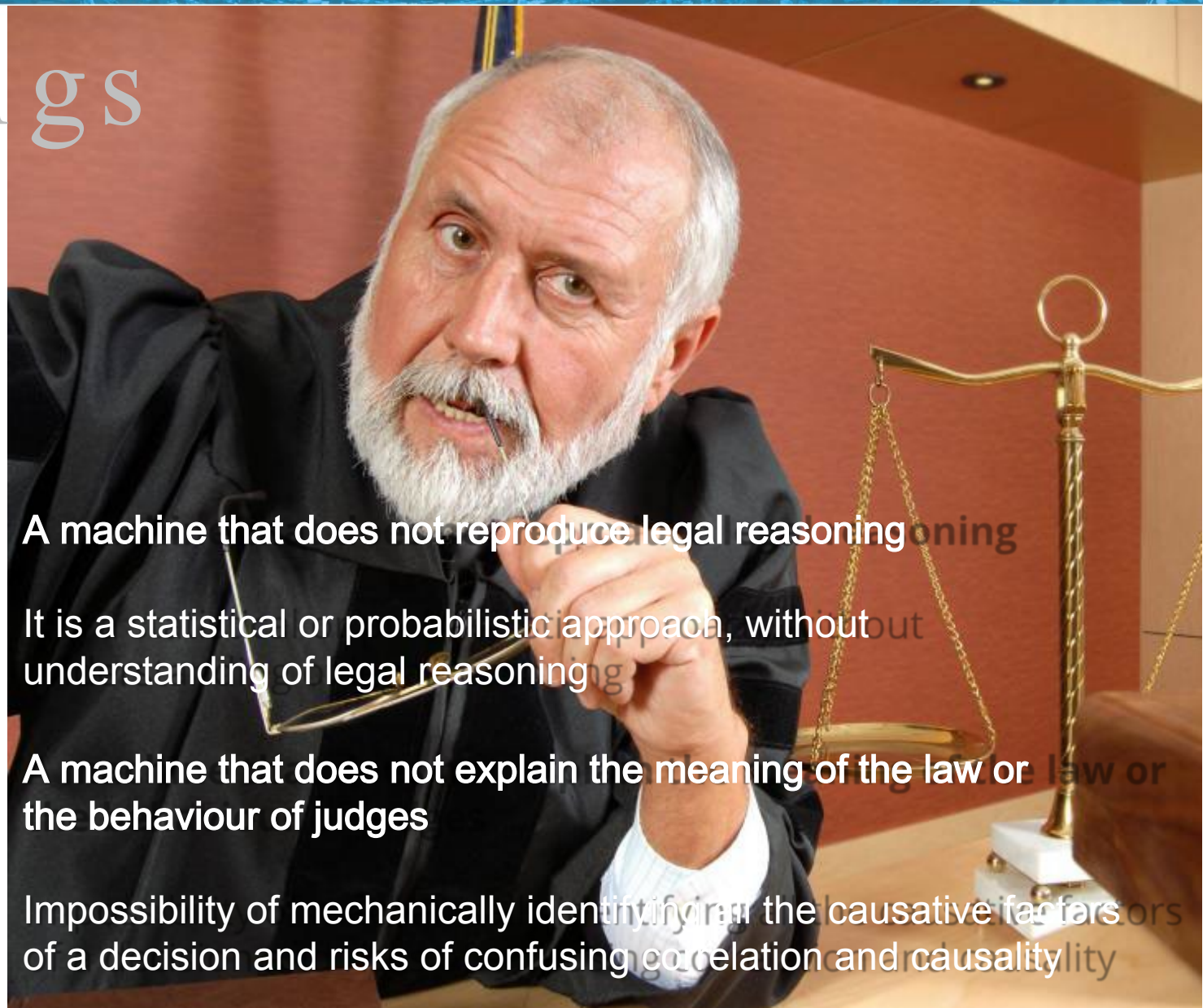


Study

In practical terms: Weighting of group of words



Findings



A machine that does not reproduce legal reasoning

It is a statistical or probabilistic approach, without understanding of legal reasoning

A machine that does not explain the meaning of the law or the behaviour of judges

Impossibility of mechanically identifying in all the causative factors of a decision and risks of confusing correlation and causality

Findings

A court decision: an imperfect raw material for computers

What is a justice decision ?

- Selection of relevant facts by the judge in a raw account

- Application of standards that are rational but do not fit together in a perfectly coherent manner ("open texture of law")

- Formalization of reasoning in the form of a syllogism, which is more of an *a posteriori* narrative that does not strictly isolate all the causative factors of a decision (sometimes summary motivation)

Tests

Tests of several months in 2 appeal courts in France (Douai and Rennes)

Judges concluded for the absence of « added value » for their activity

La justice prédictive : de la révolution à la désillusion

Publié le vendredi 13 octobre 2017 à 6h00 par Charlotte Piret @ChPiret, Hajera Mohammad

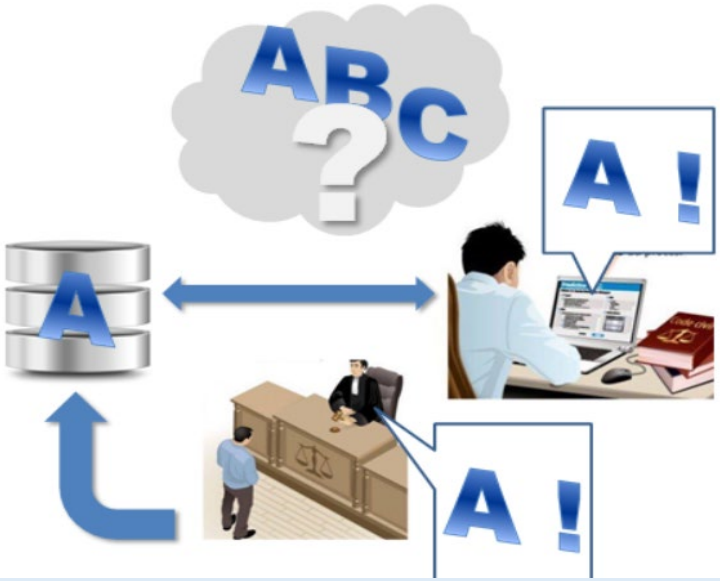
Plusieurs tribunaux testent depuis quelques mois, un logiciel qui pourrait permettre à l'avenir de prédire une décision judiciaire. Mais les premiers retours sont mitigés.

Points of attention: civil, administrative, commercial matters

Will the statistical average of decisions become a norm? Which place for the law provision that a judge is supposed to apply ?

Transformation of construction of case law : « horizontal» « flat », « cristallysed » around the amounts determined by scales ?

« Performative » effect and indirect effects over judges'impartiality



AI possible applications

Civil / commercial / administrative matters

Valorisation of case law

Research engines making links among doctrine, case law, laws and regulations

Compensation scales, support to on-line dispute resolution

Provided that data are of good quality, that certified and loyal algorithms are used and that access to a judge is always possible, for an adversarial debate

Use of AI/machine learning tools:

- **By the police**
- **By the judge**

Pros and cons?

AI outperforming the police and the judge?

Use of AI by the police: better investigation of crime

- Recognition of patterns in huge volumes of data (ex:financial transactions: Connect, UK)
- Vocal / picture recognition (ex: INTERPOL ICSE database)
- Facial recognition (London police, UK)

Depending on applications:

Pros: effectiveness

Cons: invasion of privacy

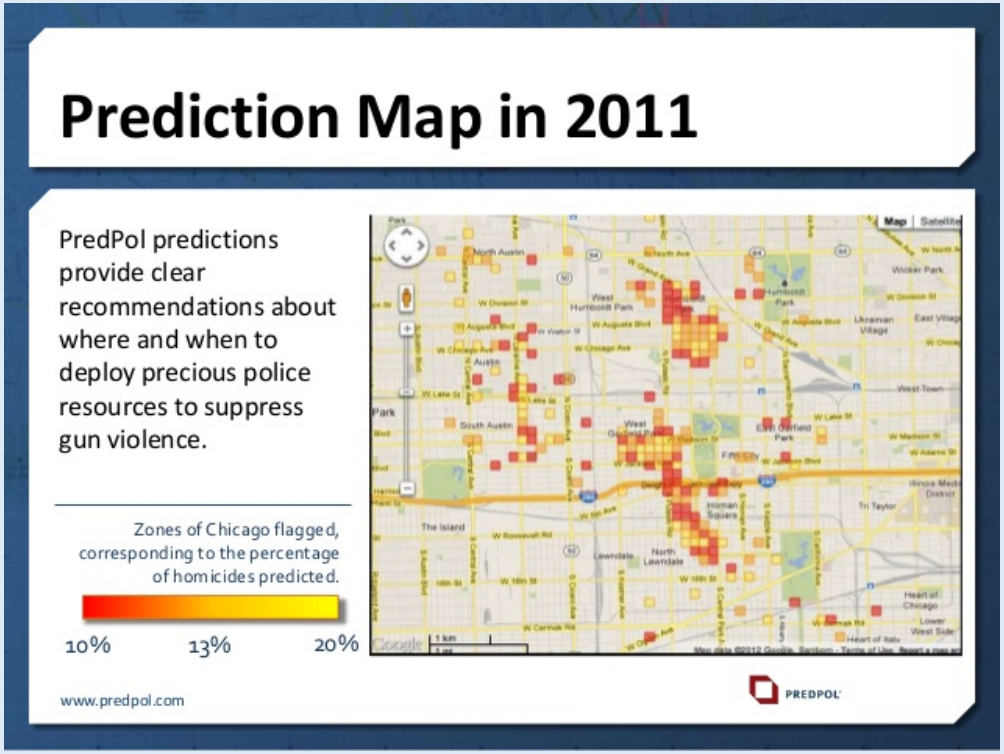
Possible abuses?

Use of AI by the police: prevent crime

- Predictive policing or « Hotspots » mapping
- Only some types of crime

Pros: good effectiveness rates (10 times more likely to predict crime location than normal patrolling); dissuasive effect in the surroundings

Cons: self -fulfillling prophecies and oversurveillance « Tyranny » of the



Use of AI within judicial proceedings

Risk- assessment tools : predicting reoffending

Three main fields of applications:

1.Custody

2. Sentencing

3. Execution of a criminal sanction

Predicting probabilities of reoffending by the interested person to support judicial decision - making

Not binding

1.High risk
2. Medium risk
3. Low risk

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How does this work in practice?

Machine learning principles of functioning

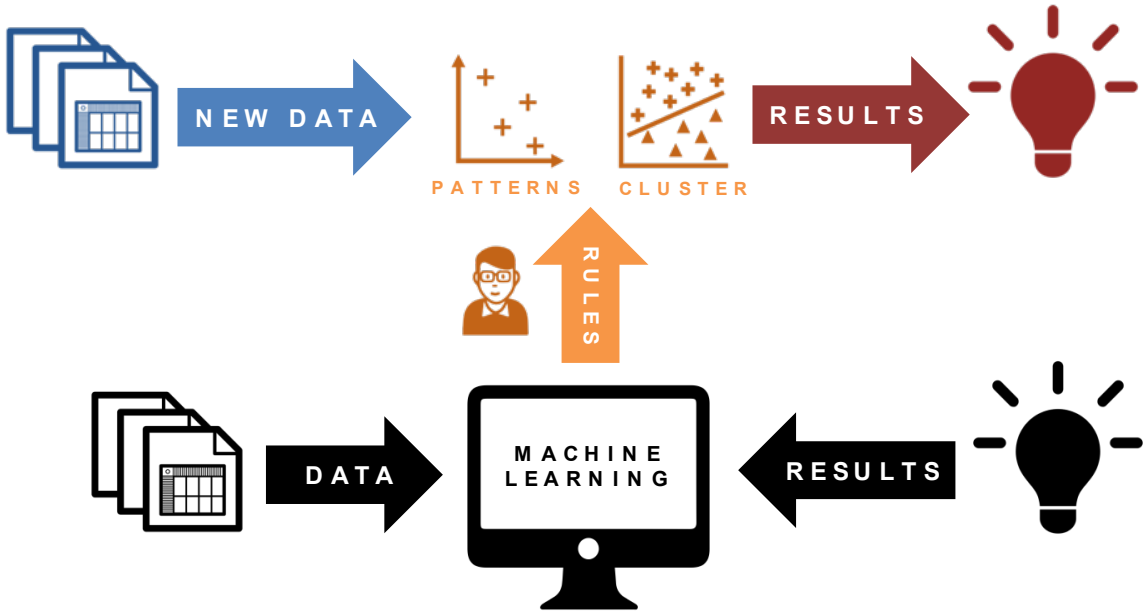
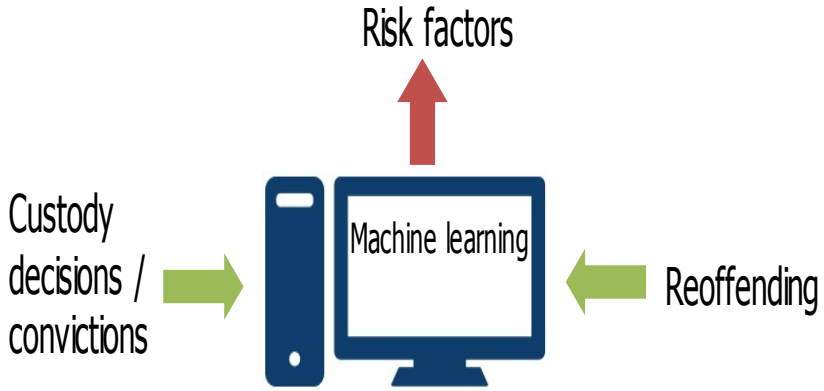


Fig.2: Machine learning alone produces models by automatically searching for correlation results.



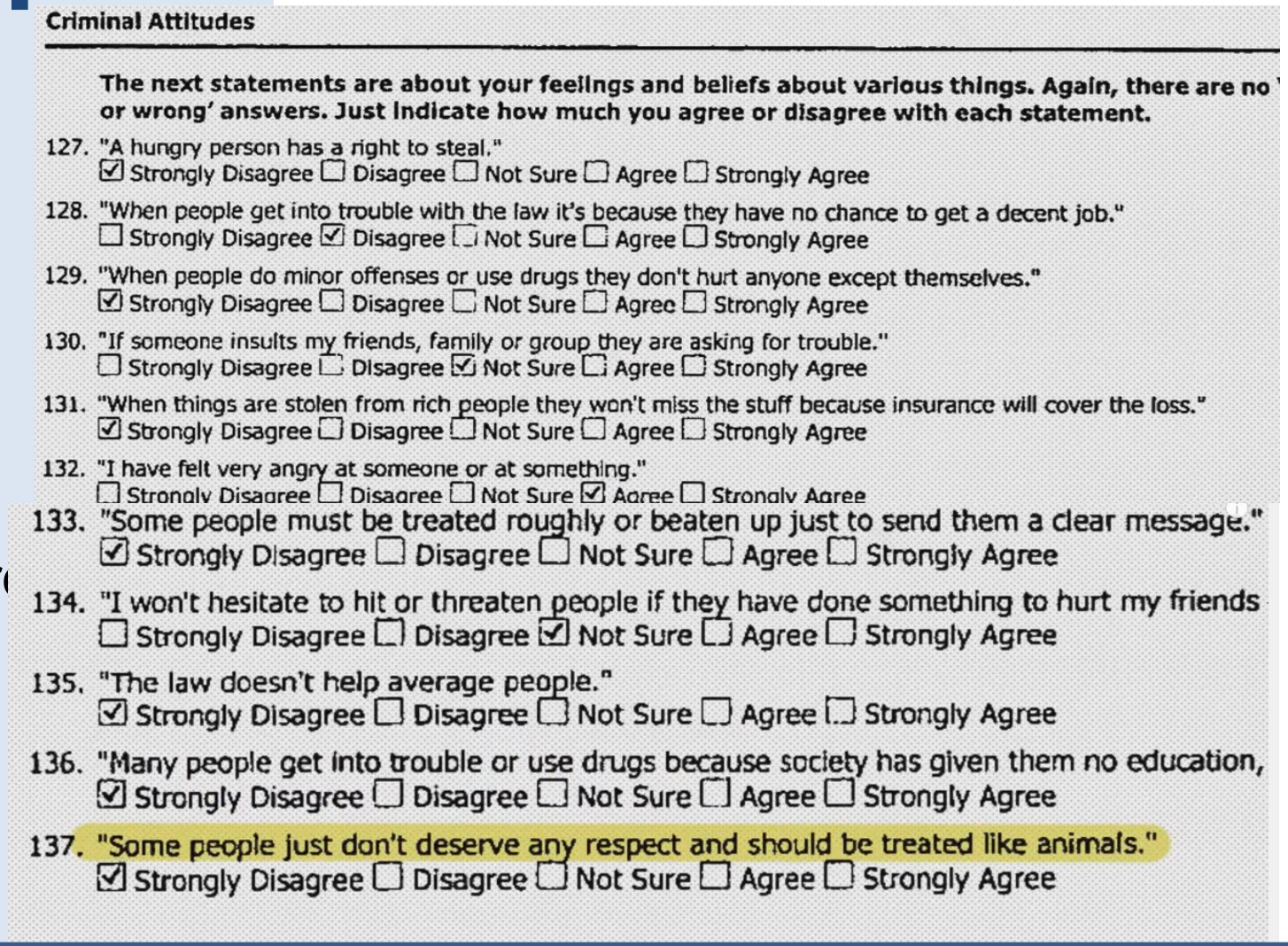
Risk- assessment tools : predicting reffending

Risk factors

Sexe
Age
Family history
Level of studies
Employment
Income and financial situation
Criminal history
Crime attitude
Residence

Example

COMPASS
137 questions
Extract
of questionnair



Criminal Attitudes

The next statements are about your feelings and beliefs about various things. Again, there are no ' or wrong' answers. Just indicate how much you agree or disagree with each statement.

127. "A hungry person has a right to steal."
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

128. "When people get into trouble with the law it's because they have no chance to get a decent job."
☐ Strongly Disagree ☑ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

129. "When people do minor offenses or use drugs they don't hurt anyone except themselves."
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

130. "If someone insults my friends, family or group they are asking for trouble."
☐ Strongly Disagree ☐ Disagree ☑ Not Sure ☐ Agree ☐ Strongly Agree

131. "When things are stolen from rich people they won't miss the stuff because insurance will cover the loss."
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

132. "I have felt very angry at someone or at something."
☐ Strongly Disagree ☐ Disagree ☐ Not Sure ☑ Agree ☐ Strongly Agree

133. "Some people must be treated roughly or beaten up just to send them a clear message."
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

134. "I won't hesitate to hit or threaten people if they have done something to hurt my friends
☐ Strongly Disagree ☐ Disagree ☑ Not Sure ☐ Agree ☐ Strongly Agree

135. "The law doesn't help average people."
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

136. "Many people get into trouble or use drugs because society has given them no education,
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

137. "Some people just don't deserve any respect and should be treated like animals."
☑ Strongly Disagree ☐ Disagree ☐ Not Sure ☐ Agree ☐ Strongly Agree

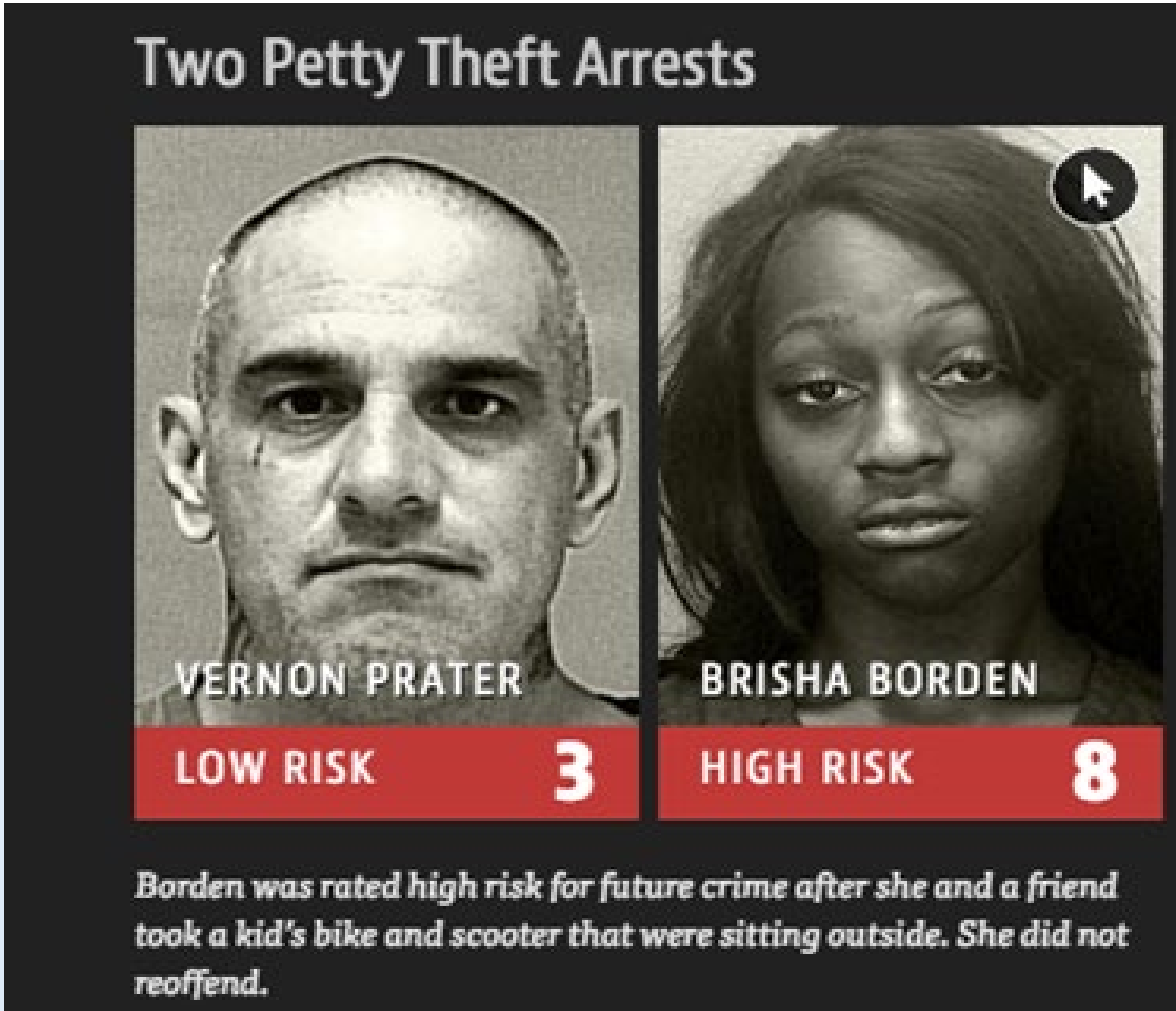
More matches with recidivists' previously answered questionnaires → Higher probabilities of reoffending

Risk- assessment tools : predicting re -offending

in real life……

Recidivism rate of afroamericans is estimated double than other populations in the two years following criminal conviction

ProPublica, 2016:
Biased data bring

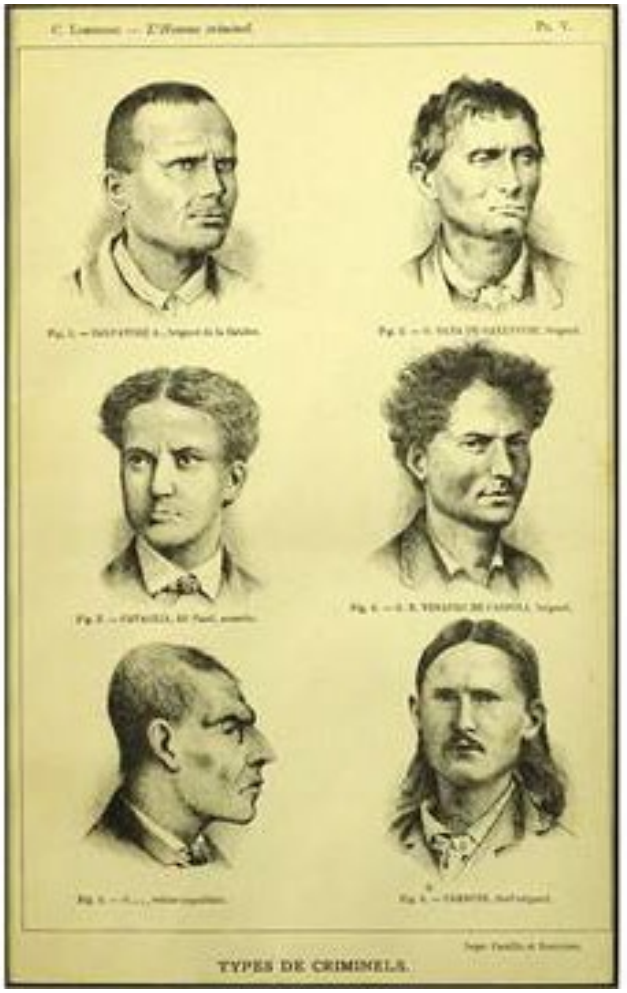


Points of attention: judicial phase

Risk of a resurgence of a determinist doctrine in criminal matters (vs. a social doctrine)

What individualization of sentence?

Risks of discriminations and mistakes



AI: more precise than humans?

HART in the U.K: Durham Police: asssing reoffending (custody)

High predictions rates (88% for individuals considered as high risks) but possible misclassification of false negatives and false positives

AI: more precise than humans?

Objective: not let false negatives go into society… help avoiding mistakes… BUT:

Out of 888 examples of custody studied, police officers agree with AI predictions on high risks offenders only in 10% of the cases

Points of attention: criminal field

Accountability and responsibility

Transparency of the algorithm and equality of arms in a criminal trial

Which place, which effects of algorithms on judicial decision - making?

Possible positive applications….

Study whether big data can facilitate the collection of objective information on an individual's life path, processed by a professional (judge, probation officer)

Which avenues for governance of AI?

Not hasty and controlled application by public decision-makers, legal professionals and scientists

Accountability, transparency and control of private actors....
Accompanied by "cyberethics"

European Ethical Charter of the use of AI in judicial systems and their environment

Substantive and methodological principles on AI integration into national judicial policies

- ✓ For policy-makers drawing up relevant national legislation and policies
- ✓ For courts and legal professionals designing and testing AI tools
- ✓ For private companies

European Ethical Charter on the use of AI in judicial systems and their environment

A landmark in the definition of ethical principles concerning the use of Artificial Intelligence in the Judicial Systems

The five principles (the big five)

- Appendix I: an in -depth study on AI use in judicial systems
- Appendix II: advice on AI applications to be encouraged and those to be used with some reservations
- Appendix III: a Glossary
- Appendix IV: a Checklist of self-evaluation

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PRINCIPLE 1:

PRINCIPLE OF RESPECT FOR FUNDAMENTAL RIGHTS

Ensure that the design and implementation of artificial intelligence tools and services are compatible with **fundamental rights.**

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PRINCIPLE 2:

PRINCIPLE OF NON-DISCRIMINATION

Specifically prevent the development or intensification of any discrimination between individuals or groups of individuals.

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PRINCIPLE 3:

PRINCIPLE OF QUALITY AND SECURITY

With regard to the processing of judicial decisions and data, use **certified sources** and **intangible data** with models conceived in a **multi - disciplinary** manner, in a **secure** technological environment

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PRINCIPLE 4:

PRINCIPLE OF TRANSPARENCY, IMPARTIALITY AND INTELLECTUAL INTEGRITY

Make data processing methods **accessible and understandable,** authorise **external audits**

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PRINCIPLE 5:

PRINCIPLE "UNDER USER CONTROL"

Preclude a prescriptive approach and ensure that **users** are i**nformed** actors and **in control** of the choices made

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Appendix I: In-depth study on the use of AI in judicial systems

1. State of the use of artificial intelligence algorithms in the judicial systems of Council of Europe member States
2. Overview of open data policies relating to judicial decisions in the judicial systems of Council of Europe member States
3. Operating characteristics of artificial intelligence (machine learning) applied to judicial decisions
4. Can artificial intelligence model legal reasoning in advance ?
5. Can AIs explain judges' behaviour in retrospect ?
6. How is AI to be applied in civil, commercial and administrative justice?
7. Issues specific to criminal justice: prevention of offences, risk of recidivism and assessment of the level of danger
8. Specific questions relating to the protection of personal data
9. The potential and limitations of predictive justice tools
10. The need for an in-depth public debate on these tools prior to the implementation of public policies for their development . The urgent need for cyberethics to provide a framework for the development of artificial intelligence algorithms while respecting fundamental rights

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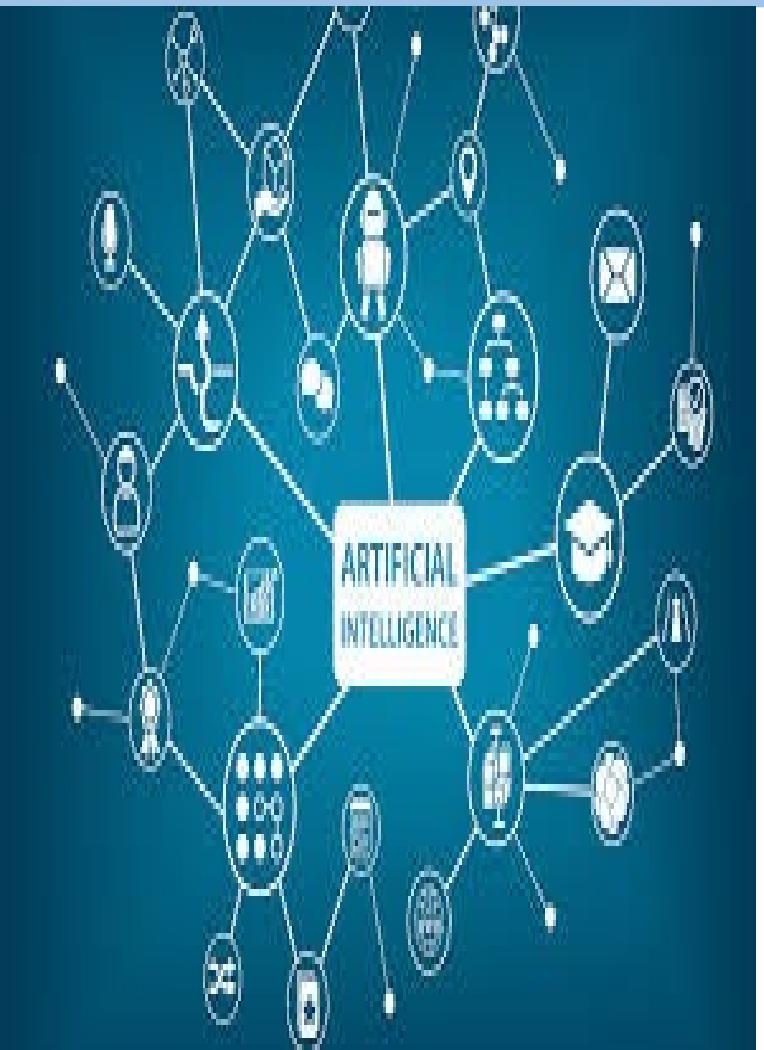
Appendix II: Which uses of AI in the European judicial systems?

- Uses to be encouraged
- Possible uses, requiring considerable methodological precautions
- Uses to be considered following additional scientific studies
- Uses to be considered with the most extreme reservations

European Ethical Charter on the use of AI in judicial systems and their environment



Appendix III : Glossary

- **ARTIFICIAL INTELLIGENCE** A set of scientific methods, theories and techniques whose aim is to reproduce, by a machine, the cognitive abilities of human beings. Current developments seek to have machines perform complex tasks previously carried out by humans

European Ethical Charter on the use of AI in judicial systems and their environment

Appendix IV: Checklist for self-evaluation

- Extent to which the Charter's principles are integrated in AI tools

Thank you !

Questions / Discussion

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