
Artificial intelligence

What is AI and how does it work?

- Simulation of intelligent behaviour in computers
  - Recognizing speech, text, images
- Machine learning
  - Goal defined algorithm
  - Supervised, unsupervised
- Deep learning
  - Algorithm can adapt itself
  - Playing chess and Go

What a judicial system does with AI

- Process management
- Knowledge management
- Advice, suggestions
- Predictions
- Bias, discrimination
- Conservative
- Test for consistency

What AI can do for courts:

(1)

- Proven technology:
  - Structuring information
  - Case processing
  - Providing information in chatbots

Structuring information: E-discovery and how it works

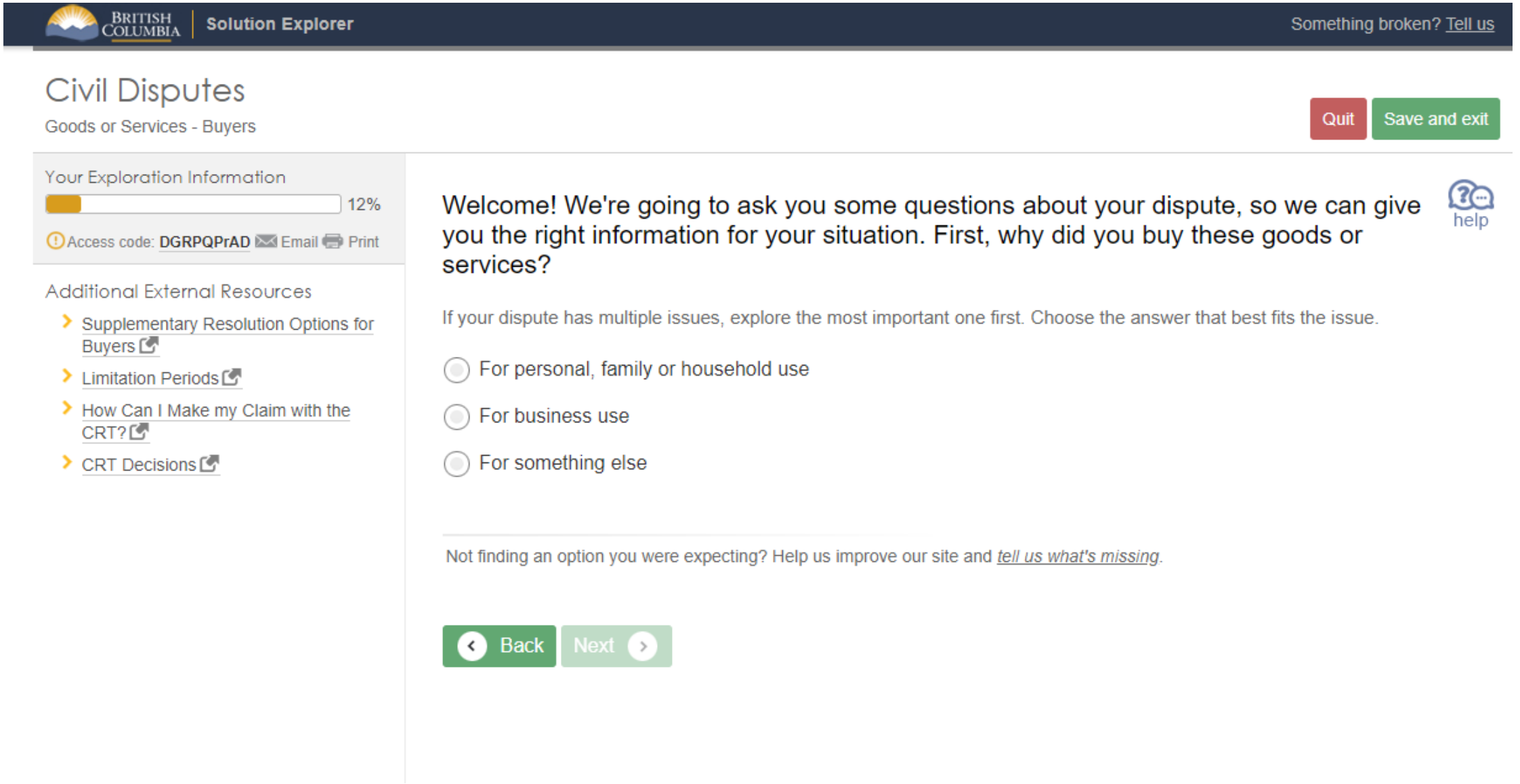
- Pretrial discovery
- Information, evidence in documents, emails, messages
- Automated search
- Machine learning
- Parties agree on search terms and coding
- Agreement needs judicial consent
- Algorithm trained for effectiveness
- Then search for relevant information
- Recognized in US and UK

What AI can do for courts:

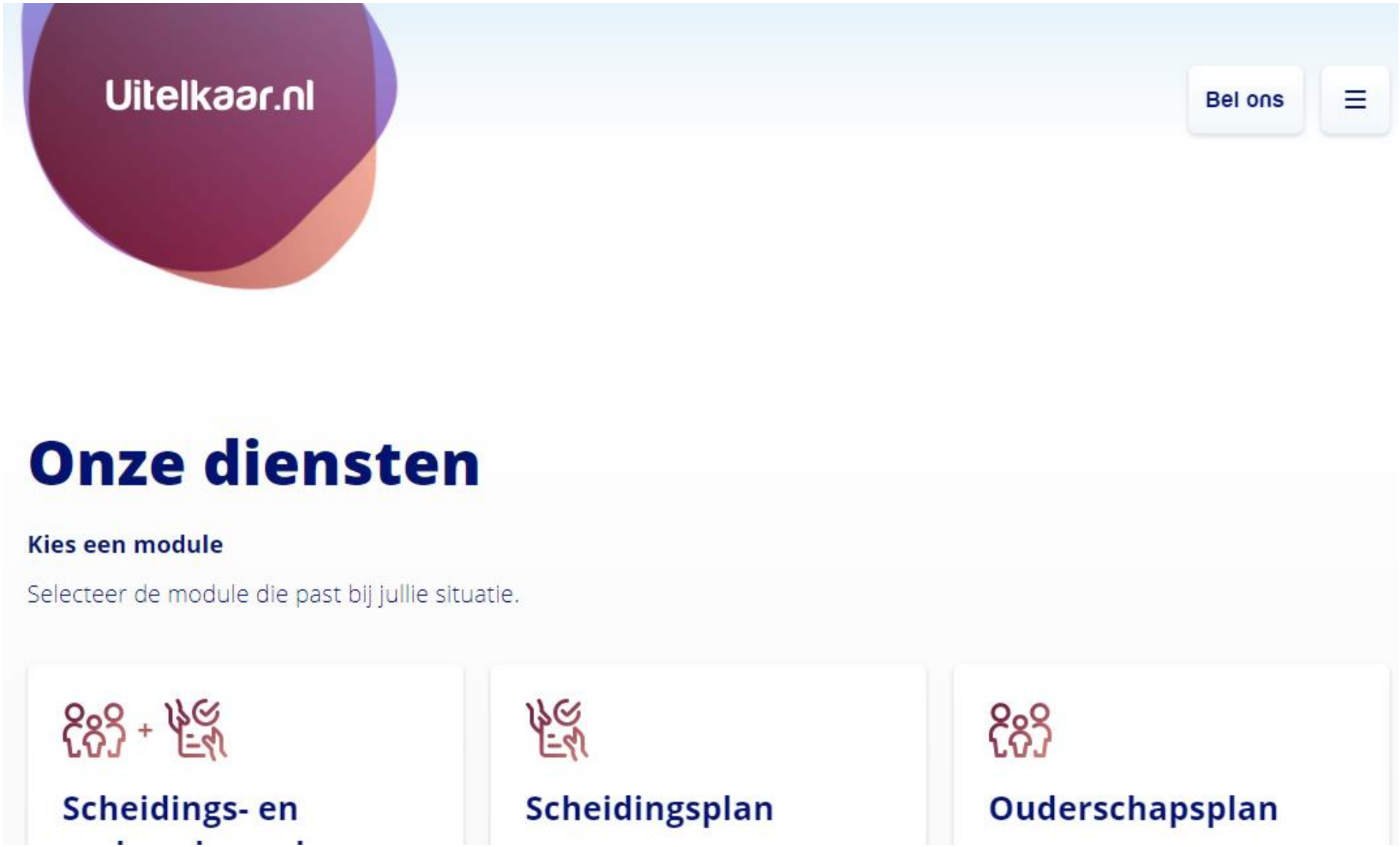
(1)

- Potential technology
- Advisory
  - Preventing disputes
  - Solution explorer
  - Supporting resolution
- Forecasting outcomes
- Process analysis
- New insights

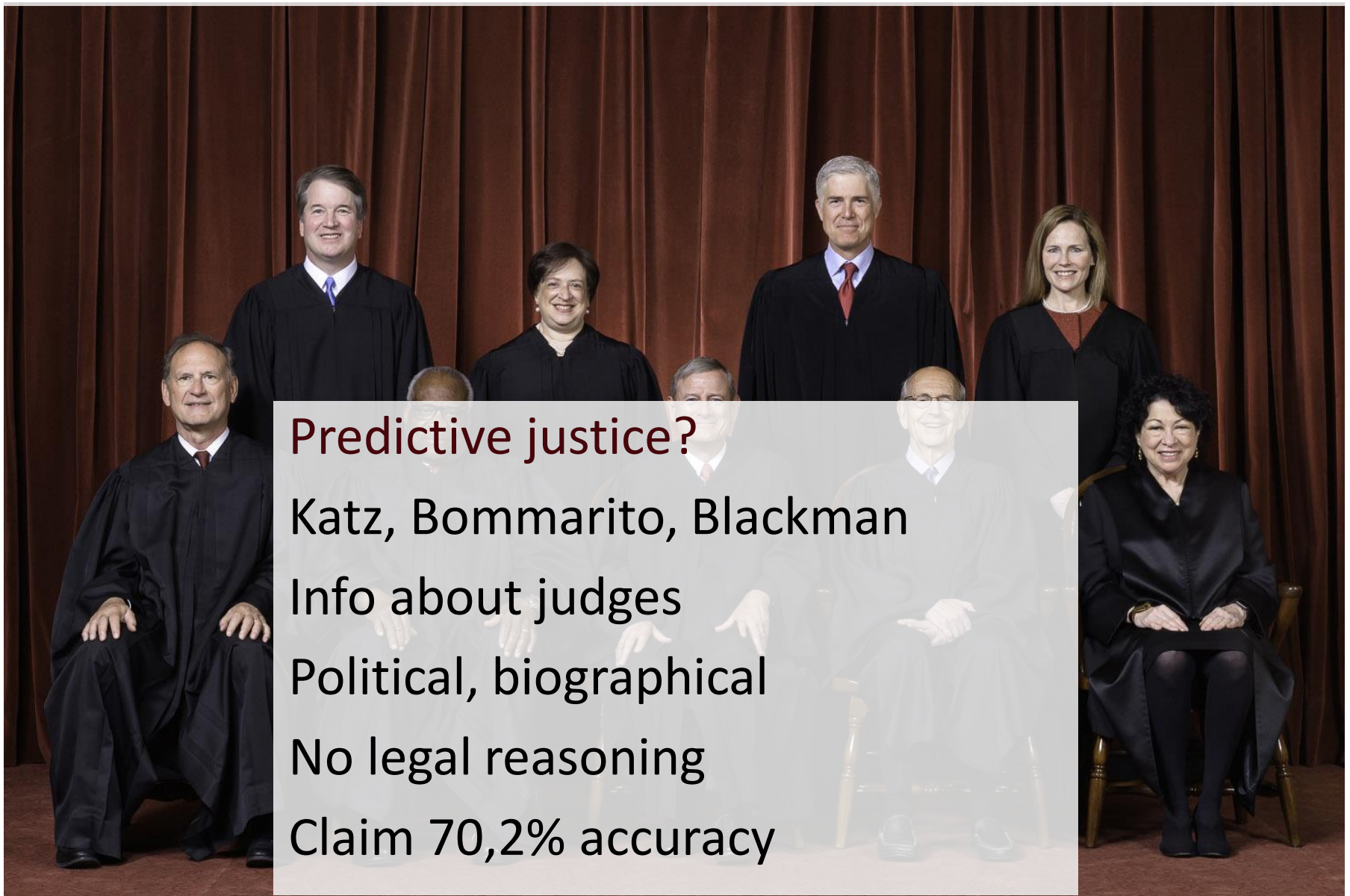
Online solution explorer



Online divorce settlement negotiation



Predicting US Supreme Court outcomes



Predictive justice?

Katz, Bommarito, Blackman

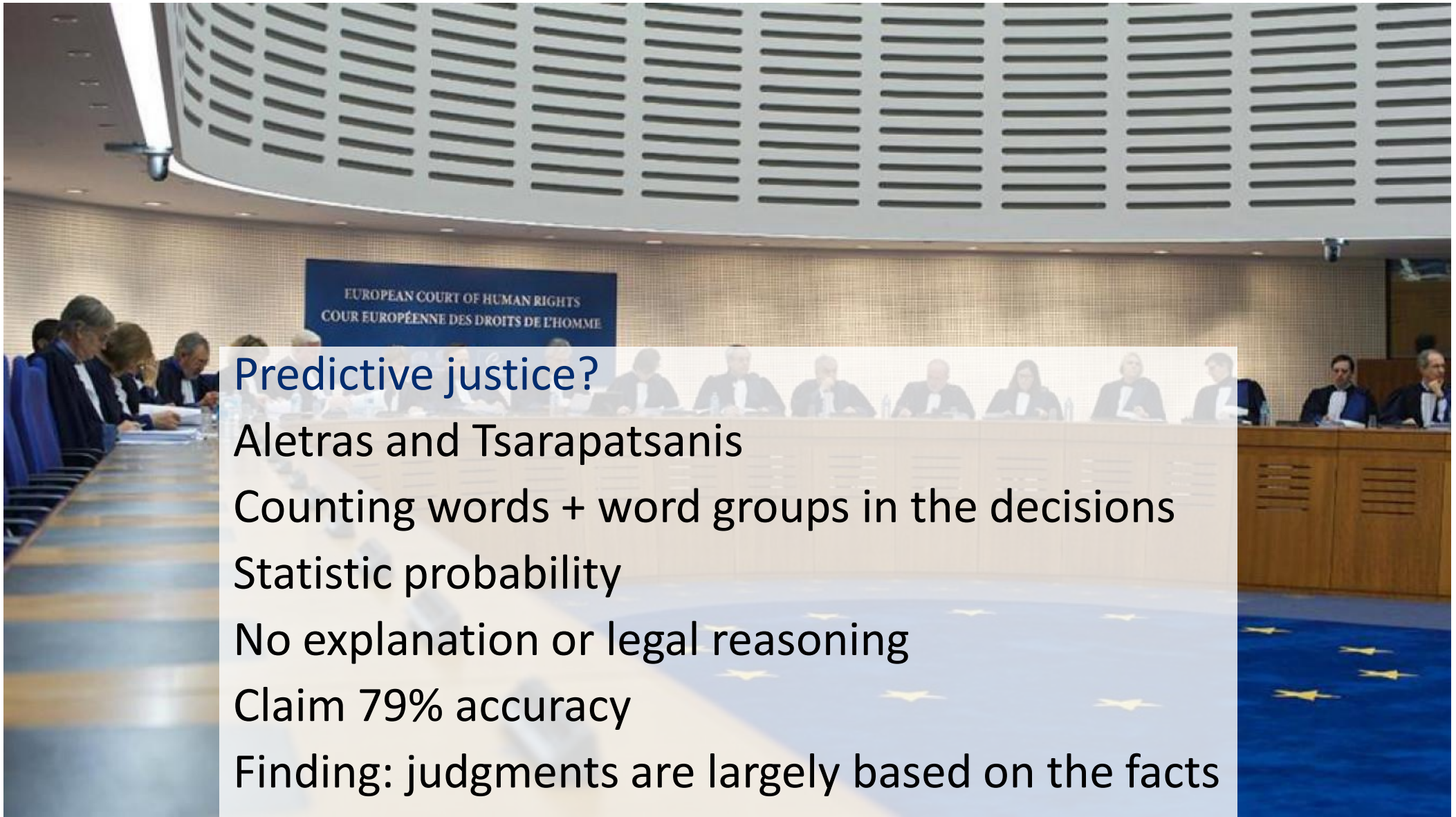
Info about judges

Political, biographical

No legal reasoning

Claim 70,2% accuracy

Predicting European Court of Human Rights outcomes



Predictive justice?

Aletras and Tsarapatsanis

Counting words + word groups in the decisions

Statistic probability

No explanation or legal reasoning

Claim 79% accuracy

Finding: judgments are largely based on the facts

Outcomes

- Is 79% good?
  - Yes/no: 50% probability,
  - all cases 84% probability the court will find some violation of ECHR

- **Analysis:**
- **judicial decision-making is significantly affected**
- **by the stimulus of the facts**.

What does AI do to the judicial system

- Bias, discrimination
- Conservative
- Test for consistency
- What if lawyers use predictions?

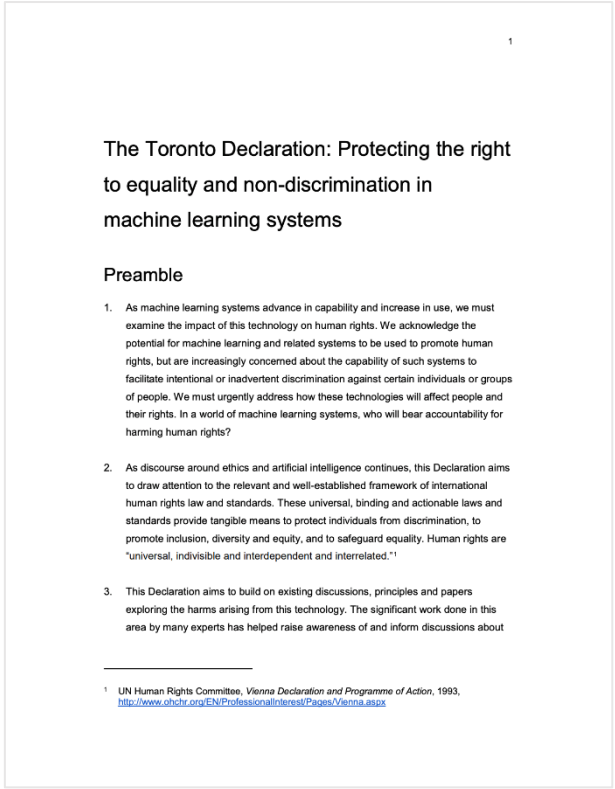
2. Issues for the administration of justice

- Data quality and quantity
- Discrimination and bias
- Lack of transparency
- And more…

Discrimination and bias

- Result:
  - ⛔ Unjust treatment of different categories of people
  - ⛔ Distinction we consider unfair

- Cause:
  - ⁉ Biased judges?
  - ⁉ Biased laws?
  - ⁉ Biased programmers?
  - ⁉ Lack of data?
  - ⁉ Bad algorithms?



The Toronto Declaration: Protecting the right to equality and non-discrimination in machine learning systems

Preamble

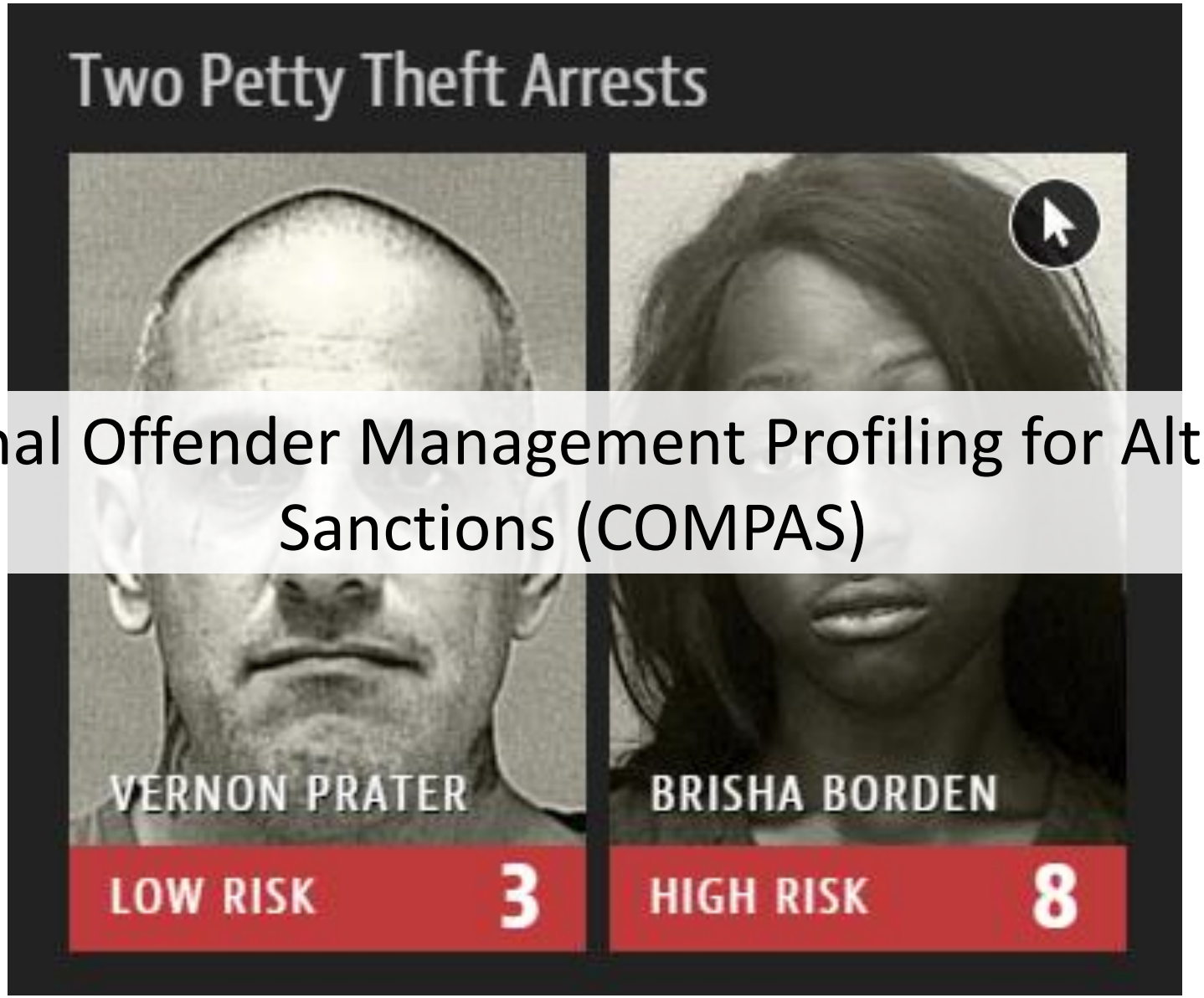
1. As machine learning systems advance in capability and increase in use, we must examine the impact of this technology on human rights. We acknowledge the potential for machine learning and related systems to be used to promote human rights, but are increasingly concerned about the capability of such systems to facilitate intentional or inadvertent discrimination against certain individuals or groups of people. We must urgently address how these technologies will affect people and their rights. In a world of machine learning systems, who will bear accountability for harming human rights?

2. As discourse around ethics and artificial intelligence continues, this Declaration aims to draw attention to the relevant and well-established framework of international human rights law and standards. These universal, binding and actionable laws and standards provide tangible means to protect individuals from discrimination, to promote inclusion, diversity and equity, and to safeguard equality. Human rights are "universal, indivisible and interdependent and interrelated."[1]

3. This Declaration aims to build on existing discussions, principles and papers exploring the harms arising from this technology. The significant work done in this area by many experts has helped raise awareness of and inform discussions about

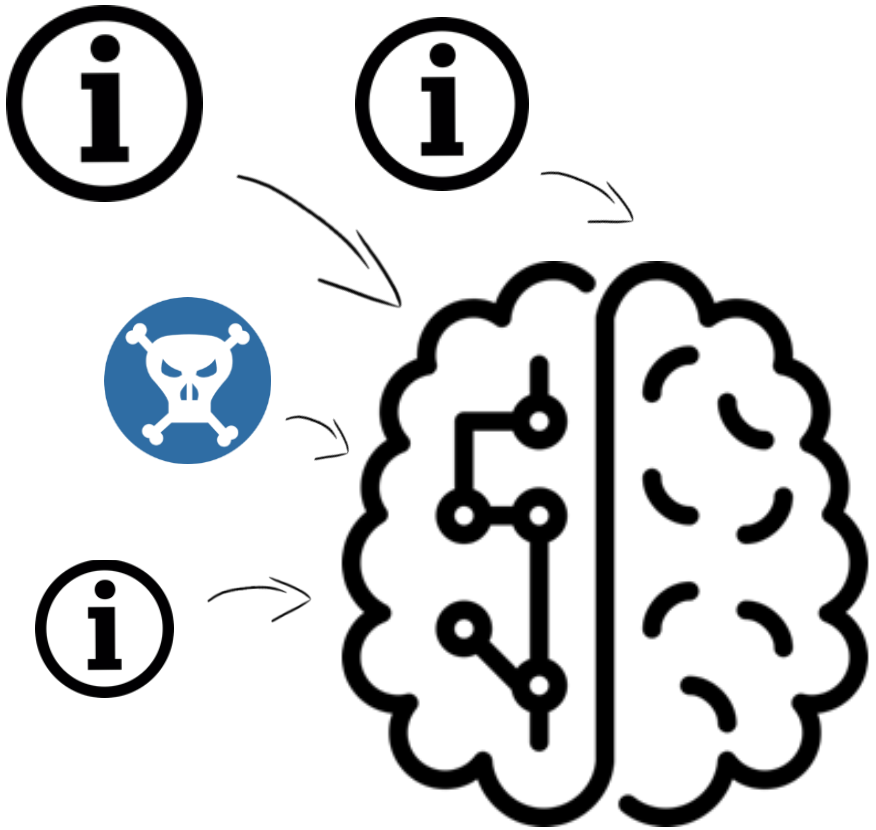
[1] UN Human Rights Committee, *Vienna Declaration and Programme of Action*, 1993, http://www.ohchr.org/EN/ProfessionalInterest/Pages/Vienna.aspx

Issues: Discrimination and bias (Compas)



Correctional Offender Management Profiling for Alternative Sanctions (COMPAS)

Data quality (and quantity)



Quality ⇢ Who controls the information?

> The court?
> The judiciary?
> Who else?

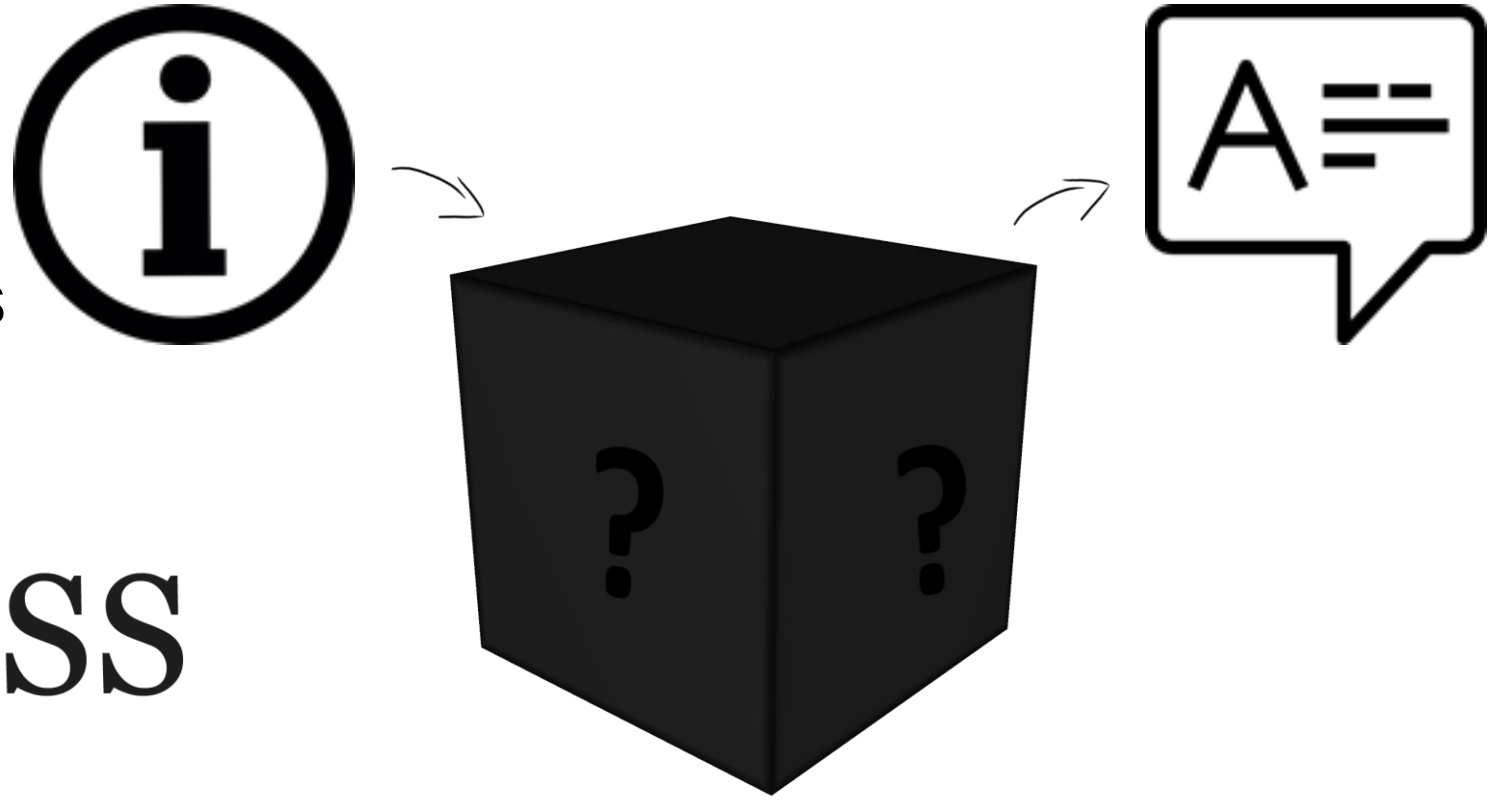
Quantity ⇢ How much is enough?

> How many court decisions to forecast case outcome?

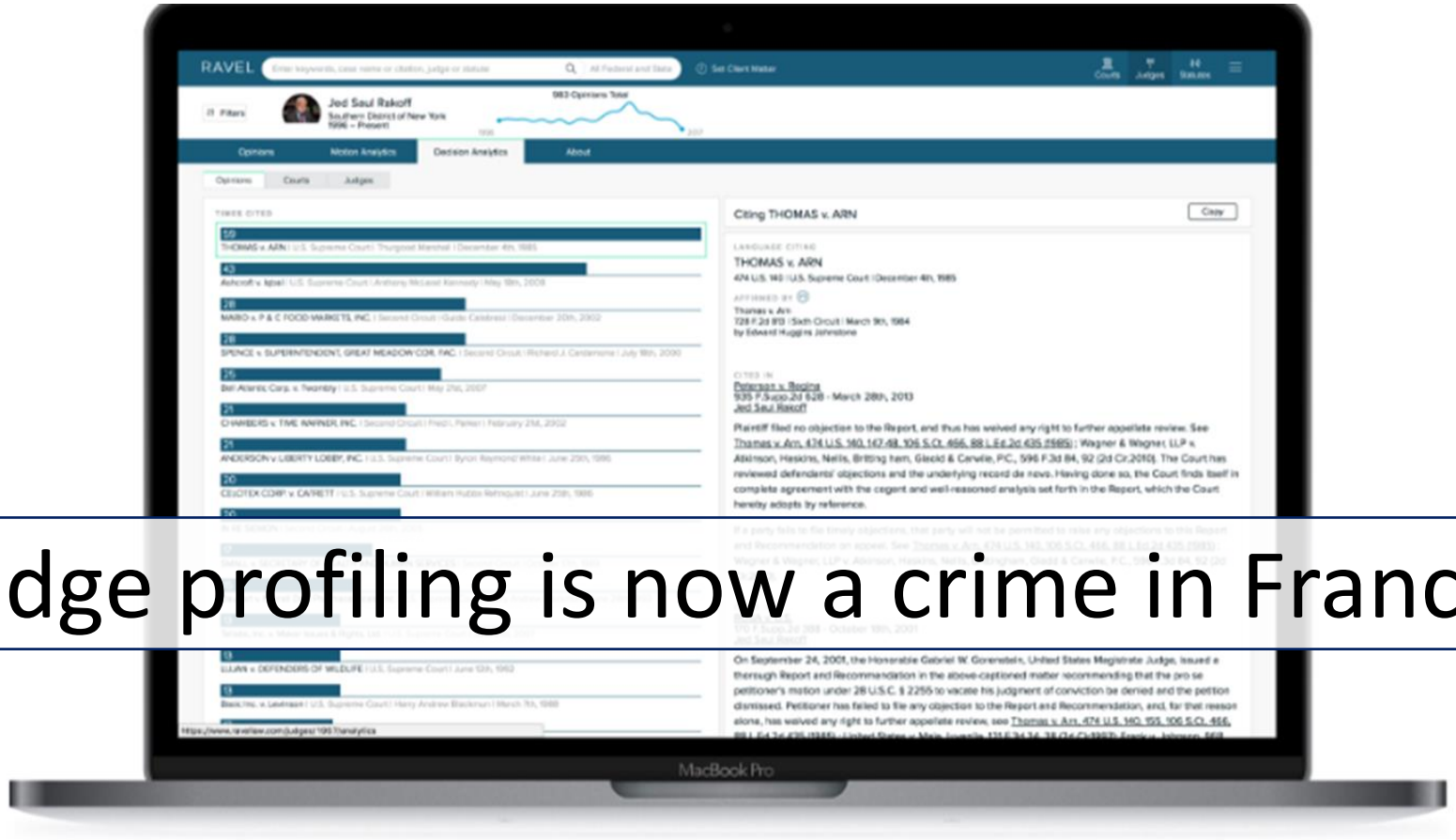
Lack of transparency

> Commercial products are proprietary software…

ROSS



Issues: Judge profiles



Judge profiling is now a crime in France

Judge Dashboard

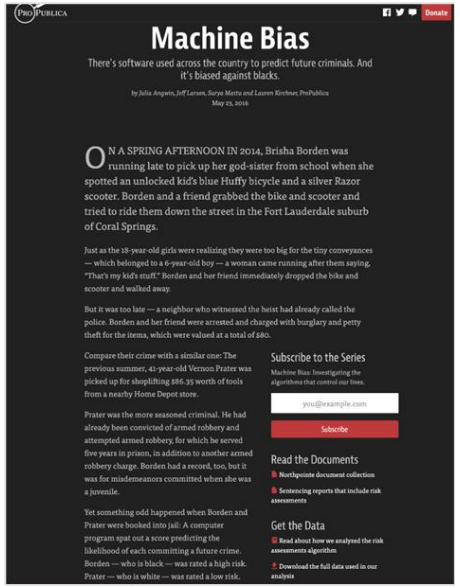
Specific Language

Litigation Strategy

Benz no. 1, the world's 1st automobile (1890s)

Not very intelligent yet

Regulating AI: human control

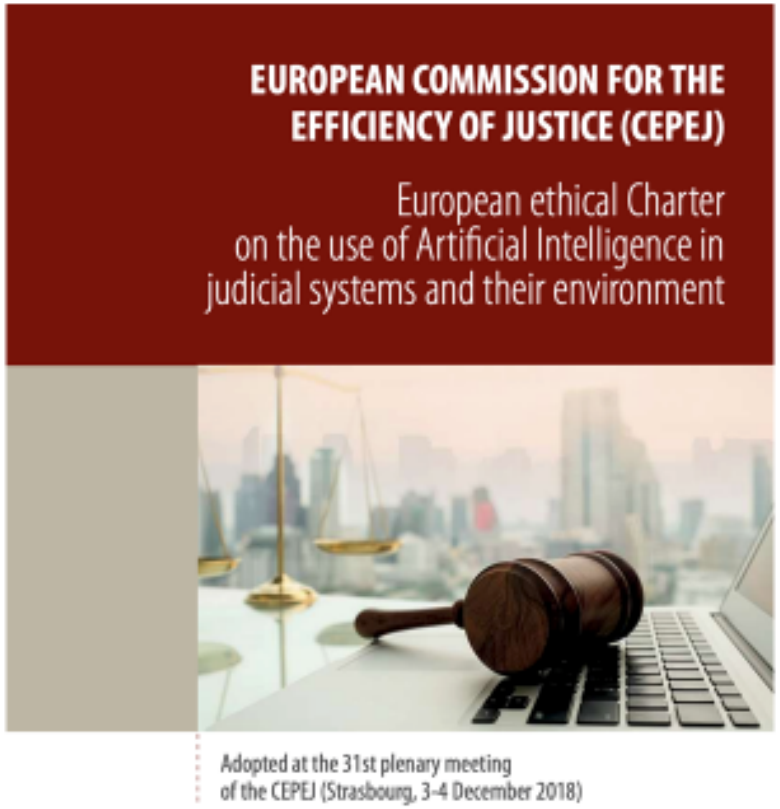


- Responsible AI
- Ethical AI
- CEPEJ Principles
- EU White paper on AI
- EU proposal for AI regulation

EUROPEAN COMMISSION

COUNCIL OF EUROPE
CONSEIL DE L'EUROPE
CONSEIL DE L'EUROPE

Regulating AI in judicial systems



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

- ✓ 1 Respect for fundamental rights
- ✓ 2 Non-discrimination
- ✓ 3 Quality and security
- ✓ 4 Transparency, impartiality and fairness
- ✓ 5 Under human control

Principle 5: AI under user control

- ✓ Preclude a **prescriptive approach**
  - ⇢ The computer does not decide on its own
- ✓ Ensure that users are **informed actors**
  - ⇢ Users know what the AI does
- ✓ Users are **in control** of their choices
  - ⇢Users can decide what to do with the AI's result

What courts need to do for AI

- Human, judiciary and court control:
  - Design
  - Development
  - Safeguarding correct workings
- Improving legal source input
  - Correct data
  - Secure data
  - Enough data
  - Machine-processable judgments