



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

# AI : which uses for judges and legal professionals ? A historical overview

**Giuseppe Contissa**

**Giovanni Sartor**

*LUISS University, Department of Law*

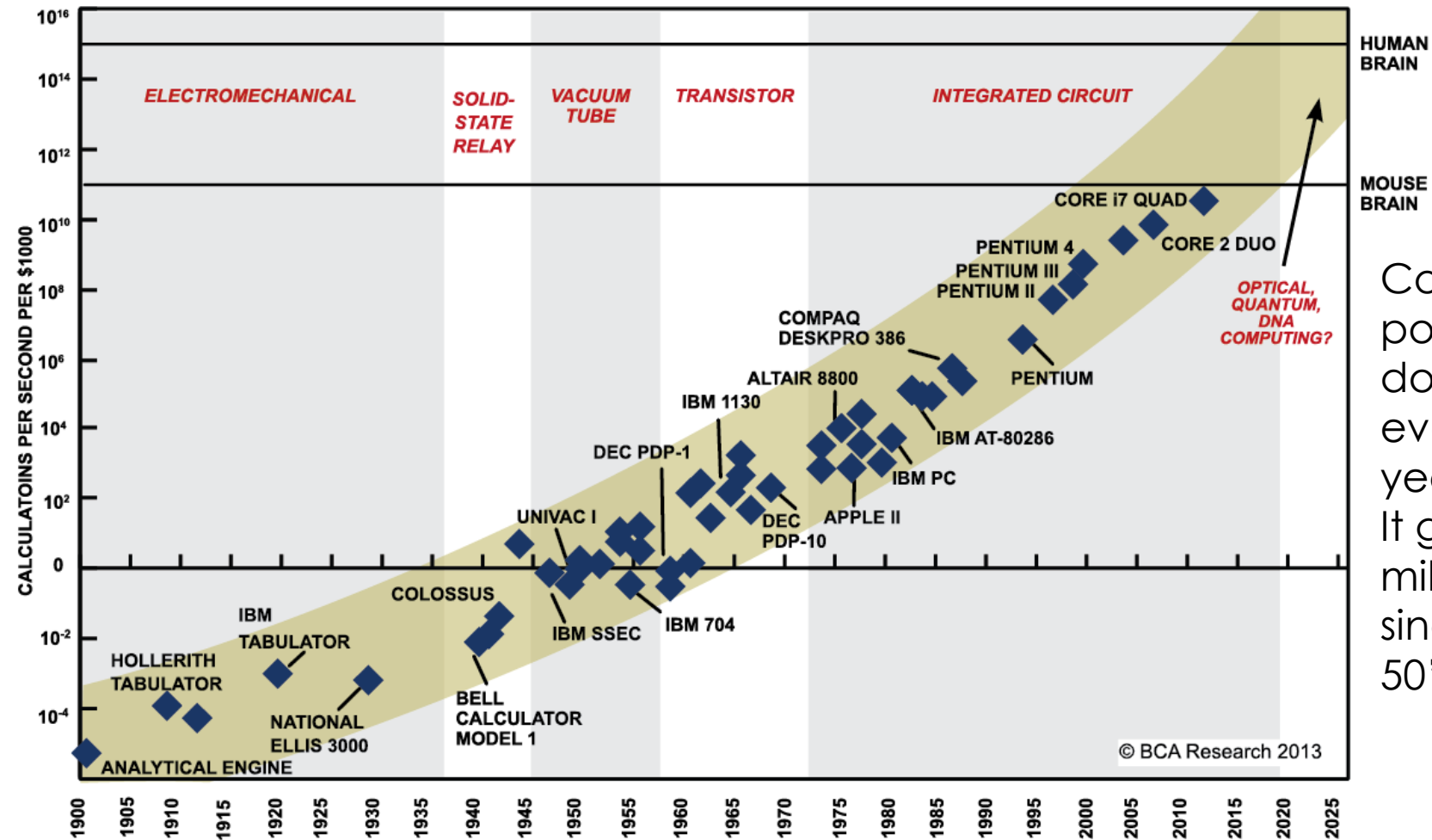
*CIRSFID - University of Bologna*

*European University Institute of Florence*

# Summary

- Computable law
  - The four enablers
- The three waves of computable law
  - Legal sources
  - Man-made models of the law
  - Data and machine learning

# Enablers for computable law: computer power

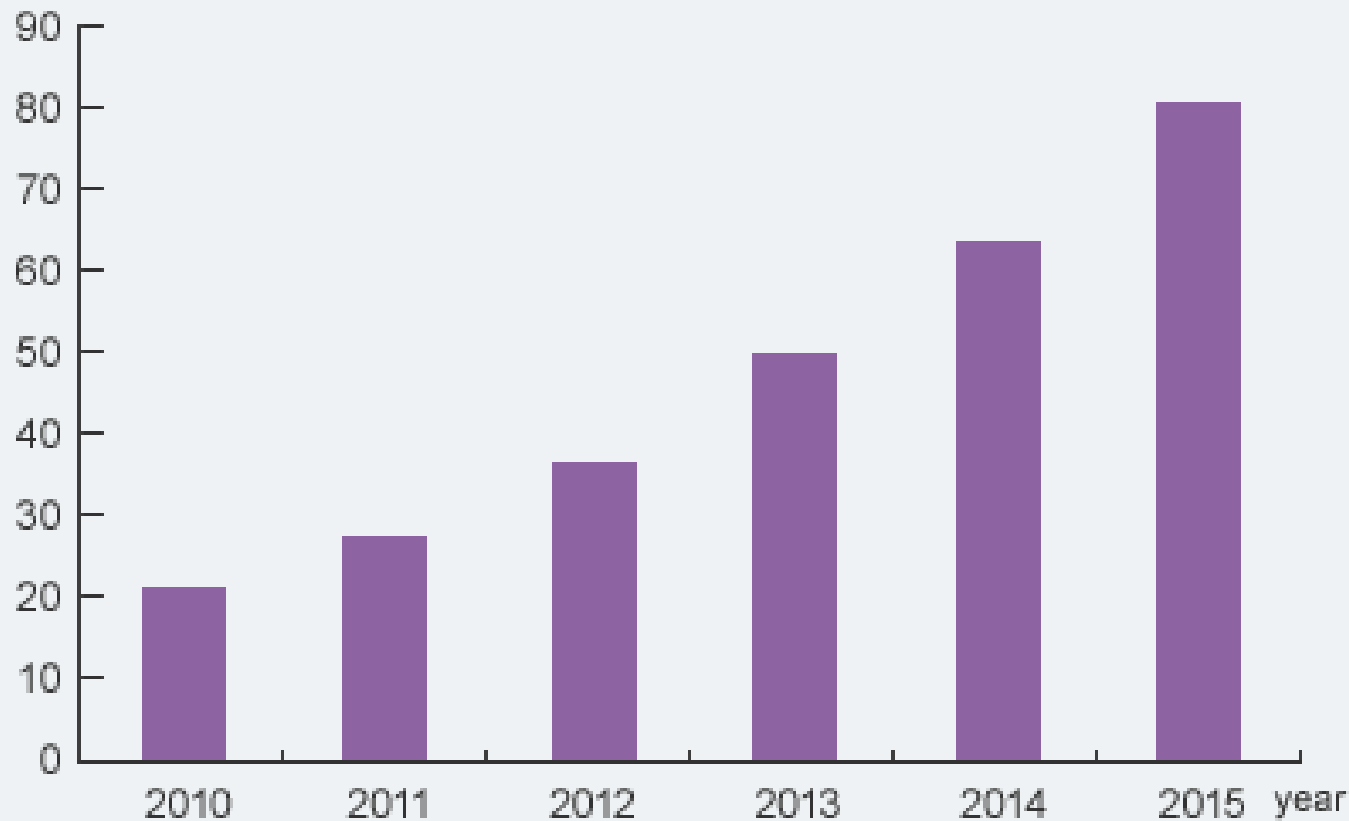


Computing power doubles every 1.5 year  
It grew 1 million times since the 50's

SOURCE: RAY KURZWEIL, "THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY", P.67, THE VIKING PRESS, 2006. DATAPOINTS BETWEEN 2000 AND 2012 REPRESENT BCA ESTIMATES.

# Enablers for computable law: Communication

(exabytes/month)



Information exchanges  
(1 Exabyte = 1 billion gigabytes)

# Big data, big business

The business of storing, decoding, and analysing data, from your Facebook updates or tweets, to figures that help companies increase profit or cut costs, is one of the hottest industries in the world today

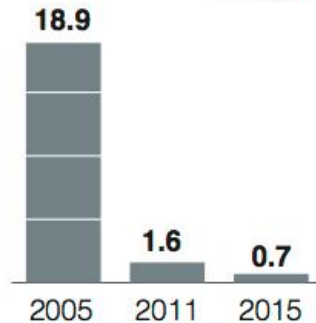
**GROWTH OF GLOBAL DATA**  
(In zettabytes)



*A zettabyte is  
1,099,511,627,776  
gigabytes*

**2020  
35**

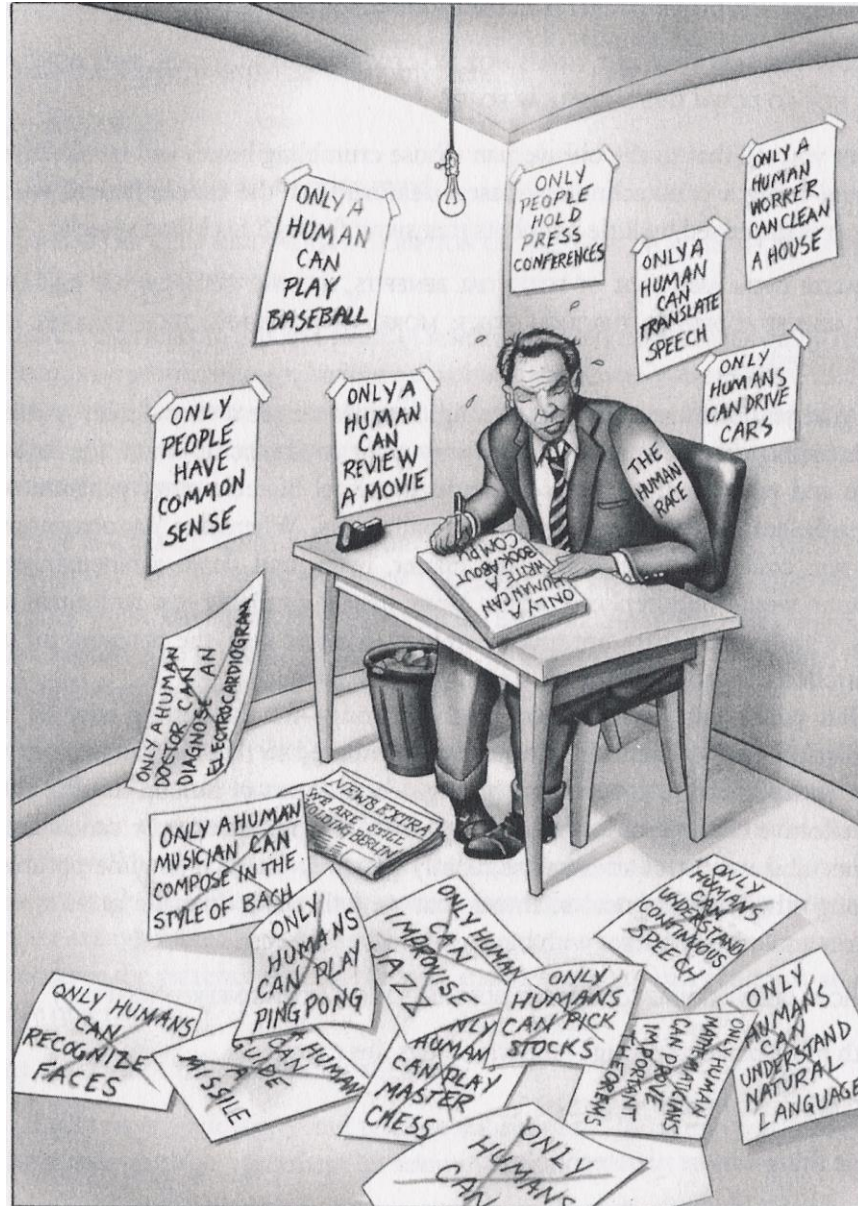
**STORAGE COST  
PER GIGABYTE**  
in US\$



# Enablers for computable law: Data

The amount of available data grows as storage cost goes down

# Enablers for computable law: AI



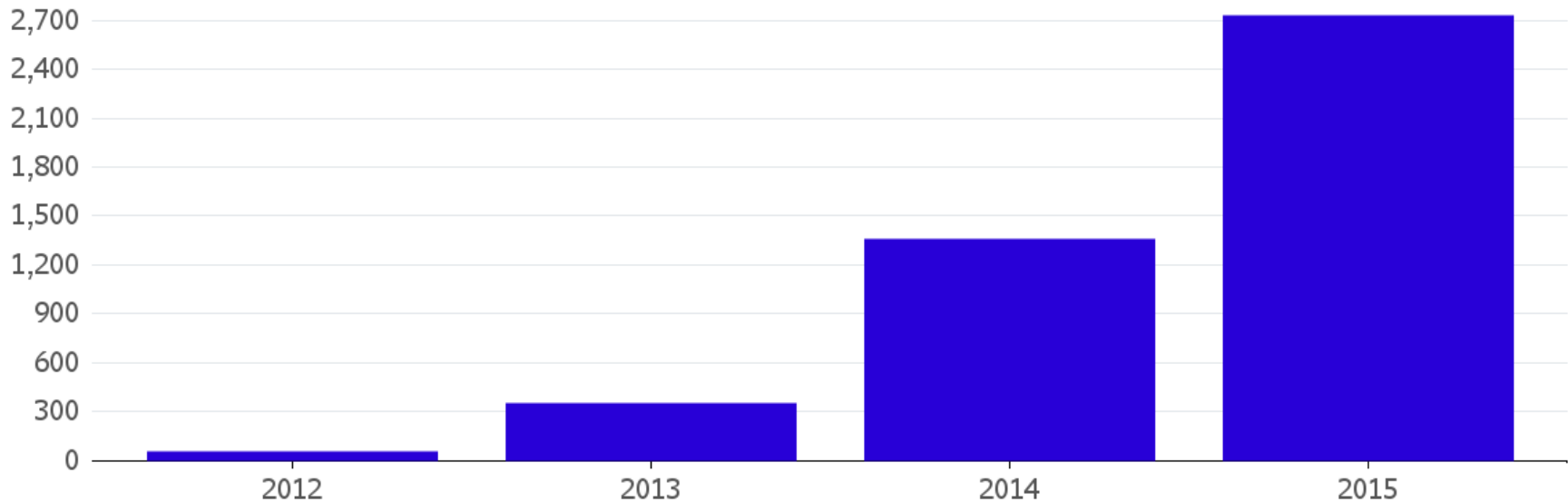
More and more  
Is done  
by intelligent machines

From Ray Kurzweil, the Age of Spiritual machines

# AI takes off !

## Artificial Intelligence Takes Off at Google

Number of software projects within Google that uses a key AI technology, called Deep Learning.



Source: Google

Note: 2015 data does not incorporate data from Q4

Bloomberg 

# The first wave of computable law: legal sources





# The first wave: legal sources



John Harty (US): first  
Legal IR system, 1959



John Bing (Norway)



Renato Borruso  
(Italgire, Italy)



Spiros Simitis  
(Germany)

# Electronic legal sources

- Input: Legal sources (statutes, regulations, cases)
- Output: retrieved/ranked documents
- Process:
  - boolean, statistical, conceptual search etc
  - consolidation, visualisation

# Legal sources



CORTE SUPREMA DI CASSAZIONE  
Centro Elettronico di Documentazione



- First legal information systems
- National and federated systems
- The web as the largest legal database
- Conceptual-intelligent search



LexisNexis™

# What about IR and judges?

- Legal information retrieval is an essential tool for a judge's work
- AI can contribute (and is already contributing) to better legal information retrieval. Some advanced functions are available in commercial systems (e.g. Lexis-nexis or Westlaw)
  - Ranking of retrieved documents
  - Citation networks
  - Conceptual retrieval (ontologies)
  - Selection of most relevant fragments (semi-summarisation)

Further prospects for making legal documents retrievable and reusable for new decisions

- Better, deeper, automated conceptual retrieval
- Argument mining (extracting relevant arguments)
- Selection and ranking of most similar cases, and extraction of most significant fragments, arguments, etc.

# The second wave of computable law: man-made models of the law



# The second wave of CL: man-made models of the law

## Step one: modeling/formalisation

- Input: sources, cases, concepts, doctrines
- Output: computable models (knowledge base)
- Process: legal programming/knowledge representation

## Step two

- Input: computable models of the law
- Output: Answers, legal qualifications, support to decision-making
- Process: Forward and backward rule chaining, deduction, defeasible reasoning, etc.

# Rule-based systems in the law

- by the 1980s, a number of researchers had implemented working systems based on manually created logical representations of rules e.g., Sergot et al. (1986) (British Nationality Act)
- difficulties of scaling the logic-based approach to the dimensions of complex, dynamic, real-world legal systems.

# The British Nationality Act as a Logic Program

1-(1) A person born in the United Kingdom after commencement shall be a British Citizen if at the time of birth his father or mother is:

- (a) a British Citizen, or
- (b) settled in the United Kingdom.

- Rule1: X acquires british citizenship on date Y
  - IF X was born in the u.k.
  - AND X was born on date Y
  - AND Y is after or on commencement of the act
  - AND X has a parent who qualified under 1.1 on date Y.
- Rule2: X has a parent who qualifies under 1.1 on date Y
  - IF X has a parent Z
  - AND Z was a British citizen on date Y
- Rule3: X has a parent who qualifies under 1.1 on date Y
  - IF X has a parent Z
  - AND Z was settled in the u.k. on date Y.



# Problems with rule-based systems in the law

- Ambiguity
- Open texture
- Density of meaning
- Need to keep updated
- Rigidity
- Non-isomorphism (mismatch of logical and textual structure)

# The bright side

However,

- Many application in public administration
- New more powerful rule languages are available
- Better interfaces to handle queries and link data

E.g.: Oracle policy automation, Raap (regulation as a platform), Coherent Knowledge

# Rules: Oracle Policy Automation

Income And Assets.doc [Compatibility Mode] - Microsoft Word

Home Insert Page Layout References Mailings Review View Developer BI Publisher Oracle Policy Modeling

Level: 3

Conclusion Rule Structure Rule Table Compile Add Attribute Configuration Table Legend Rule Name Attributes and Properties Rule Properties Attribute Editor Data Model Browser Behavior Document

the individual satisfies the income and assets test if

the individual's total cash assets < the Couple or Sole Parent Cash Asset Limit and one of

all

the individual is living in boarding accommodation and the individual's weekly board payment > the Sole Parent with 1 or more children Rent/Board rate

or

all

the individual is living in rental accommodation and the individual's total weekly rent payment > the Sole Parent with 1 or more children Rent/Board rate

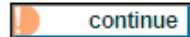
or

all



the individual is living in their own home and the individual's total costs for their own home per week > the Sole Parent with 1 or more children Own Home rate

# Explanations: Oracle Policy Automation

The entity shall report to the competent authority the information concerning the interest payment.

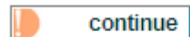
 continue

The reasoning applied in reaching this conclusion is set out in hierarchical form below. Answers you have provided to questions during the interview are presented as active links. To review or change the answers to these questions, click the links provided.

Use the expand  and contract  icons to show or hide additional detail in the report.

This conclusion is justified on the following grounds:

- Section (7) is satisfied.
  - The interest is paid by a paying agent.
    - The payment is an interest payment.
      - Section (6) is satisfied.
        - Section (6)(1) is satisfied.
          - Section (6)(1)(a) is satisfied.
            - [The payment is an interest paid or credited to an account, relating to debt claims of every kind.](#)
  - The entity is a paying agent.
    - Section (4) is satisfied.
      - Section (4)(1) is satisfied.
        - [The entity is an economic operator who pays interest to the beneficial owner.](#)
  - The individual is a beneficial owner.
    - Section (2) is satisfied.
      - Section (2)(1) is satisfied.
        - [The individual receives an interest payment.](#)
      - Section (2)(1)(a) is satisfied.
        - [The individual does not provide evidence that he acts as a paying agent within the meaning of Article 4\(1\).](#)
  - [The paying agent is established within the territory to which the Treaty applies by virtue of Article 299 thereof.](#)

 continue

# What about the judiciary and rule-based systems

Rule-based systems are significant for public administration, not so much for the judiciary:

- They only provides a simplified analysis of the law, appropriate when issues are uncontroversial and speed and accuracy are at state.
- Judges focus on controversial cases, where there is an issue to be addressed, concerning either the facts of a case, or the applicable law

In the algorithm driven society, judges should not be the mere appliers of algorithms, but rather their critical evaluators

- Address cases where rule-based systems provide no answer, or where the rules are questioned

# From rules to argumentation-based system



H. Prakken



T. Gordon



D. Walton



B. Verheij



PM Dung



T. Bench-Capon

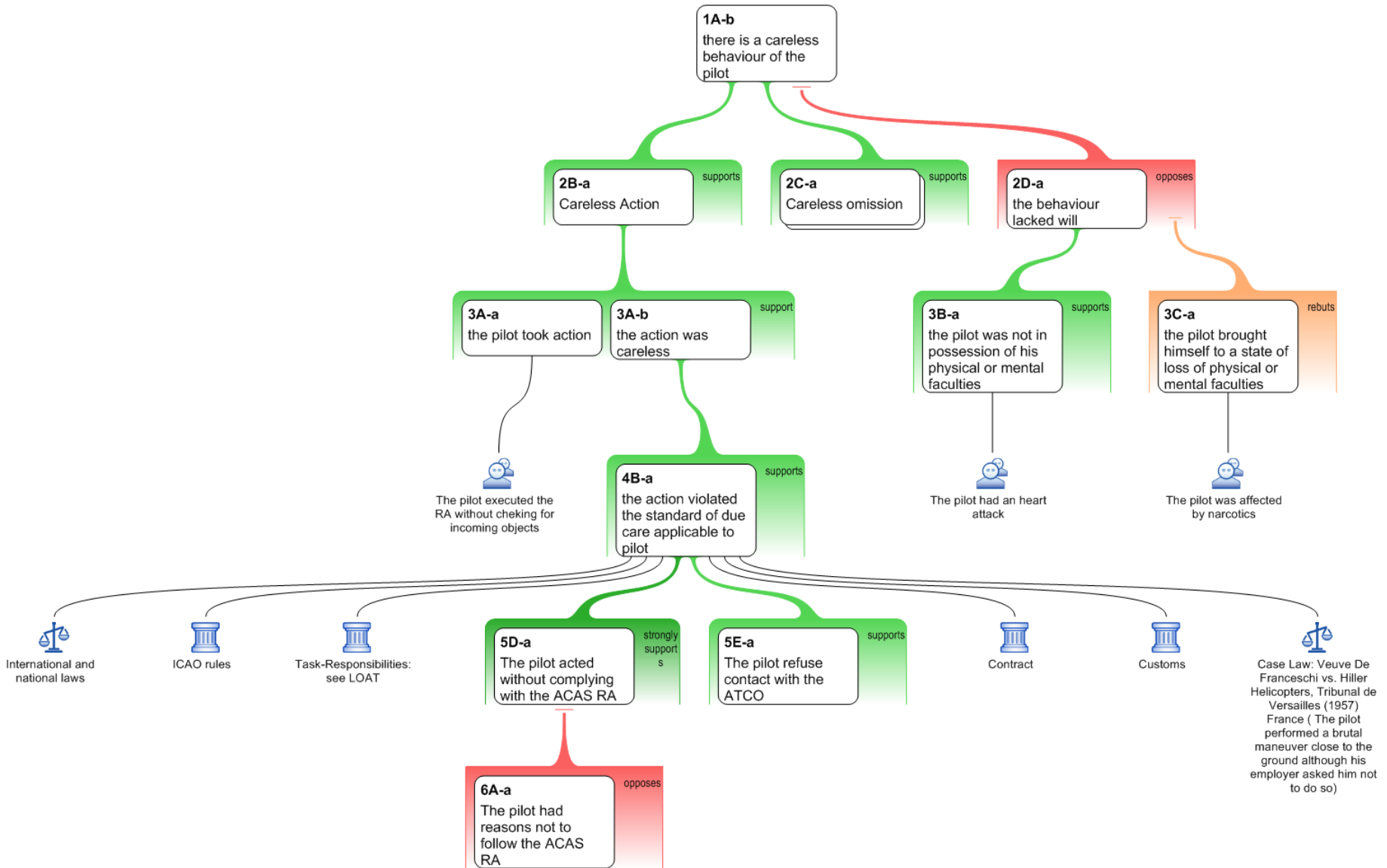


K. Atkinson



R. Loui

# Mapping arguments



# What uses for judges?

Argumentation-systems include:

- multiple rules, cases and principles, and
- multiple ways to build arguments out of them and
- Methods for organising arguments

Have not yet been commercially successful in the legal domain

Possible uses in the judiciary:

- For lawyers to present their argument
- For judges to understand the interaction of arguments presented by the parties
- On the top of system for extracting arguments and rules from cases



# The third wave of computable law: data and machine learning



# Should Lawyers Fear Big Data, or Embrace It?

ARTICLE

COMMENTS

CIVIL LITIGATION

JUDGES

LAW AND TECHNOLOGY

LAWYERS AND LAW FIRMS



By JENNIFER SMITH [CONNECT](#)

Lawyers can—and will—argue until the cows come home about whether the law is an art or a science.

But attorneys who employ a more quantitative approach to litigation could well see some substantial benefits in the courtroom, according to a draft paper out this month by a professor at the South



THE WALL STREET JOURNAL.

# Data-centric approach

- In recent years, a new area of research has emerged that performs legal problem solving using knowledge induced from collections of legal documents or other large data sets.
- Emergence of this data-centric approach coincided with development of techniques for statistical analysis of very large data sets, including large text corpora
  - **Machine learning (ML)**
    - Supervised: based on a training set (examples of input-output pairs). Once trained, the system will be able to provide correct answers for every new input
    - Unsupervised: the system autonomously classifies and organizes the input provided during the training.
  - **Legal Text analytics** (or Legal analytics, or LA): ML applied to the analysis of texts containing relevant legal data

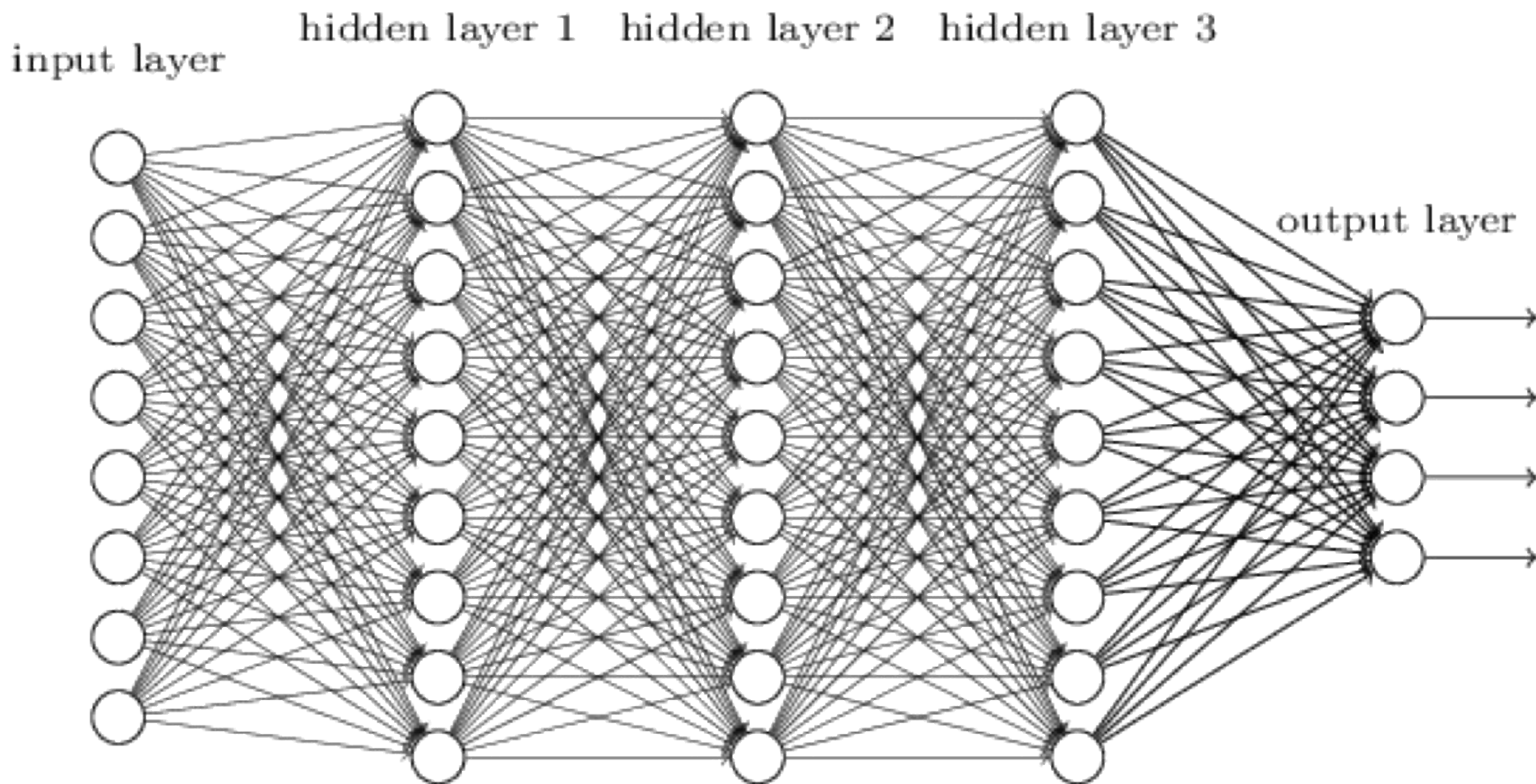
# Law prediction/rule construction

Induce rule to "explain" data: *Should defendant be released on bail?*

Case	Injury	Drugs	Weapon	Prior-record	Result
1	none	no	no	yes	yes
2	bad	yes	yes	serious	no
3	none	no	yes	no	yes
4	bad	yes	no	yes	no
5	slight	yes	yes	yes	no
6	none	yes	yes	serious	no
7	none	no	yes	yes	no

From Ashley and Gordon 2005

# Legal deep networks?



# Data-centric approach

- proliferation of legal technology companies (more than 600 by one estimate), most focused on lucrative applications in litigation support.
- Main areas of recent data-centric applications:
  1. document-oriented
  2. case-oriented

# 1. Document-oriented approaches

Focused on the analysis of individual documents.

- Information extraction: the process of identifying named entities such as places, persons, organizations, dates, claims, etc., as well as extracting more complex information, such as events and narratives.
- Automated summarization: creation of summaries of case facts, decisions, and other legal documents
- Parsing statutory texts: automated conversion of statutory text to machine-interpretable rules
- Predictive retrieval: real-time interactive retrieval of legal texts to operate predictively

# Document-oriented approaches: automated summarization

Automated summarization: creation of summaries of case facts, decisions, and other legal documents

- Approaches:
  - Abstractive summarization (AI-based approach that selects content appropriate for a summary and combines it into coherent text)
  - Summarization of parenthetical descriptions (approach that harvests parenthetical descriptions that judicial opinions place after citation to another case, and assembles them in a single summary)



# Abstractive summarization: Legalrobot (legalrobot.com)

LEGAL ROBOT

Search

Credits  
6 + 2 free



Memorandum of Terms

View/Edit Document

Report

Sign Document

## Memorandum of Terms

This is a brief Term Sheet used for venture financing of a Series A investment round. The language is fairly clear, but could be better. The terms are relatively balanced and consistent with this type of agreement. There are terms that provide Investors with common, but significant, rights like "right of first refusal", "co-sale agreement" and "no-shop period".

Confidential

LEGAL ROBOT, INC.

Memorandum of Terms

Except with respect to the provisions entitled "**Confidentiality**", which are intended to be, and are, legally binding agreements among the parties hereto, this Memorandum of Terms represents only the current thinking of the parties with respect to certain of the major issues relating to the proposed private offering and does not constitute a legally binding agreement. This Memorandum of Terms does not constitute an offer to sell or a solicitation of an offer to buy securities in any state where the offer or sale is not permitted.

### The Offering

**Issuer:** Legal Robot, Inc., a Delaware corporation (the "**Company**")

**Securities:** Series A Preferred Stock (the "**Series A Preferred**")

**Valuation of the Company:** \$5,000,000

Andrew, please clarify if this is pre-money *a month ago* by Dan Rubins



Policy

Download

Options

Compare To

Choose a document

### Edit

### Source

▼ Complexity: 2nd year college

Measure	Level	Score
Automated Readability Index	2nd year college	13.68
Flesch-Kincaid Grade Level	2nd year college	13.53
Gunning-Fog Index	3rd year college	14.83
SMOG Grade	1st year college	13.00

### Other Complexity Measures:

Measure	Score
Coleman-Liau Index	10.33
Dale-Chall Readability Score	7.63
Flesch Reading Ease	45.44
Spache Readability Index	5.41

# Summarization of parenthetical descriptions: Casetext (casetext.com)

## Filter and narrow

Search within...

 Facts and legal issues  
Powered by **CARA A.I.**

<b>Cases</b>	<b>3,775</b>
Holdings	101
Black Letter Law	1
Statutes	1
Briefs	68
Analyses	7

- All State 186
- All Federal 3,645

Select Courts

## 3,775 Cases analyzed and ranked by **CARA A.I.**

Results contextualized to  DoubleLine v. Odebrecht - ... .pdf and your search terms

### In re Braskem S.A. Sec. Litig.

246 F.Supp.3d 731 (S.D.N.Y. 2017) Cited 6 times 3 Legal Analyses

Noting that statements touting company's "commitment to transparency and good corporate governance practices," "trustworthy culture," "commitment to integrity," and "compliance with the laws," were the type of statements that courts around the country "have consistently held to be inactionable"

...defendants—Braskem, Odebrecht, and Fadigas. C. **Loss Causation** To state a claim for securities fraud under § 10(b) and Rule 10b-5, plaintiffs must also adequately plead **loss causation**. Stoneridge Inv. Partners, LLC, 552...

...plead **loss causation**, i.e., that revelation of the undisclosed bribery scheme caused Braskem's stock to drop. The Court, therefore, rejects defendants' claim that the SAC fails to plead **loss causation**. D...

### In re Banco Bradesco S.A. Sec. Litig.

1:16-cv-4155-GHW (S.D.N.Y. Sep. 29, 2017) 1 Legal Analyses

...of a security; (4) reliance upon the misrepresentation or omission; (5) economic loss; and (6) **loss causation**. "GAMCO Investors, Inc. v. Vivendi Universal, S.A., 838 F.3d

# What uses for Judges

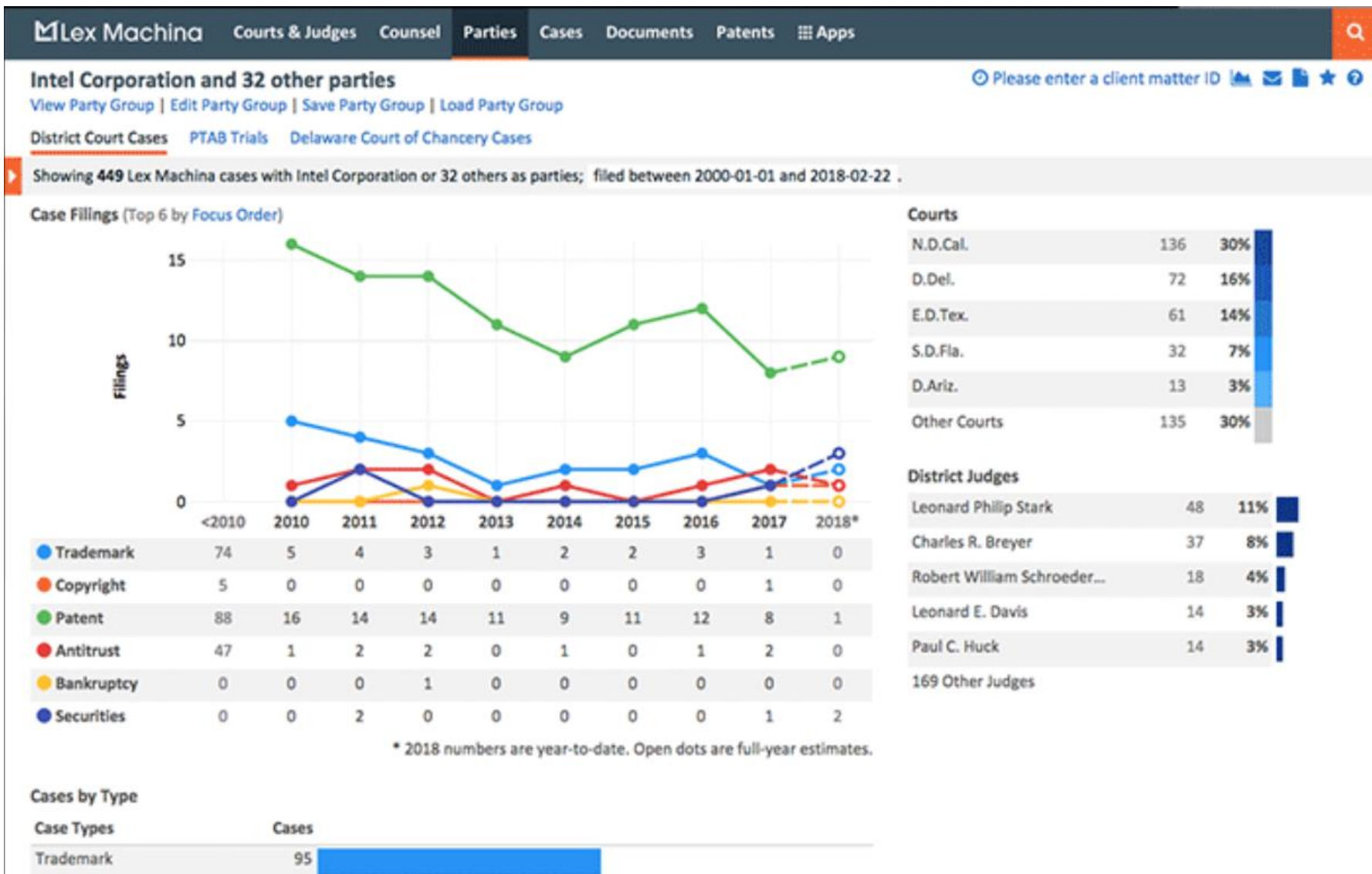
Such systems may be used to get better and quicker knowledge of cases, but also to improve and speed-up drafting

- Selection of most significant bits of previous cases
- Reuse of portion of previous documents in new ones
- Better use of precedents
- Potential for improving readability of judicial decisions

## 2. Case-oriented approaches – Predictive systems

- Focused on the significant characteristics of cases considered as a whole, such as duration, costs, and potential awards or punishments, and probability of success of claims, motions, or other pleadings.
- An area of particular interest is **litigation assistance** (i.e. providing information to improve probability of success at trial). Based on **predictive systems** dealing with:
  - Factors unrelated to the merits of the case, such as the nature of the suit, attorneys, forum, judge, parties, etc.
  - Factors related to the merits of the case, such as lexical features, events, narratives, procedural history, etc.

# Predictive systems for legal advice: Lexmachina (lexmachina.com)

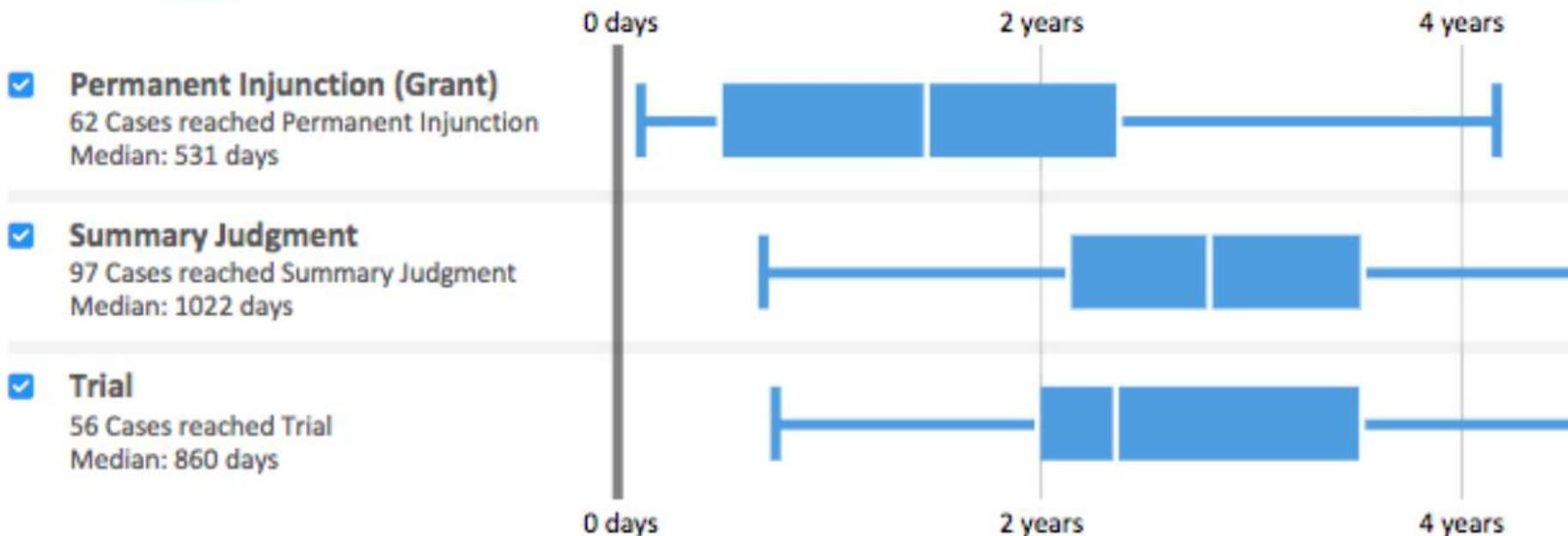


# Predictive systems for legal advice: Lexmachina (lexmachina.com)

## District Judge Leonard Philip Stark

of the U.S. District Court for the District of Delaware **D.Del.**

Summary Timing Law Firms Case Resolutions Damages Findings



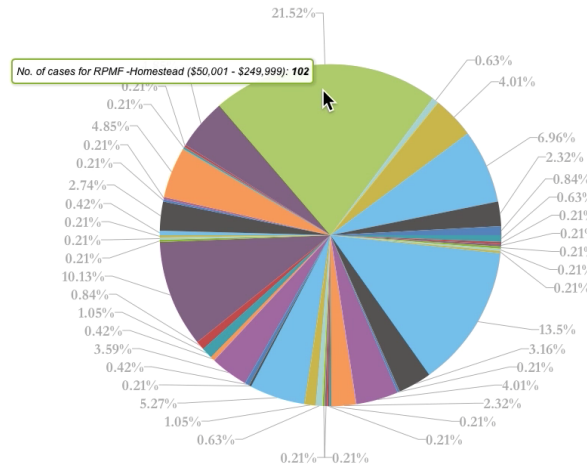
# Predictive systems for legal advice: Premonition (premonition.ai)

Michael Ellis Marder	michael.marder@gmlaw.com	gmlaw.com	251887		Greenspoon Marder, P.A.
Adam David Kemper	adam.kemper@gmlaw.com	gmlaw.com	89099		Greenspoon Marder, P.A.
Daniel Christopher Mazanec	daniel.mazanec@gmlaw.com	gmlaw.com	88737		Greenspoon Marder, P.A.
Sherine Marie Marder	sherine.marder@gmlaw.com	gmlaw.com	56268		Greenspoon Marder, P.A.
Michael S Ross	michael.ross@gmlaw.com	gmlaw.com	264997		Greenspoon Marder, P.A.
Maurice M Garcia	manny.garcia@gmlaw.com	gmlaw.com	118595		Greenspoon Marder, P.A.
Mark L Siedle	mark.siedle@gmlaw.com	gmlaw.com	604119		Greenspoon Marder, P.A.
Gerald Greenspoon	gerry.greenspoon@gmlaw.com	gmlaw.com	283983		Greenspoon Marder, P.A.
Herschel Gavsie	herschel.gavsie@gmlaw.com	gmlaw.com	285919		Greenspoon Marder, P.A.
David Michael Kubilium	david.kubilium@gmlaw.com	gmlaw.com	343780		Greenspoon Marder, P.A.
David Weisman	david.weisman@gmlaw.com	gmlaw.com	273384		Greenspoon Marder, P.A.

## Litigation history

Total	Plaintiff Attorney	Defendent Attorney	Open cases	Closed Plaintiff cases with dispositions	Plaintiff Judgments	Plaintiff Outcome	Closed Defendent cases with dispositions	Defence Dismissals	Defendent Outcome	Overall Outcome	Average Case Duration
474	456	18	364	103	44	42.72 %	7	5	71.43 %	44.55 %	186.56

## Case Type Report



- 10 - AUTO NEGLIGENCE ●103 - NEGL SECURITY ●105 - NEGL PREM LIAB COM ●107 - NEGL OTHERS ●108 - MGT/F COM \$0-\$50,000 ●111 - MTG/F RES \$0-\$50,000 ●112 - MTG/F RES \$50,001-\$249,999 ●113 - MTG/F RES \$250,000 OR MORE
- 114 - MTG/F N-RES \$0-\$50,000 ●115 - MTG/F N-RES \$50,001-\$249,999 ●116 - MTG/F N-RES \$250,000 OR MORE ●117 - REAL PROP \$0-\$50,000 ●118 - REAL PROP \$50,001-\$249,999 ●121 - OTHER BUSINESS TRANS ●126 - OTHER INSUR CLAIM
- 133 - OTHER (OTHER COMPLAINT) ●23 - CONDOMINIUM ●3 - CONTRACT & INDEBTEDNESS ●80 - DECLARATORY JUDGMENT ●81 - INJUNCTIVE RELIEF ●Auto Negligence (Greater than \$15,000) ●Business Transactions ●Comm Premises Liability
- Condominium (Greater than \$15,000) ●Contract & Indebtedness (Greater than \$15,000) ●Declaratory Judgment (Greater than \$15,000) ●Discrimination - Employment or Other ●Equitable Relief (Greater than \$15,000)
- Injunctive Relief (Greater than \$15,000) ●Insurance Claim ●Medical Malpractice ●Negligent Security ●Other Civil Complaint ●RPMF - Commercial (\$250,000 or more) ●RPMF - Homestead (\$0 - \$50,000)
- RPMF - Homestead (\$250,000 or more) ●RPMF - Homestead (\$50,001 - \$249,999) ●RPMF - Non-Homestead (\$0 - \$50,000) ●RPMF - Non-Homestead (\$250,000 or more) ●RPMF - Non-Homestead (\$50,001 - \$249,999)
- RPMF - Other Action (\$0 - \$50,000) ●RPMF - Other Action (\$50,001 - \$249,999)



Source: Greenbook, The Greenbook



# Predictive systems for legal advice: Ravel Law (ravellaw.com)

The screenshot displays the Ravel Law interface for a judge's profile. At the top, there is a search bar with the text "Enter keywords, case name, or case number". Below this, the profile for Lucy Haeran Koh is shown, including her name, a photo, and her current position: "U. S. District Court, Northern District of California (2012 - present)".

Key sections include:

- Filter Judge by Keywords:** A search box for filtering judges by keywords.
- Judges Citing Similar Cases:** A section currently showing "None to display".
- Opinions Authored:** A bar chart showing the number of opinions authored by Lucy Haeran Koh from 1980 to 2015. Below the chart is a list of cases, sorted by date, including:
  - HERNANDEZ-OREGAL v. U.S. (Case 23 cases, 2015)
  - RODRIGUEZ v. LEHIGH SOUTHWEST CEMENT COMPANY (Case 17 cases, 2013)
  - RICKLEFFS v. WARD (Case 10 cases, 2013)
  - AIRWAIR INTERNATIONAL LTD. v. SCHULTZ (Case 51 cases, 2013)
  - NORDBY CONSTRUCTION, INC. v. AMERICAN SAFETY INDEMNITY COMPANY (Case 43 cases, 2013)
  - NATIONWIDE BIWEEKLY ADMINISTRATION, INC. v. OWEN (Case 31 cases, 2013)
  - LITTERKAR v. EBIX, INC. (Case 29 cases, 2013)
  - BRESAZ v. COUNTY OF SANTA CLARA (Case 53 cases, 2013)
  - BAY HOME PRESERVATION SERVICE v. NGUYEN (Case 7 cases, 2013)
  - TAKEDA PHARMACEUTICAL CO., LTD. v. TWIN PHARMACEUTICALS, INC. (Case 0 cases, 2013)
- Opinions Cited:** A bar chart showing the number of opinions cited in opinions authored by Lucy Haeran Koh from 1980 to 2015. Below the chart is a list of cases, sorted by cited count, including:
  - LOPEZ v. SMITH (Cited in 740 cases, 9th Circuit, Michael Tully Hawkins)
  - CELOTEX CORP. v. CATRETT (Cited in 119 cases, Supreme Court, William Hubbs Rehnquist)
  - BALISTRERI v. PACIFICA POLICE DEPT. (Cited in 106 cases, 9th Circuit, Betty Binns Fletcher)
  - MANZAREK v. ST. PAUL FIRE & MARINE INS. CO. (Cited in 100 cases, 9th Circuit, Howard Murray Gould)
  - FOMAN v. DAVIS (Cited in 87 cases, Supreme Court, Arthur Joseph Goldberg)
  - ADAMS v. JOHNSON (Cited in 85 cases, 9th Circuit, Ronald Murray Gould)
  - FRYER v. VAUGHN (Cited in 83 cases, 9th Circuit, Unpublished Judge)
  - ANDERSON v. LIBERTY LOBBY, INC. (Cited in 81 cases, Supreme Court, Byron Raymond White)
  - CARVALHO v. EQUIFAX INFORMATION SERVICES, LLC (Cited in 81 cases, 9th Circuit, Unpublished Judge)
  - WESTERN MIN. CONSOL. CO. v. WATT (Cited in 80 cases, 9th Circuit, William D. Bray)
- Judges Cited:** A list of judges cited in opinions authored by Lucy Haeran Koh, including:
  - Betty Binns Fletcher (364)
  - Michael Daly Hawkins (331)
  - William Hubbs Rehnquist (327)
  - Anthony McLeod Kennedy (241)
  - Ronald Murray Gould (240)
  - Stephen Roy Reinhardt (236)
  - John Clifford Wallace (188)
  - Lewis Franklin Powell (187)
  - William A. Fletcher (186)
  - Atsushi Wallace Tashima (181)
  - Byron Raymond White (180)
  - Antonin Scalia (169)
  - Norman Randy Smith (167)



# Ross: IBM Watson as a lawyer (rossintelligence.com)

The screenshot shows the Ross AI legal research tool interface. At the top, the 'ROSS' logo is on the left, and navigation links for 'WHAT IS ROSS?', 'EVA', 'PRACTICE AREAS', 'ABOUT', 'BLOG', 'WHITEPAPER', 'LOGIN', and a 'GET STARTED' button are on the right. The main heading is 'AI Meets Legal Research', followed by a descriptive paragraph: 'ROSS is an advanced legal research tool that harnesses the power of artificial intelligence to make the research process more efficient.' Below this is another 'GET STARTED' button. A search input field contains the text 'In New York, in order to be patentable...'. Below the input, three AI-generated response cards are shown, each starting with a yellow 'A' icon and containing several lines of placeholder text. At the bottom, logos for 'KOBRE & KIM', 'BakerHostetler', 'WOMBLE BOND DICKINSON', 'VH VAN HORN', and 'JA' are displayed.

# IBM Watson

ROSS is based on IBM Watson

- Trained on the correlation between questions and answers on the basis of a vast data-sets of specific domain informations. The system can apply this knowledge to analyse new input questions and generate new possible candidate answers through a broad search on large volumes of contents.
- For each candidate answer a new hypothesis is generated.
- For each hypothesis, DeepQA tries to find evidence supporting or refuting it.
- The process results in a ranked list of candidate answers with a specific confidence score.
- The system self-updates, when new information is made available



# ROSS: areas of application

**AI Legal Search Engine:** accepts questions in plain English and returns answers based on legislation, case law, and other sources.

- It also monitors new materials added to the corpus that may be relevant to a user's previous queries.
- As users submit new versions of a question, the system forms new links between them and its pre-stored answer. In this way, Ross learns from user feedback.

**Brief Analyzer (EVA):** automated analysis of briefs

- The system processes the brief, creating hyperlinks to every case cited in the brief; the system can also check the subsequent history of cited cases, and find cases having similar language as the brief

Answers

History

All Saved Cases

New Folder

Pyramid Co.

Slick Aviation

Yellowworks

Pinkpaw

## Ask your Legal Research Question

In New York, what is secondary liability with respect to copyright infringement and how is it established?

Follow this question

Intellectual Property

Ask

## Answers

Sort by: Most Relevant Filters: Applied

### Arista Records LLC v. Usenet.com, Inc.

Dist. Ct. S.D. N.Y. | June 29, 2009 | 633 F.Supp.2d 124

... Contributory **copyright infringement** " is a form of **secondary liability** with roots in tort-law concepts of enterprise **liability** and imputed intent." Perfect 10, Inc. v. Visa Int'l Serv. Ass'n, 494 F.3d 788, 794-95 (9th Cir.2007), cert. denied, \_\_ U.S. \_\_, 128 S.Ct. 2871, 171 L.Ed.2d 811 (2008). A party is liable for contributory **infringement** if, " with knowledge of the **infringing** activity," it " induces, causes, or materially contributes to the **infringing** conduct of another." Gershwin Publ'g ... read case →

3 highlighted passages inside

Save Copy Citation

Helpful Not Helpful

### Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.

Sup. Ct. | June 26, 2005 | 545 U.S. 913, 125 S.Ct. 2764, 162 L.Ed.2d 781

... Despite the currency of these principles of **secondary liability**, this Court has dealt with **secondary copyright infringement** in only one recent case, and because MGM has tailored its principal claim to our opinion there, a look at our earlier holding is in order. In Sony Corp. v. Universal City Studios, supra, [125 S.Ct. 2777] this Court addressed a claim that **secondary liability** for **infringement** can arise from the very distribution of a commercial product. There, the product, novel at the time ... read case →

3 highlighted passages inside

Save Copy Citation

Helpful Not Helpful

### Agence France Presse v. Morel

Dist. Ct. S.D. N.Y. | May 20, 2013 | 934 F.Supp.2d 584

... **secondary liability**, a **copyright** holder need not join all **infringers** as defendants in order for the Court to consider the actions of the non-party **infringers** in determining where, within the permissible scale, a statutory damages award should fall. See, e.g., Arista Records LLC v. Usenet.com, Inc., No. 07 Civ. 8822 (HB) (THK), 2010 WL 3629688, at \*5 (S.D.N.Y. Feb. 2, 2010) (during an inquest on damages, after granting summary judgment in plaintiff's favor on direct and **secondary liability**, the court ... read case →

3 highlighted passages inside

# ROSS Brief Analyzer: List of Negatively Treated Cases

## 42 Cases with Negative Treatments

CASE NAME	CASE STATUS
Patterson v. McLean Credit Union, 491 U.S. 164, 109 S.Ct. 2363, 105 L.Ed.2d 132, 57 U.S.L.W. 4705 (U.S. 1989)	Superseded
J. I Case Co. v. Borak, 377 U.S. 426, 84 S.Ct. 1555, 12 L.Ed.2d 423 (U.S. 1964)	Overruled
Hunter v. Allis-Chalmers Corp., Engine Div., 797 F.2d 1417 (7th Cir. 1986)	Overruled
Patterson v. American Tobacco Co., 535 F.2d 257 (4th Cir. 1976)	Vacated
Jordan v. State ex rel. Department of Motor Vehicles & Pub. Safety, 110 P.3d 30, 121 Nev. 44 (2005)	Overruled
Gersman v. Group Health Ass'n, Inc., 931 F.2d 1565 (D.C. Cir. 1991)	Vacated
Warth v. Seldin, 422 U.S. 490, 95 S.Ct. 2197, 45 L.Ed.2d 343 (U.S. 1975)	Superseded
Harris v. Forklift Systems Inc., 510 U.S. 17, 114 S.Ct. 367, 126 L.Ed.2d 295, 62 U.S.L.W. 4004 (U.S. 1993)	Overruled
Grubb v. W. A. Foote Memorial Hospital Inc., 533 F.Supp. 671 (D. Mich. 1981)	Modified
Leatherman v. Tarrant County Narcotics, 507 U.S. 163, 113 S.Ct. 1160, 122 L.Ed.2d 517, 61 U.S.L.W. 4205 (U.S. 1993)	Criticized
Rowlett v. Anheuser-Busch, Inc., 832 F.2d 194 (1st Cir. 1987)	Criticized
Jones v. Alfred H. Mayer Co., 392 U.S. 409, 88 S.Ct. 2186, 20 L.Ed.2d 1189 (U.S. 1968)	Criticized
Johnson v. Railway Express Agency, Inc., 421 U.S. 454, 95 S.Ct. 1716, 44 L.Ed.2d 295 (U.S. 1975)	Criticized

[⬆️ Back to Top](#)

# ROSS Brief analyzer: similar language

ROSS

## Highlighted Language:

... In upholding that result, this Court stressed that the inevitable discovery doctrine is "closely related" to the independent source doctrine ...

## Top Results for Similar Language:

### State v. Cook

Idaho Ct. App. | February 8, 1984 | 677 P.2d 522, 106 Idaho 209

... Inevitable **discovery** occupies an uncertain place in this mosaic. Although called a third exception to the exclusionary rule, in reality it extends the concept of an **independent source** to cover hypothetical--rather than actual--sources of evidence. Thus, under the **inevitable discovery doctrine**, ... read case →

1 highlighted passage inside

### Smith v. State

Alaska | November 21, 1997 | 948 P.2d 473

... In this case we are called upon to decide whether evidence obtained illegally may be admissible under the "**inevitable discovery**" or "**independent source**" exceptions to the exclusionary rule. We hold that the "**independent source**" exception does not apply, and remand the case for consideration of the ... read case →

3 highlighted passages inside

### State v. Jackson

Wis. | June 1, 2016 | 882 N.W.2d 422, 369 Wis.2d 673, 2016 WI 56

... [¶52] The **inevitable discovery doctrine** is not the same as the **independent source doctrine**, the **Court** explained, but it is " **closely related**" because evidence that inevitably will be discovered is like evidence from an **independent source**. " There is a functional similarity between these two ... read case →

2 highlighted passages inside

# ROSS Brief analyzer: automated overview

The screenshot displays the ROSS Brief analyzer interface. At the top, there are navigation links for 'Brief Analysis' and 'Case Search'. A 'Generate Overview' button is visible in the top right corner. The main content area shows a legal document snippet with a 'Targeted Overview' popup window overlaid. The popup window has a title 'Targeted Overview' and a close button 'X CLOSE'. The text in the popup reads: '...The opinion settles upon the doctrine of inevitable discovery--a doctrine new to Idaho law. (p. 534)... Despite its uncertain ancestry, the nascent doctrine of inevitable discovery continued to attract adherents. (p. 536)... Thus, the Supreme Court neither endorsed nor eschewed the inevitable discovery doctrine. (p. 536)... However, several illustrative cases suffice to show why the doctrine should not be applied here. (p. 537)... These cases demonstrate that the doctrine of "inevitable discovery" is still struggling to establish a clear identity separate from the "independent source" doctrine. (p. 537)... We conclude that the doctrine of inevitable discovery need not, and should not, be invoked in this case. (p. 539)...'. Below the text, there are options to 'View Tips', 'Is this overview helpful?' with 'Yes' and 'No' buttons, and a 'Copy to Clipboard' link. The background text is partially obscured by the popup but includes phrases like 'State v. Co', 'FULL CASE', 'inadmissibl', '[Application', 'sacred and', 'may be pro', 'cannot be u', 'Conseq', '"independe', '"poisoned f', '266, 84 L.E', 'exclusionar', '"become so', 'd become', 'urce they', 'own wrong', 'm an', 't or the', '50 S.Ct.', 'the', 'has', 'Inevitable discovery occupies an uncertain place in this mosaic. Although called a third exception to the exclusionary rule, in reality it extends the concept of an independent source to cover hypothetical--rather than actual--sources of evidence. Thus, under the inevitable discovery doctrine, evidence illegally obtained may be admitted even though it was not obtained through an actual independent source, so long as the court is satisfied that another, hypothetical source inevitably would have yielded the evidence. This broadening of the independent source doctrine is said to have begun in *Wong Sun v. United States*, 371 U.S. 471, 83 S.Ct. 407, 9 L.Ed.2d 441 (1963). In that case, federal narcotic agents entered a building in a manner later held to be unlawful. They arrested an'. A 'Back to Top' button is located in the bottom right corner of the interface.

# What uses for judges

Predictive systems anticipate the existing correlations between (sets of) features of cases and (1) decisions (2) factual forecasts

Systems linking features and decisions are predictive for lawyers, they enable lawyers

- To anticipate chances of success (possibly reducing litigation)
- To select or search for aspects of the case that increase chance of success
- To develop their arguments

Such systems may be useful for judges

- To have better awareness of trends in the case law
- To anticipate how a possible decision will stand in the context of the case law



# Predictive policing

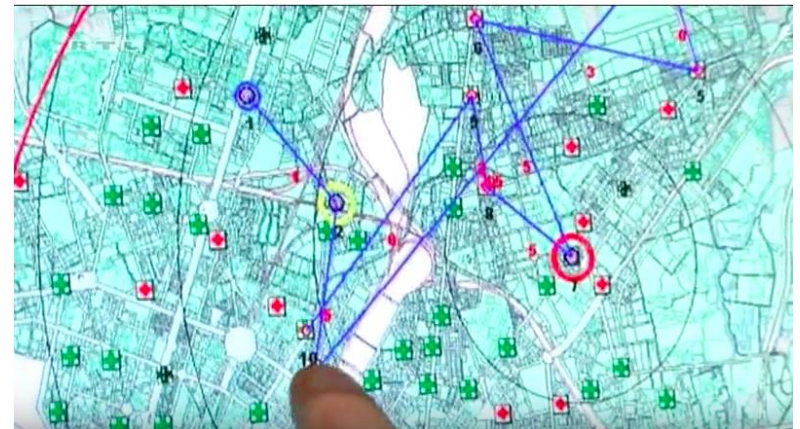
Algorithmic systems used for the following purposes (RAND report, 2013):

- Predicting crimes
- Predicting offenders
- Identifying perpetrators
- Predicting victims

## Predpol



## Keycrime



**"I'm not going to get more money. I'm not going to get more cops. I have to be better at using what I have, and that's what predictive policing is about"**

Los Angeles Police Chief Charlie Beck, CBS Evening News

# Predictive systems - issues

Systems linking features and factual forecasts may be useful to the extent that judicial decisions may be based on future forecasts (e.g. social risks, social benefits):

- Problematic example: COMPAS (recidivism)

**The next few statements are about what you are like as a person, what your thoughts are, and how other people see you. There are no 'right or wrong' answers. Just indicate how much you agree or disagree with each statement.**

112. "I am seen by others as cold and unfeeling."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
113. "I always practice what I preach."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
114. "The trouble with getting close to people is that they start making demands on you."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
115. "I have the ability to "sweet talk" people to get what I want."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
116. "I have played sick to get out of something."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
117. "I'm really good at talking my way out of problems."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
118. "I have gotten involved in things I later wished I could have gotten out of."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
119. "I feel bad if I break a promise I have made to someone."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree
120. "To get ahead in life you must always put yourself first."  
 Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree

# Cognitive computing legal apps

## BRIDGING LEGAL TEXTS AND COMPUTATIONAL MODELS

- Use of ML to analyse legal documents
- Identify the portions of texts that contain the legal rules, legal holdings and findings of fact, arguments justifying conclusions, and explanations of reasons, as well as particular legal factors and evidence factors

## LUMINANCE ([luminance.com](http://luminance.com))

- A complete platform for the analysis and automated annotation of legal documents, and anomaly detection

## CLAUDETTE (CLAUse DETecTEr - [claudette.eui.eu](http://claudette.eui.eu))

- An automated detector of unfair and unlawful clauses in online consumer contracts

# Luminance: document annotation and anomaly detection

Any attempt to assign this Agreement without such written consent shall be null and void. This Agreement binds the Parties, their respective participating subsidiaries, affiliates, successors and permitted assigns.

17.10. **Governing Law.** In the event the VoicePhone subsidiary entity from which Customer has purchased the Licences is located in: (a) The United States of America, Canada, Latin America, this Agreement shall be governed by and construed in accordance with the laws of the State of California and the courts of the California shall have non-exclusive jurisdiction to determine any disputes, which may arise out of, under, or in connection with this Agreement; and (b) any other country, this Agreement shall be governed by and construed in accordance with the laws of England and Wales and the courts of England and Wales shall have exclusive jurisdiction to determine any disputes, which may arise out of, under, or in connection with this Agreement, however, VoicePhone or its affiliate may, bring suit for payment in the country where the Customer Affiliate that placed the Schedule is located. Customer and VoicePhone agree that the United Nations Convention on Contracts for the International Sale of Goods will not apply.

17.11. **Change in Control.** In the event of and in connection with a transaction that would constitute a change of control, the customer shall have the right to deal with any or all obligations under this contract in the manner it deems fair and reasonable.

"Change in Control" means the occurrence of any one or more of the following:

(i) Any Person becomes an Acquiring Person, except as the result of (A) any acquisition of Voting Securities of the Company by the Company or (B) any acquisition of Voting Securities of the Company directly from the Company (as authorized by the Board).

(ii) Individuals who constitute the Incumbent Board cease for any reason to constitute at least a majority of the Board; and for this purpose, any individual who becomes a member of the Board after the date of this Agreement whose election, or nomination for election by holders of the Company's Voting Securities, was approved by the vote of at least a majority of the individuals then constituting the Incumbent Board shall be considered a member of the Incumbent Board (except that any such individual whose initial election as director occurs as the result of an actual or threatened election contest, within the meaning of Rule 14a-11 under the Exchange Act, or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board shall not be so considered).

(iii) The consummation of a reorganization, merger, share exchange, consolidation, or sale or disposition of all or substantially all of the assets of the Company unless, in any case, the Persons who or which Beneficially Own the Voting Securities of the Company immediately before that transaction Beneficially Own, directly or indirectly, immediately after the transaction, at least 75% of the Voting Securities of the Company or any other corporation or other entity resulting from or surviving the transaction (including a corporation or other entity which, as the result of the transaction, owns all or substantially all of Voting Securities of the Company or all or substantially all of the Company's assets, either directly or indirectly through one or more subsidiaries) in substantially the same proportion as their respective ownership of the Voting Securities of the Company immediately before that transaction.

17.12. **Export Restrictions.** The Offering provided under these terms is for Customer's internal use and not for further commercialization. The Customer acknowledges that the Offering may be classified and controlled as encryption items under the United Kingdom's Export Regulations, the United States Export Administration Regulations and other national regulations. If Customer exports, imports or otherwise transfers products and/or deliverables provided under these terms, Customer hereby agrees that Customer will use, disclose and/or transport the Offering in accordance with any applicable export control laws and regulations and will not re-export or re-transfer the Offering to any destination subject to restrictive sanctions measures or trade embargoes implemented at a national, regional or international level without fulfilling any applicable governmental requirements in connection with Customer's use, disclosure and/or transport of the Offering and relating to any such transfer. Customer will indemnify, defend, and hold harmless VoicePhone from and against any claim, loss, liability, or damage suffered by VoicePhone related to Customer's breach of this provision.

17.13. **Export/Re-export Notice - Government Purposes (applicable to United States government customers)**

9.3 Additional Clause

9

of 1948 similar documents have an additional clause here

Additional:

- Change Of Control

Show Differences

Similar Anomalies

Info

Document Cluster: 10003  
Document Type: Sales Agreement  
Folder: Customer Agreements  
Language: English

Clauses 23

- Assignment 1
- Change Of Control 1
- Effects Of Termination 1
- Entire Agreement 1
- Force Majeure 1
- Governing Law 1
- Indemnification 3
- Intellectual Property 3
- Limitation Of Liability 2
- Ownership 1
- Party 1
- Representations And Warranties 3
- Term 1
- Termination 3

Currencies 1

Percentages 2

Locations 2

Governing Laws 5

Dates 2

Anomalies 1

Additional Clause

Notes 0

9 of 12

# CLAUDETTE (claudette.eui.eu)

## CLAUDETTE

### An Automated Detector of Potentially Unfair Clauses

Claudette found 3 potentially unfair clauses (displayed in **bold**) out of 39 sentences.  
By hovering your cursor over each unfair sentence, you can see the most likely unfairness category.

Limitation of Liability unfair clause

[...]  
**5.3 HeinOnline shall not be liable for any loss, injury, claim, liability or damage of any kind resulting from the unavailability of the Database, interruption of the services provided hereunder, or arising out of or in connection with your use of the Database or Materials.**

[...]  
**MISCELLANEOUS MATTERS 6.1 This agreement and usage of Heinonline and/or any other William S. Hein and Co., websites shall be interpreted and construed according to, and governed by, the laws of the State of New York or United States Federal law, as applicable, excluding any such laws that might direct the application of the laws of another jurisdiction.**

[...]  
**6.2 Any controversy or claim arising out of or relating to this Agreement or the breach thereof, shall be settled by arbitration, including joint and/or consolidated arbitration where practicable, conducted in English, in Buffalo, New York, in accordance with the Commercial Arbitration Rules of the American Arbitration Association.**

Share link

Save results

# What uses for judges

Such systems may be useful for judges:

- to investigate and answer legal questions
- to provide explanations
- to make arguments for and against legal conclusions
- to improve predictions of case outcomes

 **LUISS** Università  
Guido Carli



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

***Giuseppe Contissa***

***Giovanni Sartor***

*LUISS University, Department of Law*

*CIRSFID - University of Bologna*

*European University Institute of Florence*