University
of
São Paulo

Center for
Artificial
Intelligence

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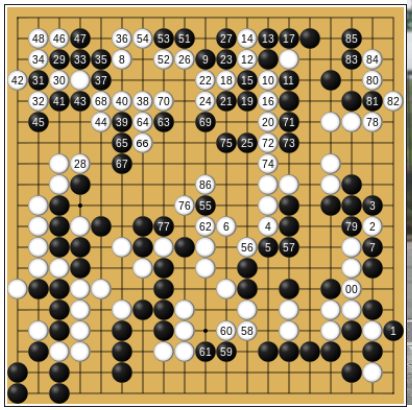
Expert Systems	Data Systems
Estrutura pré-definida	Estrutura adaptativa: modelos matemáticos com parâmetros abertos
Fundamento: raciocínio • Base de conhecimento • Máquina de inferências	Foundation: classificação • Funções lineares • Probablilísticos • Redes neurais • etc.
• Inteligível (Explainable)	• Escala



Código Penal

Art. 124 - **Provocar aborto** em si mesma ou consentir que outrem lho provoque; Pena - detenção, de um a três anos.

Art. 128 - **Não** se pune o aborto **praticado por médico**:
I - se não há outro meio de **salvar a vida da gestante**;
II - se a gravidez resulta de **estupro e** o aborto é precedido de **consentimento da gestante**

```
IF médico
      AND risco de vida
            OR estupro
                  AND consentimento

THEN Permitido aborto

ELSE
      NOT permitido aborto
```

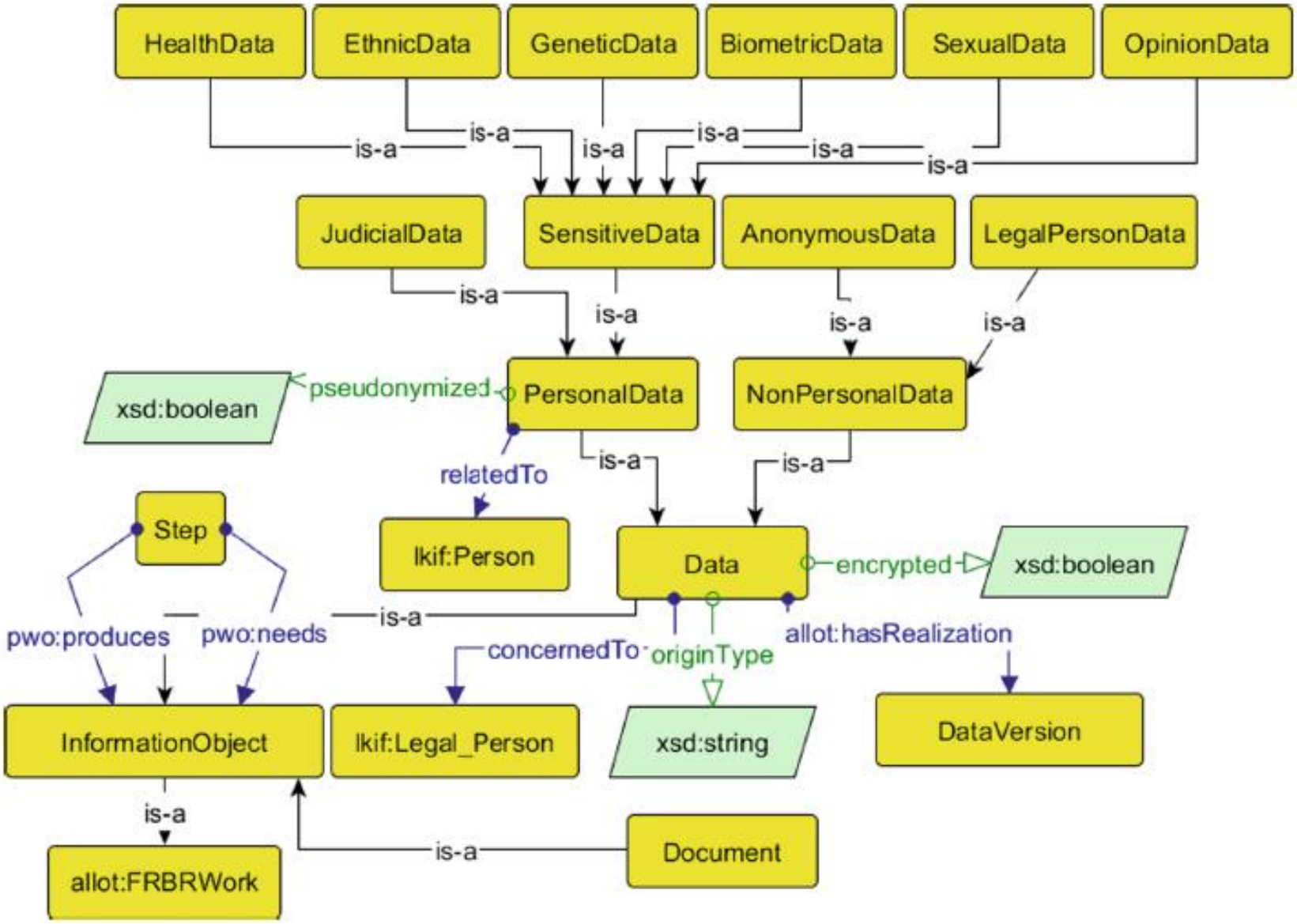


Fig. 2. Document and data module

Legal Text

«The data subject shall have the **right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format** »

Logic rule

IF

datasubject(X) ∧ personalData(D) ∧ controller(Y) ∧ legalBasis (consent or contract) ∧ automatedProcess(D)

THEN

obligation_to_provide_in_mrf(Y,D, X)

Everyone who has income ought to pay tax

Law School
Department of Philosophy and Legal Theory
Prof. Juliano Maranhão

```
<lrml:PrescriptiveStatement>
    <ruleml:Rule closure="universal">
        <ruleml:if>
            <ruleml:Atom>
                <ruleml:Rel iri=”income" />
                <ruleml:Var key=":x">x</ruleml:Var>
            </ruleml:Atom>
        </ruleml:if>
        <ruleml:then>
            <lrml:Obligation>
                <ruleml:Atom>
                    <ruleml:Rel iri=”paytax" />
                    <ruleml:Var keyref=":x" />
                </ruleml:Atom>
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    </ruleml:Rule>
</lrml:PrescriptiveStatement>
```
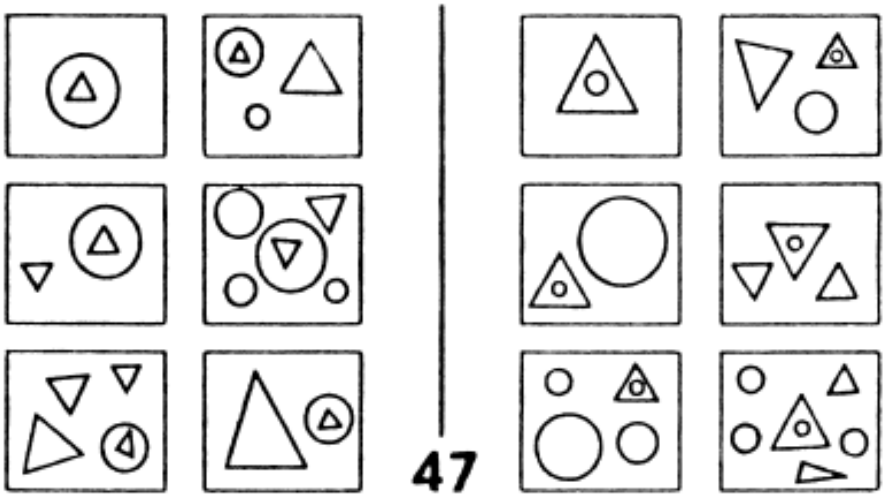
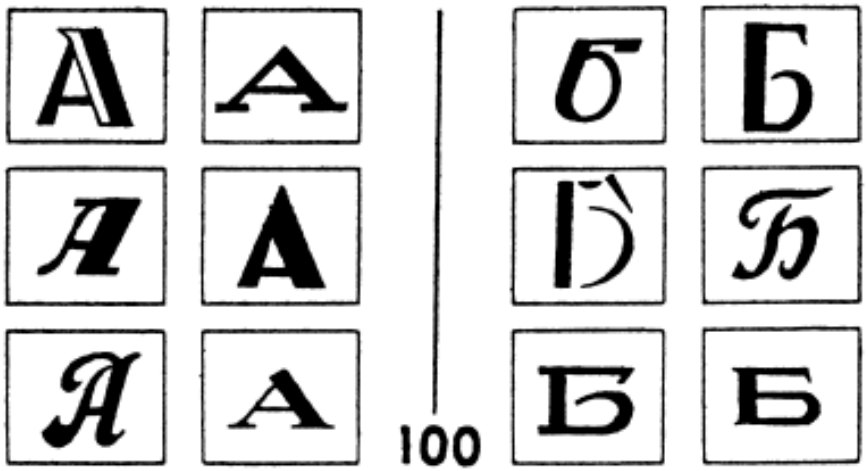
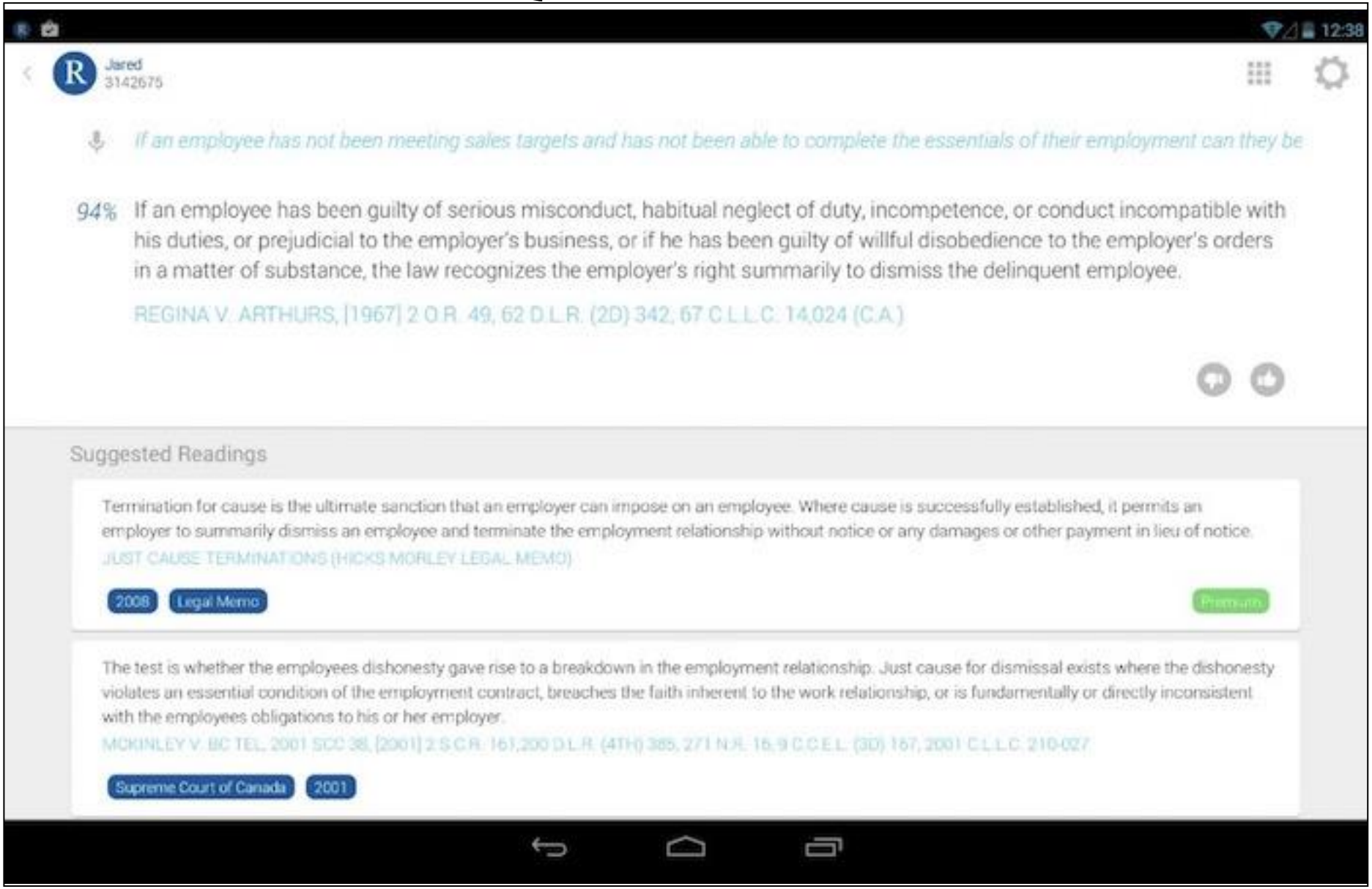

Reconhecimento de padrões

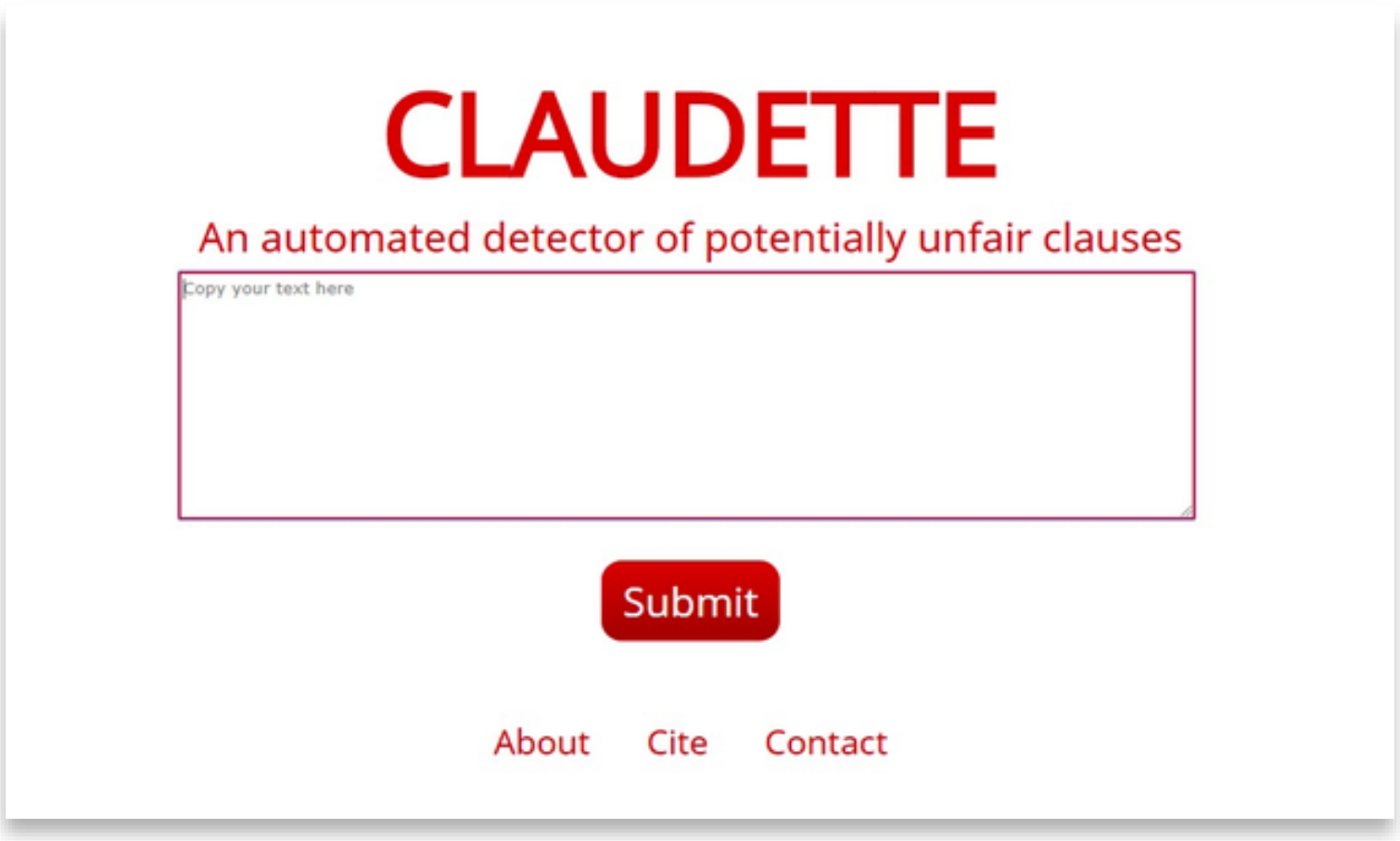


60s Mikhail Bongard



Q&A: Ross


12:38
Jared
3142675
If an employee has not been meeting sales targets and has not been able to complete the essentials of their employment can they be
94% If an employee has been guilty of serious misconduct, habitual neglect of duty, incompetence, or conduct incompatible with his duties, or prejudicial to the employer's business, or if he has been guilty of willful disobedience to the employer's orders in a matter of substance, the law recognizes the employer's right summarily to dismiss the delinquent employee.
REGINA V. ARTHURS, [1967] 2 O.R. 49, 62 D.L.R. (2D) 342, 67 C.L.L.C. 14,024 (C.A.)
Suggested Readings
Termination for cause is the ultimate sanction that an employer can impose on an employee. Where cause is successfully established, it permits an employer to summarily dismiss an employee and terminate the employment relationship without notice or any damages or other payment in lieu of notice.
JUST CAUSE TERMINATIONS (HICKS MORLEY LEGAL MEMO)
2008
Legal Memo
Premium
The test is whether the employees dishonesty gave rise to a breakdown in the employment relationship. Just cause for dismissal exists where the dishonesty violates an essential condition of the employment contract, breaches the faith inherent to the work relationship, or is fundamentally or directly inconsistent with the employees obligations to his or her employer.
MCKINLEY V. BC TEL, 2001 SCC 38, [2001] 2 S.C.R. 161,200 D.L.R. (4TH) 385, 271 N.R. 16, 9 C.C.E.L. (3D) 167, 2001 C.L.L.C. 210-027
Supreme Court of Canada
2001



http://claudette.eui.eu

categories of unfairness

Type of unfair clause	Tag
Jurisdiction	<j>
Choice of law	<law>
Limitation of liability	<ltd>
Unilateral termination	<ter>
Unilateral change (of contract or service)	<ch>
Arbitration	<a>
Content removal	<cr>
”Contract by using”	<use>

Critérios inesperados para definer padrão

Diego M. Radzinschi (ALM)

The Genealogy of Ideology: Predicting Agreement and Persuasive Memes in the U.S. Courts of Appeals

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ABSTRACT

We employ machine learning techniques to identify common characteristics and features from cases in the US courts of appeals that contribute in determining dissent. Show that our models were able to predict vote alignment with an average F1 score of 73%. Exploration into which factors help in arriving at this accuracy show that the length of the opinion, the number of citations in the opinion, and voting valence, are all key factors. These results indicate that certain high level characteristics of a case can be used to predict dissent. We also explore the influence of dissent using seating patterns of judges, and our results show that raw counts of how often two judges sit together plays a role in dissent. In addition to the dissents, we analyze the notion of memetic phrases occurring in opinions - phrases that see a small spark of popularity but eventually die out in usage - and try to correlate them to dissent.

CCS CONCEPTS

•**Computing methodologies** →*Machine learning*; Artificial intelligence; •**Applied computing** →**Law**;

KEYWORDS

U.S. Courts of Appeals, judges, n-grams, citation network, memes, machine learning.

ACM Reference format:
Shivam Verma, Adithya Parthasarathy, and Daniel L. Chen. 2017. The Genealogy of Ideology: Predicting Agreement and Persuasive Memes in the U.S. Courts of Appeals. In *Proceedings of ICAIL '17, London, United Kingdom, June 12-16, 2017*, 4 pages.
DOI: 10.1145/3086512.3086544

1 INTRODUCTION

Past and recent advances in machine learning techniques and natural language processing augur an increase in their use and importance in the analysis of legal literature. A number of recent studies use machine learning on Supreme Court and other law datasets to make interesting predictions, such as predicting the outcome of Supreme Court decisions [9], something which legal experts are notoriously unsuccessful at, or predicting authorship of unsigned judicial opinions [12].

Our overarching objective is two-fold - firstly, to predict the vote alignment between two Court of Appeals judges based on their historical voting record, as well as other case-based and judge-based features. Secondly, we consider how seating and citation patterns between judges affect their voting. Thus, in addition to using the voting history, we also make use of the citation and seating networks among judges.

2 DATA

The original dataset contains opinions from 387,898 cases (1880-2013), collected by one of the authors, as well as features for these cases from "The United States Courts of Appeals database" [14]. For this paper, we use a manually coded (or *labelled*) sample of 5% of all cases, where additional features cover the legal areas of the case, participants, and the motions involved. This data is randomly sampled among the years and weights are assigned to each circuit year according to the proportion of the universe of cases contained in the particular circuit and year. We make use of the list of judges on a case to construct a seating graph. We also use a dataset of U.S. Courts of Appeals Judge biographies, from "The Judicial Research Initiative" [6].

3 APPROACH

We construct a number of features, belonging to the following main categories:

(1) **Judge Bio**: We use data from The Judicial Research Initiative [6] and cross reference the judge's ID with the code for the judges in the case document to merge the two together. This gives us about 269 features [8]. Features included year of commission, law degree institution, etc.
(2) **Case characteristics**: We use 228 features on case characteristics [14, 15], history of the case, nature of the case, the participants and issue coding. Features included year of decision, state of court, total number of appellants, type of the case, commonly used constitutional provisions etc.
(3) **Proceedings of the case**: We use the text from the case document to extract out the case proceedings in the form of n-grams. Commonly occurring n-grams between judges were considered as features.
(4) **N-grams, Citation and Seating patterns**: The seating and citation graphs provide data on how often two judges

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ICAIL '17, London, United Kingdom

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DOI: 10.1145/3086512.3086544

Provimento 88/2019- CNJ

Art. 5º Os notários e registradores devem avaliar a existência de SUSPEIÇÃO nas operações ou propostas de operações de seus clientes, dispensando especial atenção àquelas INCOMUNS ou que, por suas características, no que se refere a partes envolvidas, valores, forma de realização, finalidade, complexidade, instrumentos utilizados ou pela falta de fundamento econômico ou legal, possam configurar indícios dos crimes de lavagem de dinheiro ou de financiamento do terrorismo, ou com eles relacionar-se.

Art. 8° Os notários e registradores são os responsáveis pela implantação das políticas, procedimentos e controles internos de prevenção à lavagem de dinheiro e ao financiamento do terrorismo no âmbito da serventia

Art. 20 Sem prejuízo dos indicativos específicos de cada uma das atividades previstas nos capítulos seguintes, podem configurar indícios da ocorrência de crimes de lavagem de dinheiro ou de financiamento do terrorismo, ou com ele relacionar-se:

I - a operação que aparente não resultar de atividades ou negócios usuais do cliente ou do seu ramo de negócio;

II - a operação cuja origem ou fundamentação econômica ou legal não sejam claramente aferíveis;

III - a operação incompatível com o patrimônio ou com a capacidade econômico financeira do cliente;

X - a operação injustificadamente complexa ou com custos mais elevados, que visem dificultar o rastreamento dos recursos ou a identificação do seu real objetivo;

XI - a operação fictícia ou com indícios de valores incompatíveis com os de mercado;

XII - a operação com cláusulas que estabeleçam condições incompatíveis com as praticadas no mercado;

XV - a operação que indique substancial ganho de capital em um curto período de tempo;

Art. 26 Podem configurar indícios da ocorrência dos crimes de lavagem de dinheiro ou de financiamento do terrorismo, ou com eles relacionar-se, além das hipóteses previstas no art. 20:

I - doações de bens imóveis ou direitos reais sobre bens imóveis para terceiros sem vínculo familiar aparente com o doador, referente a bem imóvel que tenha valor venal atribuído pelo município igual ou superior a R$100.000,00 (cem mil reais);

IV - registro de aquisição de imóveis por fundações e associações, quando as características do negócio não se coadunem com as finalidades prosseguidas por aquelas pessoas jurídicas.

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