

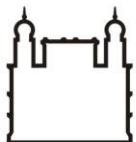


HYPERMODELEX



AI for Parliaments and its Role in Rationalizing and Systematizing Regulatory Norms

Prof. Monica Palmirani –
University of Bologna
CIRSFID-ALMA AI – Italy
24 October 2023



Ministério da Saúde

FIOCRUZ

Fundação Oswaldo Cruz



Indice

- AI e Parlamento
- Questioni teoriche
- Problemi metodologici
- Questioni empiriche

ChatGPT is now writing legislation. Is this the future?



Analysis by [Cristiano Lima](#)
with research by [Aaron Schaffer](#)

January 23, 2023 at 8:55 a.m. EST

But in what may be a first, a Massachusetts state senator has used a [surging new tool](#) to help write a bill aimed at restricting it: ChatGPT, the artificial intelligence chatbot.

Intervento al Senato della Repubblica con ChatGPT

Parla il senatore che si è fatto scrivere un intervento in aula da ChatGPT

La provocazione dell'esponente di Azione-IV Marco Lombardo, che rilancia: "È adesso che bisogna parlarne"



Artificial Intelligence (AI) in parliaments – preliminary analysis of the Eduskunta experiment

Fotios Fitsilis 

Pages 621-633 | Published online: 10 Sep 2021

 Download citation  <https://doi.org/10.1080/13572334.2021.1976947>



GPT Takes the Bar Exam

December 29, 2022

Michael Bommarito II ^{1,2,3,*}, Daniel Martin Katz ^{1,2,3,*}

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- 2 Bucerius Law School (Hamburg, Germany)
- 3 CodeX - The Stanford Center for Legal Informatics (Stanford, CA USA)

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Abstract

Nearly all jurisdictions in the United States require a professional license exam, commonly referred to as “the Bar Exam,” as a precondition for law practice. To even sit for the exam, most jurisdictions require that an applicant completes at least seven years of post-secondary education, including three years at an accredited law school. In addition, most test-takers also undergo weeks to months of further, exam-specific preparation. Despite this significant investment of time and capital, approximately one in five test-takers still score under the rate required to pass the exam on their first try. In the face of a complex task that requires such depth of knowledge, what, then, should we expect of the state of the art in “AI”? In this research, we document our experimental evaluation of the performance of OpenAI’s TEXT-DAVINCI-003 model, often-referred to as GPT-3.5, on the multistate multiple choice (MBE) section of the exam. While we find no benefit in fine-tuning over GPT-3.5’s zero-shot performance at the scale of our training data, we do find that hyperparameter optimization and prompt engineering positively impacted GPT-3.5’s zero-shot performance. For best prompt and parameters, GPT-3.5 achieves a headline correct rate of 50.3% on a complete NCBE MBE practice exam, significantly in excess of the 25% baseline guessing rate, and performs at a passing rate for both Evidence and Torts. GPT-3.5’s ranking of responses is also highly-correlated with correctness; its top two and top three choices are correct 71% and 88% of the time, respectively, indicating very strong non-entailment performance. While our ability to interpret these results is limited by nascent scientific understanding of LLMs and the proprietary nature of GPT, we believe that these results strongly suggest that an LLM will pass the MBE component of the Bar Exam in the near future.

	GPT	GPT Top 2	GPT Top 3	NCBE
Evidence	63%	84%	98%	65%
Torts	62%	72%	93%	71%
Civil Procedure	52%	63%	79%	59%
Constitutional Law	49%	67%	87%	72%
Real Property	45%	72%	83%	65%
Contracts	45%	77%	86%	70%
Criminal Law & Procedure	35%	62%	86%	71%

Table 2. Summary of performance by question category for GPT-3.5 and NCBE-Reported Students

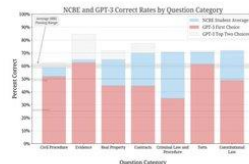


Fig 1. Summary of performance by question category for GPT-3.5 and NCBE-Reported Students

Progression of GPT Models on the MBE

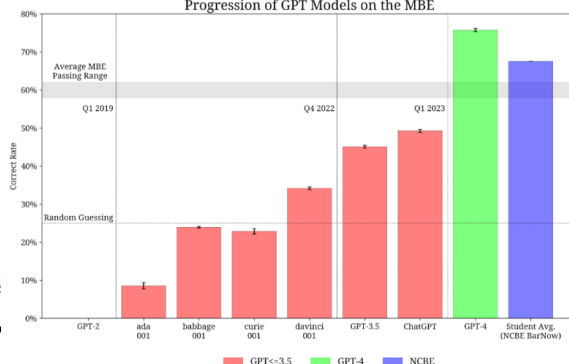


Fig :



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ELSEVIER



Computer Law & Security Review

Volume 48, April 2023, 105772



Comment

Representing legislative Rules as Code: Reducing the problems of ‘scaling up’

[lowbray](#) , [Philip Chung](#) , [Graham Greenleaf](#)  



 Mendeley  Share  Cite

eLegal – evoluzione nel tempo

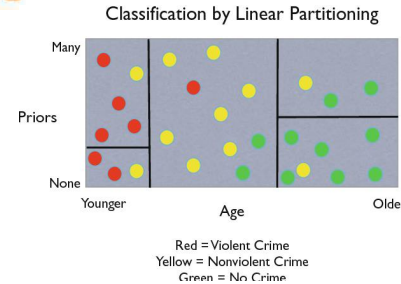


```
pragma solidity ^0.4.17;

contract SimpleStorage {
    uint storedData;

    function set(uint x) public {
        storedData = x;
    }

    function get() public view returns (uint) {
        return storedData;
    }
}
```



AI and Law

Programmazione logica – symbolic AI

Semantic Web e Knowledge representation

ML, Classificazione, clustering, NLP, predizione

Legal data analytics

Blockchain & Smart Contract

«Rules As Code»

CRACKING THE CODE
RULEMAKING FOR HUMANS AND MACHINES

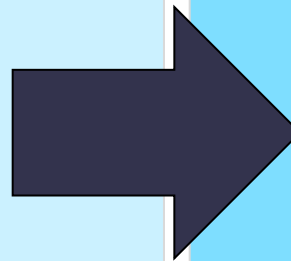
@OPSIGOV OPSI Observatory of Public Sector Innovation OECD ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

NSW GOVERNMENT digital.nsw

Digital Transformation Policy Design System Get Involved Blog

Rules as Code – NSW Joins the Worldwide Movement to Make Better Rules

- Dal codice al testo
- Legalismo computazionale
- Rischi democratici
- Preoccupazioni etiche

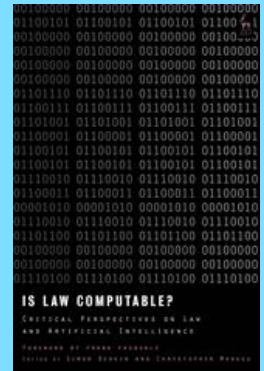


Integration of Legal Theory and ICT for a Legal Smart Legal Order

Hybrid AI Framework for Legal Analysis of the EU Legislation Corrigenda

Monica PALMIRANI¹, Francesco SOVRANO², Davide LIGA³, Salvatore SAPIENZA⁴ and Fabio VITALI⁵

¹CIRSFID-ALMA-AL, University of Bologna
²DISI, University of Bologna



- Normatività e legittimità nell'ordinamento giuridico
- Interpretazione e teoria giuridica
- Spiegabilità
- Trasparenza

AI e Legislazione: analisi critica

- Il diritto non è formato da solo regole (**principi** e **valori**).
- Le norme sono state adattate in base all'evoluzione della società – **modello dinamico**
- I “linguaggi artificiali” (ad esempio, il linguaggio di programmazione) sono un sottoinsieme del linguaggio naturale (Chomsky 2006)
- Le norme a volte sono intenzionalmente **vaghe** per implementare flessibilità e interpretazioni (ermeneutica)
- La previsione basata sul **passato** dovrebbe essere mitigata dai nuovi eventi (**legalismo computazionale**)
- Le previsioni influenzano i decisori e il futuro comportamento umano (Hildebrandt 2021)
- Autonomia e trasparenza sono pilastri della normatività (Günther 2021) e il decisore ha **diritto di opposizione**

Allucinazioni

Lawyer apologizes for fake court citations from ChatGPT

By [Ramishah Maruf](#), CNN

Updated 3:28 PM EDT, Sun May 28, 2023

US judge orders lawyers to sign AI pledge, warning 'they make stuff up'

By [Jacqueline Thomsen](#) ✓

May 31, 2023 8:56 PM GMT+2 · Updated 10 hours ago

[Home](#) / [News](#) / [Technology](#) / [Artificial Intelligence](#) / [EU Commission issues internal guidelines on ChatGPT, generative AI](#)

EU Commission issues internal guidelines on ChatGPT, generative AI

By [Luca Bertuzzi](#) | [EURACTIV.com](#) © Est. 4min

📅 31 mag 2023

Parliament's negotiating position on the
artificial intelligence act

AI in Legislative process could be considered High Risk

In case of use of Generative AI we should

“Generative foundation models, like GPT, would have to comply with additional transparency requirements, like **disclosing that the content was generated by AI**, designing the model to prevent it from generating illegal content and publishing summaries of copyrighted data used for training.” EU Parliament, June 2023



Digital-ready policies



Law as Code

Digital-ready policies: Components and enabler



1. *User-centric processes ready for automation*



2. *Alignment with digital policies*



3. *Once-only principle and reuse of data*



4. *Evolving ICT landscape*



5. *Innovation & Digital technologies*



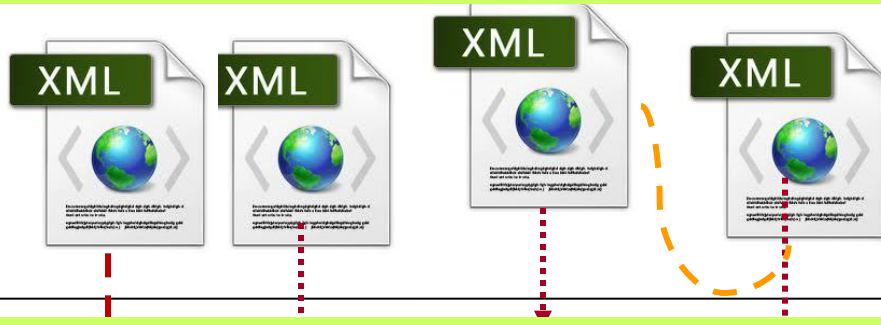
6. *Digital-ready drafting*



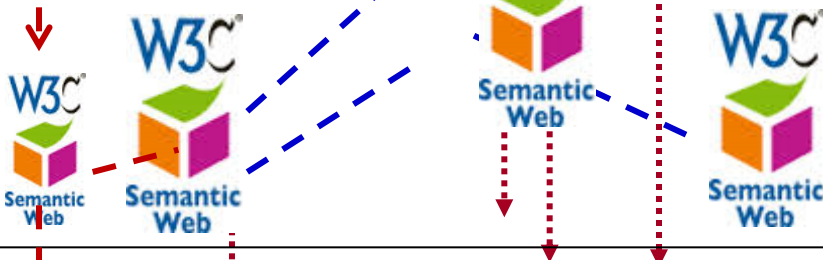
Enabler:
Multidisciplinary teams

Legal Knowledge Modelling – Law as Code

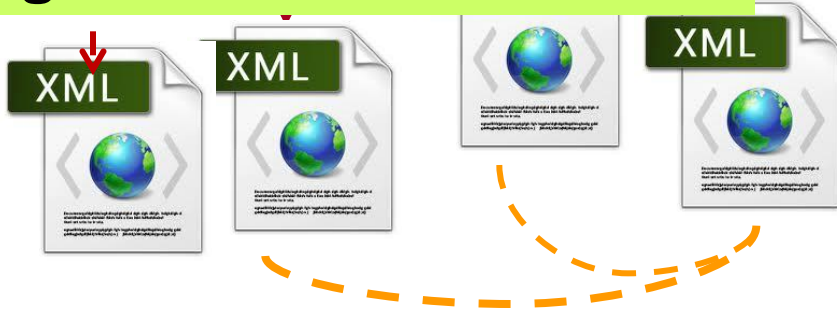
Legal document in XML - context



Legal Ontology – semantic level



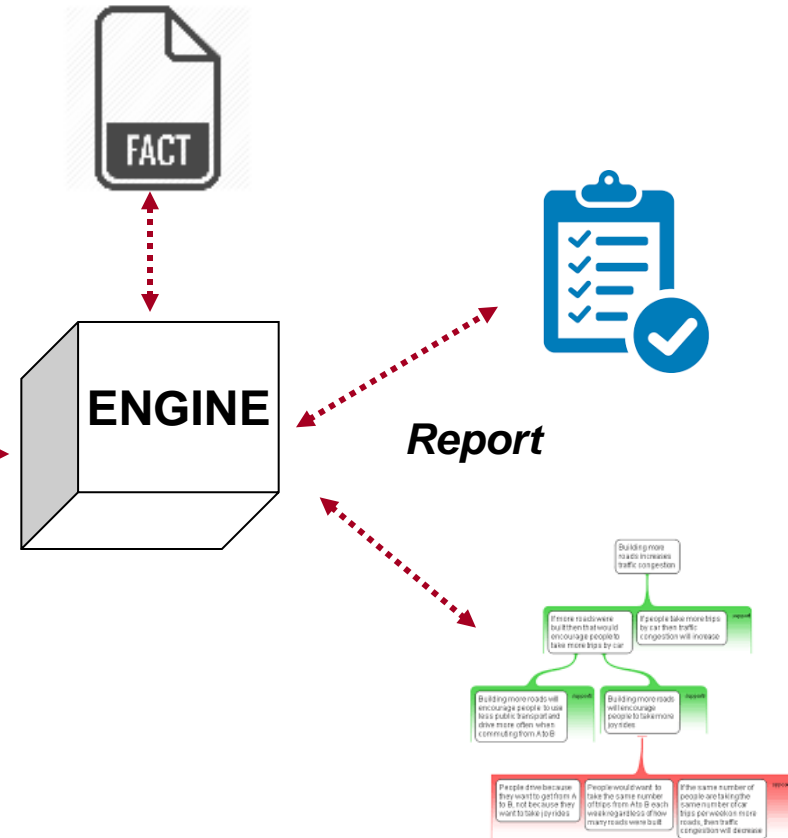
Logic Rules – deontic level



Argumentation/Justification

Services

- Definizione dei goal



AI nel Parlamento

- 1. Assistere della legislazione – ex-ante**
- 2. Estrarre conoscenza – ex-post**
- 3. Previsione di alcuni risultati – pro-futuro**
- 4. Ragionamento giuridico – in tempo reale**

Ambiti di applicazione

Riassumere le trascrizioni

Generare le trascrizioni

Generare i dossier

Generare i premaboli

Generare gli emendamenti dal testo consolidato

Generare il testo consolidato

Suggerire definizioni normative

Facilitare il drafting

Annotare semanticamente

Classificare

Raggruppare per similitudine

Aiutare nell'analisi dell'impatto

Analizzare l'effettività

Fare un controllo della coerenza con le policy

Semplificazione

Comparare leggi simili

Identificare inconsistenze

Applicare alcune norme tecniche

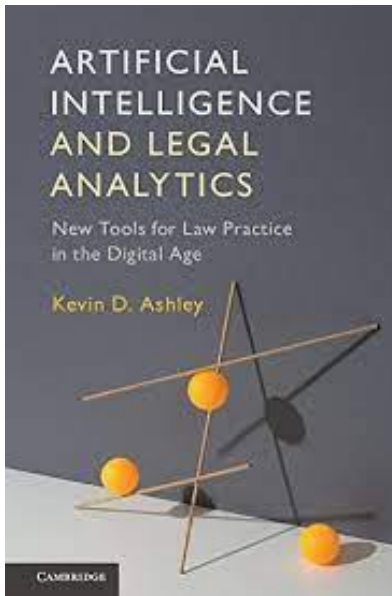
Dedurre i bisogni

Predire la percentuale di successo di un disegno di legge

Definire correlazioni fra leggi e fenomeni sociali

Smart Search Engine

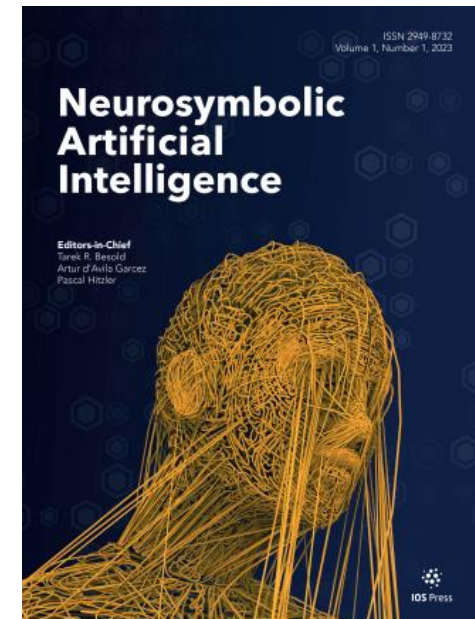
Conversional Query



Klaus Günther

From Normative to Smart Orders?

Abstract: The increasing penetration of new digital technologies, especially artificial intelligence, into almost all areas of society's life has led to the emergence of smart orders. These are orders that are designed to minimize or eliminate deviations from their norms through intelligent design and algorithmic operations. The article explains some examples of smart orders and shows that, at least in principle, a distinction can be made between algorithmically optimized, norm addressee-oriented prevention and addressee-substituting pre-emption of deviant behavior by digital technologies. The focus of the article is then on the question of whether and, if so, in what sense smart orders are still normative orders at all. In the course of the analysis, it becomes apparent that while legal orders and other normative orders pursue the goal of effective enforcement of their norms, they do not pursue the ideal of complete non-deviance. It becomes clear that one of the essential aspects of normative orders is that they are addressed to persons who must embrace them as autonomous and, at the



Machine learning per il settore legale

- **Regressione** → per correlare i fenomeni e prevedere le tendenze future (ad esempio, l'impatto legislativo)
- **Classificazione** → classificazione testuale (es. deroga), classificazione di fatti/persona (es. diritti/doveri)
- **Clustering** → per raggruppare documenti (ad esempio, definizioni convergenti)
- **Associazione** → analisi sociologica utilizzando i social media (ad es. bisogni sociali)
- **Controllo** → ottimizzazione dell'ordine del giorno in Parlamento

Richard Berk

Machine Learning Risk Assessments in Criminal Justice Settings

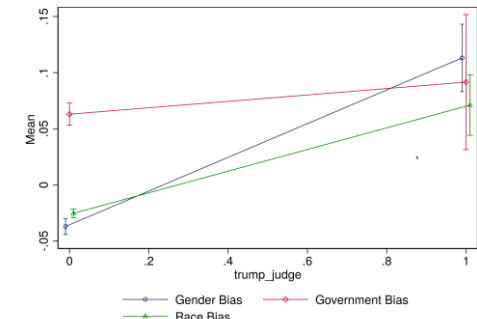
Artificial Intelligence and Law
<https://doi.org/10.1007/s10506-018-9237-x>



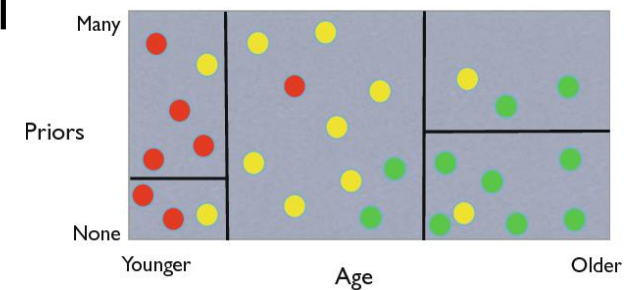
Judicial analytics and the great transformation of American Law

Daniel L. Chen¹

© The Author(s) 2018



Classification by Linear Partitioning



Red = Violent Crime
Yellow = Nonviolent Crime
Green = No Crime

Rischi del ML nel dominio giuridico

- **Granularità** vs **struttura**: il ML funziona a livello di frase e questo approccio non è in grado di collegare diverse parti del discorso semanticamente connesse (ad esempio, obbligo-eccezione, dovere-penalità)
- **Contenuto** vs **contesto**: il machine learning perde il contesto (ad esempio giurisdizione, parametri temporali)
- **Passato** vs. **Futuro**: il ML dipende dalle serie di dati passate (ad esempio, la nuova brillante soluzione non ha serie storiche)
- **Informazioni interne** vs. **esterne**: ML non considera le citazioni normative e giuridiche.
- **Statico** vs. **Dinamico**: i riferimenti normativi evolvono nel tempo (es. “art. 3” non è lo stesso per sempre)

LLM nuovi rischi

- Non si conosce la provenienza delle fonti
- Mancanza di controllo della qualità dei dati
- Alcuni LLM sono open source, altri sono proprietari quindi opachi
- Ambiente senza la concezione temporale
- Nessuna gerarchia nell'organizzazione delle informazioni
- Dipendenza delle infrastrutture

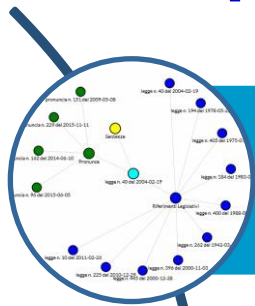
AI per il legal drafting

Study on 'Drafting legislation in the era of AI and digitisation' with EU Commission – Directorate General Informatics Unit B2 – Solutions for Legislation, Policy & HR

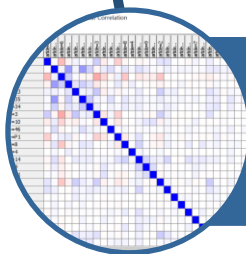


Legal Drafting in the Era of Artificial Intelligence and Digitisation

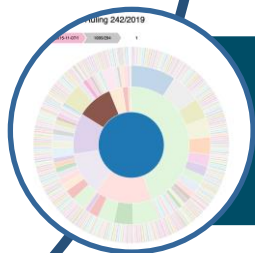
■ 4 use-cases



Legal Drafting supported by AI system for improving quality, effectiveness, efficacy, semantic annotation (e.g., Law as Platform)



Decision support System/AI for making better the legislative process and anticipating needs of the society (e.g., same-sex marriage, end of live, etc.)



Legal System data analytics for understanding the legislative hidden knowledge (e.g., patterns, frequent errors)

Trasparenza: rischio di scatola nera nella modellazione delle norme giuridiche

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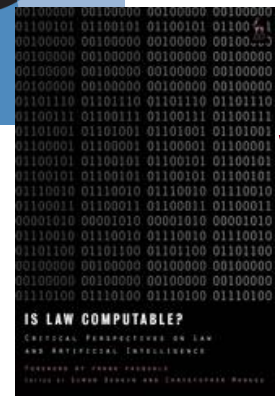
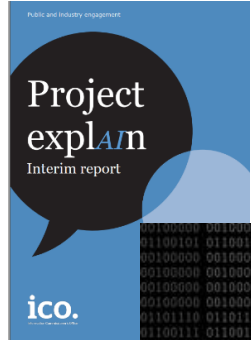
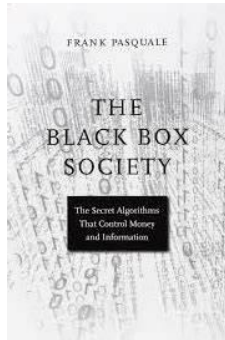
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What are your rights in respect of your personal data?

Your right of data access

8.1. You are entitled to receive a copy of your personal data that is in our possession (your right of data access).

Your right to erasure and rectification

8.2 You may request the deletion of personal data or the correction of inaccurate personal data (your right to erasure and rectification). Please note that we may keep certain information concerning you, as required by law, or when we have a legal basis to do so (e.g., our legitimate interest to keep the platform safe and secure for other users).

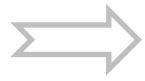
Your right to object to processing

8.3 You have the right to object at any time (i) to the processing of your personal data for the purpose of direct marketing, or (ii) to the processing of your personal data for other purposes on grounds relating to your particular situation (your right to object to processing). Please note that in the latter case, this right only applies if the processing of your personal data is based on our legitimate interest.

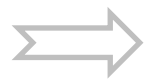
Your right to restriction to processing

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Lawyer-readable



Modellazione delle norme giuridiche senza spiegabilità



Human-readable



“White box”

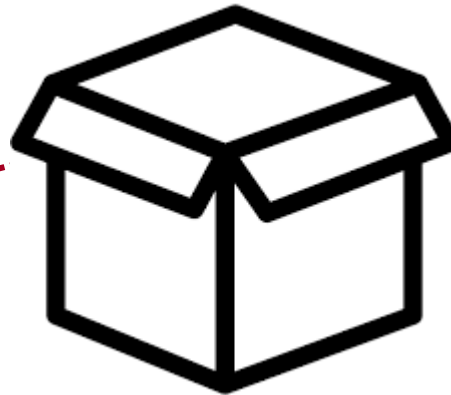


AKOMA NTOSO

Architecture for Knowledge-Oriented Management of African Normative Texts using Open Standards and Ontologies

OASIS LegalXML

LegalRuleML



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8.1. You are entitled to receive a copy of your personal data that is in our possession (your right of data access).

Your right to erasure and rectification

8.2 You may request the deletion of personal data or the correction of inaccurate personal data (your right to erasure and rectification). Please note that we may keep certain information concerning you, as required by law, or when we have a legal basis to do so (e.g., our legitimate interest to keep the platform safe and secure for other users).

Your right to object to processing

8.3 You have the right to object at any time (i) to the processing of your personal data for the purpose of direct marketing, or (ii) to the processing of your personal data for other purposes on grounds relating to your particular situation (your right to object to processing). Please note that in the latter case, this right only applies if the processing of your personal data is based on our legitimate interest.

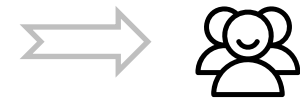
Your right to restriction to processing

8.4 You have the right to restrict the processing of your personal data (your right to restriction of processing). Please note that this only applies if (i) you contested the accuracy of your personal data and we are verifying the accuracy of the personal data, (ii) you exercised your right to object and we are still considering, as foreseen by the applicable law, whether our legitimate grounds to process your personal data in that case override your interests, rights and freedoms; or (iii) your personal data has been processed by us in an unlawful way but you either oppose the erasure of the personal data or want us to keep your personal data in order to establish, exercise or defend a legal claim.

Lawyer-readable

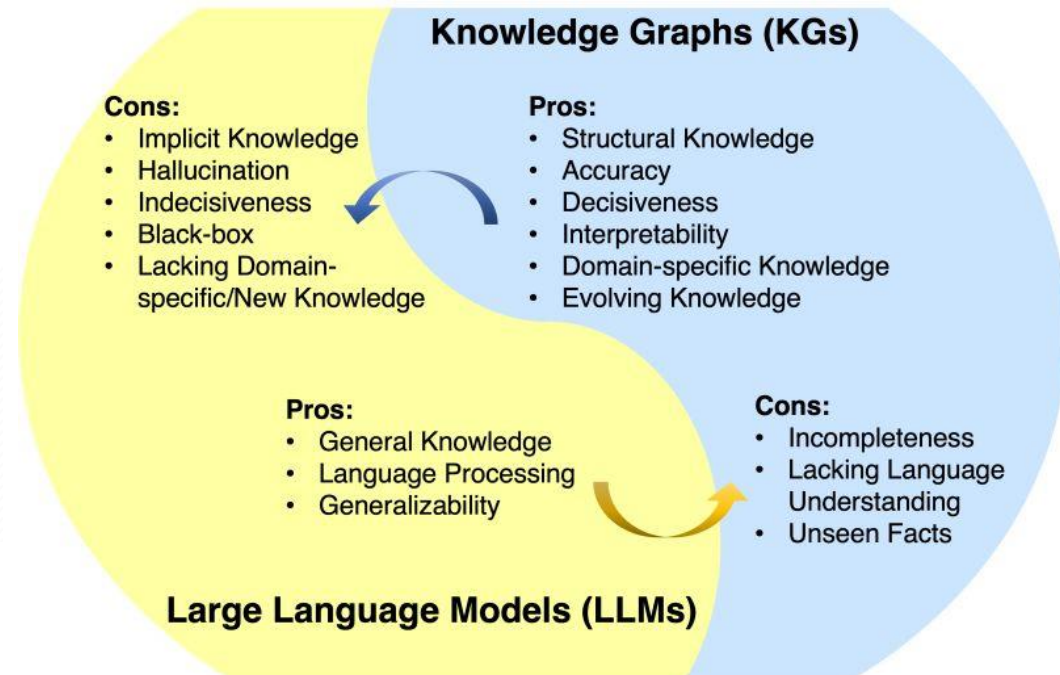
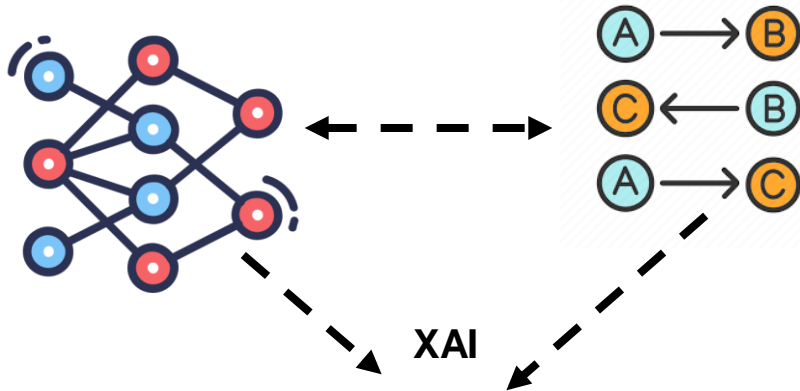
Machine-readable

Human-readable



Neuro-symbolic

Sub-Symbolic AI Symbolic AI

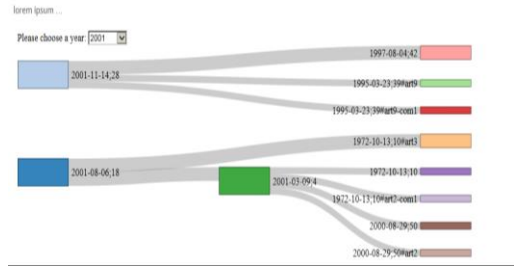
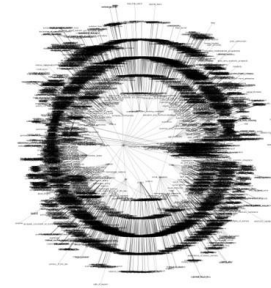
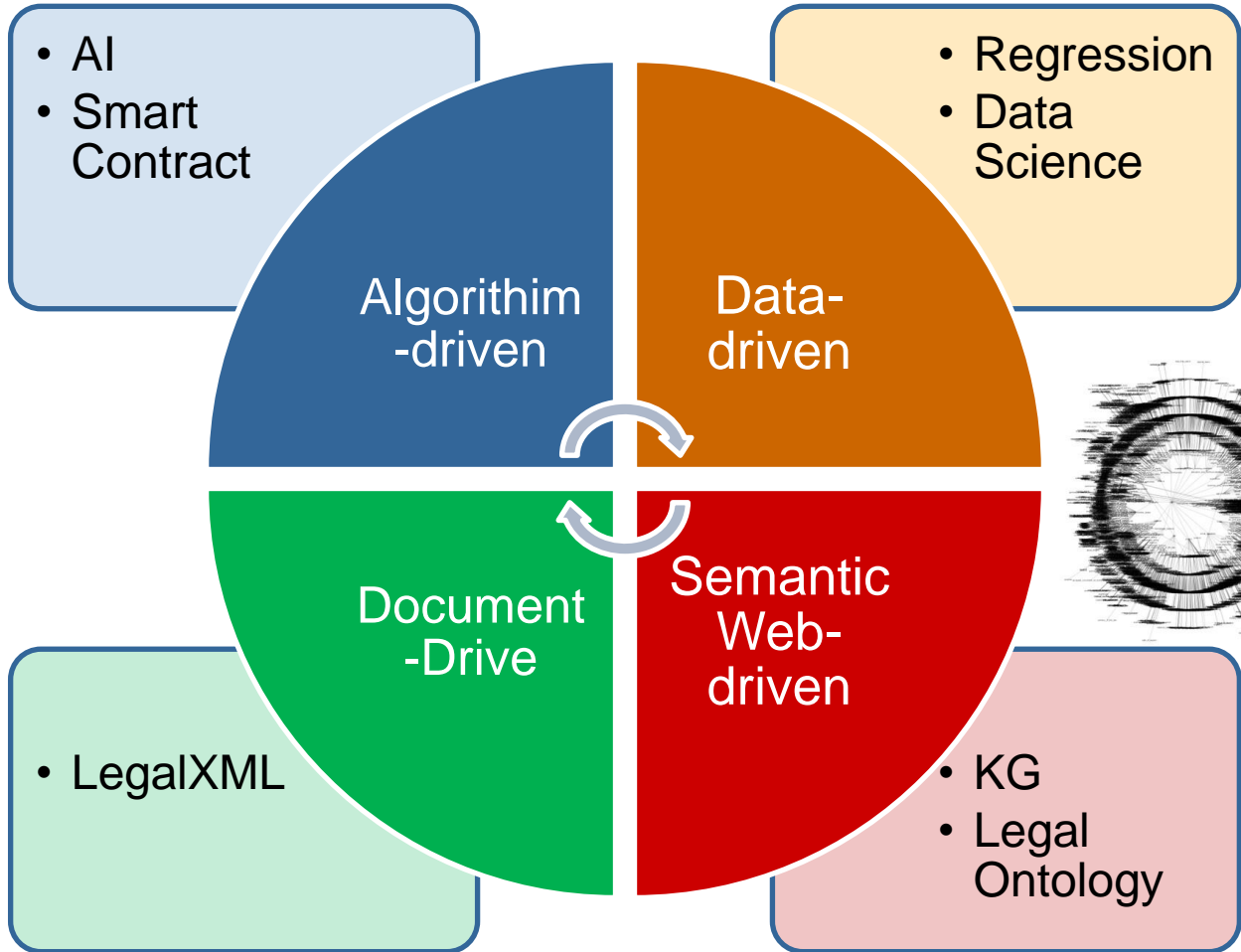
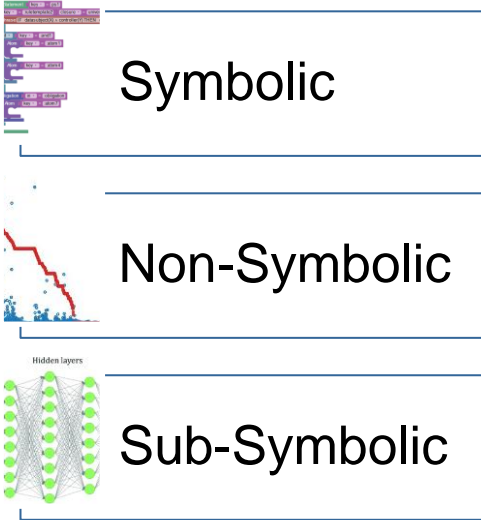
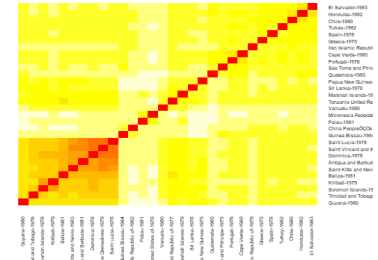
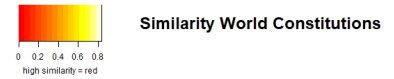


Unifying Large Language Models and Knowledge Graphs: A Roadmap

[Shirui Pan](#), [Linhao Luo](#), [Yufei Wang](#), [Chen Chen](#), [Jiapu Wang](#), [Xindong Wu](#)

Hybrid AI

■ Contenido, Semantica, Processo



Framework

Visualization/ Portals/Editor

Services of AI (support during drafting, classification, clustering, aggregation, correlation) - LLM

Workflow management

Advanced Ontology and Rule-base system

Extraction of the Legal Knowledge using AI

URI



AKOMA NTOSO – XML

DEROGHE

Anatomia di una deroga

$R1_{t_1}$ derogated to $R2_{t_2}$

<action>

<normDerogated>

<jurisdiction>

<temporalParameter>

<scope>

By way of derogation from paragraphs 1 and 2, in Cyprus, Croatia, Malta and Slovenia, the amount referred to in those paragraphs may be set at a value lower than EUR 500, but not less than EUR 200 or, in the case of Malta, not less than EUR 50.

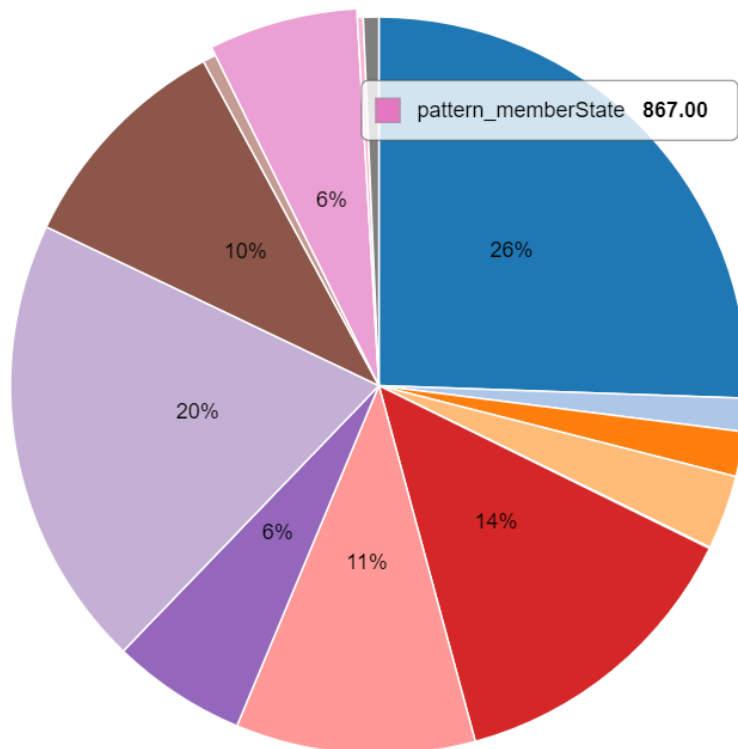
Dataset

- Il dataset è composto da atti legislativi avvenuti nell'arco temporale 2010-2020 per un totale di 15.328 documenti.
- Regolamento, Direttiva, Strumenti di attuazione
- I documenti vengono convertiti in Akoma Ntoso in modo da avere annotata la struttura del documento e il contesto
- Abbiamo estratto 13.587 partizioni coinvolte nella deroga utilizzando una tassonomia preliminare di “RegEx”

Estrazione di 15 categorie di deroghe

Pie Chart

- derogation_pattern_1
- derogation_pattern_3
- notapply_pattern_potential
- derogation_pattern_1b
- derogation_pattern_potential
- pattern_delegatedsActs
- derogation_pattern_1c
- exception_pattern_1
- pattern_memberState
- derogation_pattern_1d
- exception_pattern_potential
- pattern_memberStateReq
- derogation_pattern_2
- notapply_pattern_1
- pattern_temporaryDer



Akoma Ntoso

```
<alinea eld="body__art_2__al_3">
```

```
  <content eld="body__art_2__al_3__content">
```

```
    <mod eld="body__art_2__al_3__content__mod_1">
```

```
      <p>By way of derogation from the second paragraph, Member
```

States may

```
        choose not to apply the provisions of point ORO.FTL.205(e) of
```

```
        <ref eld="ref_1" href="/akn/eu/act/regulation/2012-02-
```

```
        17/965-2012/!main/>annex_III">Annex
```

```
        III to Regulation (EU) No 965/2012 </ref> and continue to
```

apply the

```
        existing national provisions concerning in-flight rest until<date
```

```
        date="2017-02-17" refersTo="#derogationTime">17
```

```
        February 2017</date>.</p>
```

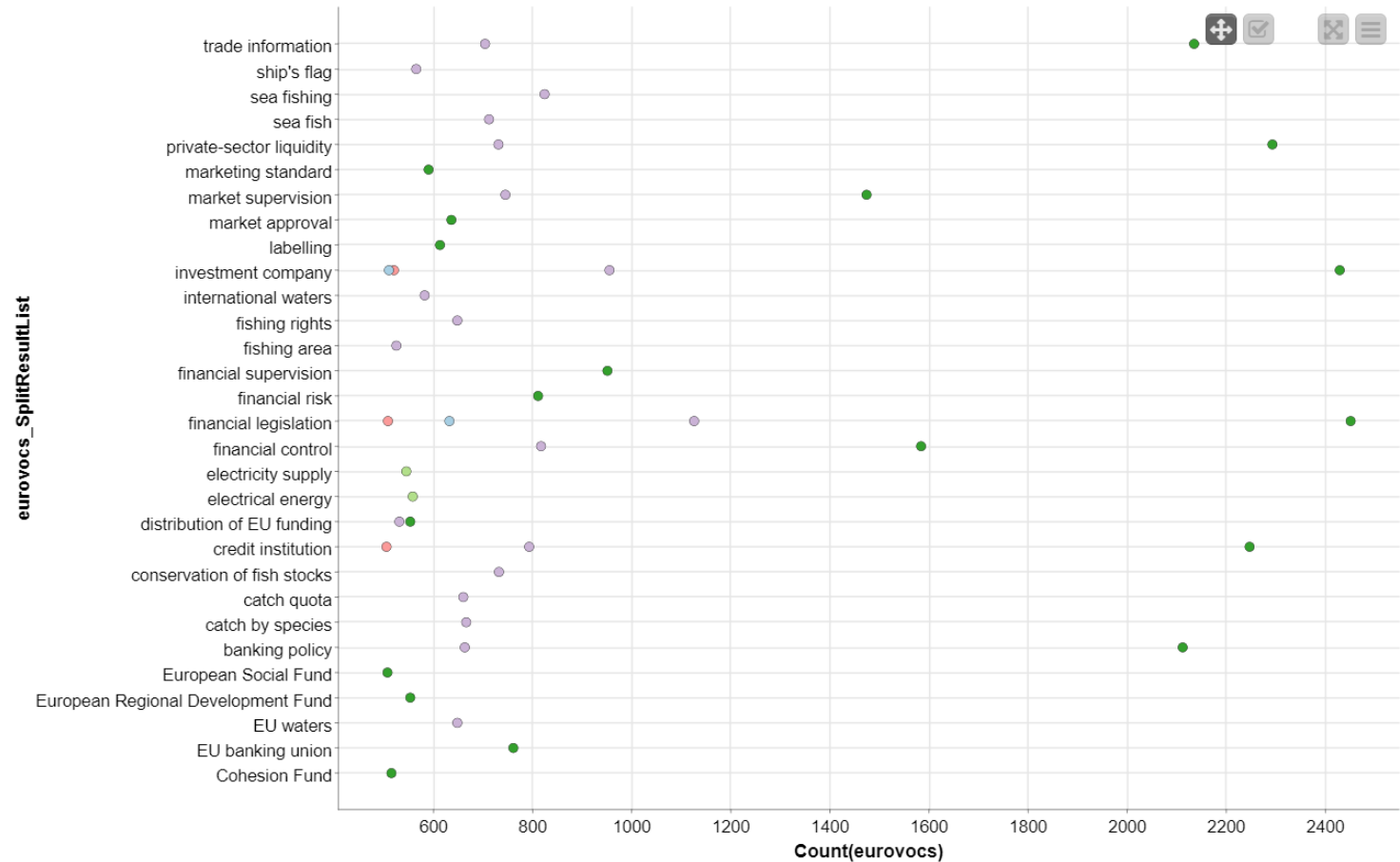
```
      </mod>
```

```
    </content>
```

```
</alinea>
```

Distribuzione tematica delle deroghe

er Plot



- derogation_pattern_1
- derogation_pattern_1b
- derogation_pattern_1c
- derogation_pattern_1d
- derogation_pattern_2
- derogation_pattern_3
- derogation_pattern_potential
- exception_pattern_1
- exception_pattern_potential
- notapply_pattern_1
- notapply_pattern_potential
- pattern_delegatedsActs
- pattern_memberState
- pattern_memberStateReq
- pattern_temporaryDer

<https://cirsfid.gitlab.io/derograph/>

Analysis of the Derogations in EU Legislation using Network Analysis

This is a visualization map for AKN derogations of the EU legislation from 2010 to 2020

Eurovocs:

Places

Duration:

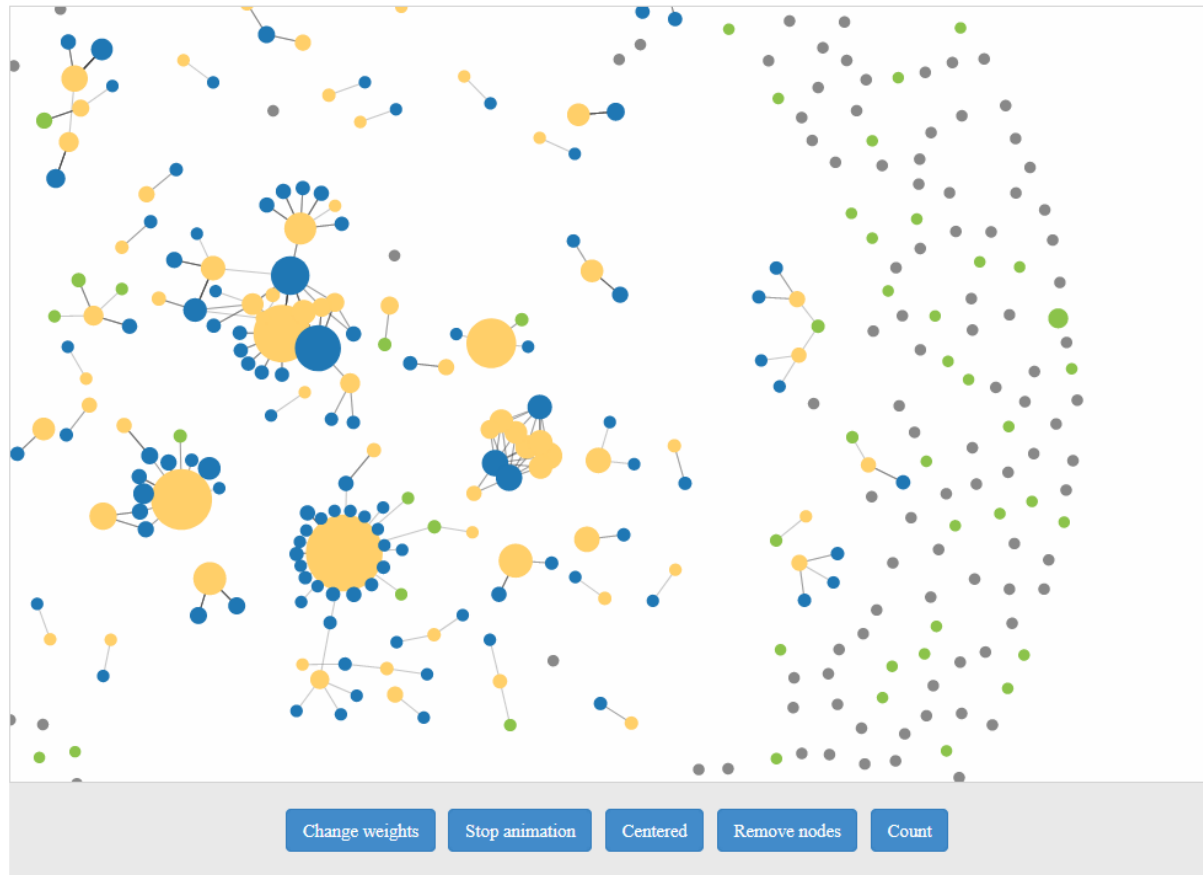


Conditions:

Domains:

Match all filters (narrow results)

Update



$$w = k * (\#ActiveDerogations + \#ReflexiveDerogations + \#PassiveDerogations)$$

DIGITAL-READY INDEX

Lista di parole positive

Article 21

General requirements for the pharmacovigilance system master file

- 1. The information in the pharmacovigilance system master **file** required under Article 77(2) of Regulation (EU) 2019/6 shall be accurate and reflect the pharmacovigilance system in place.
- 2. The contractual arrangements between marketing authorisation holders and third parties concerning pharmacovigilance activities shall be clearly documented, detailed and up-to-date.
- 3. Marketing authorisation holders may, where appropriate, use separate pharmacovigilance systems for different categories of veterinary medicinal products. Each such system shall be described in a separate pharmacovigilance system master file.

electronic identification

electronic signature

electronic seal

electronic signature

web

electronic tickets

e-book

e-reader

non-cash payment

electronic payment

digital means of exchange

file

database

wifi

digital service

digital certification

digital content

Lista di parole negative

«Article 4

Requirements for certificates for terrestrial animals and germinal products

1. The official veterinarian shall complete certificates for consignments of terrestrial animals and germinal products in accordance with the following requirements:

(omissis)

(c) the certificate must consist of one of the following:

*(i) a single sheet of **paper**;*

*(ii) several sheets of **paper** where all sheets are indivisible and constitute an integrated whole;*

(iii) a sequence of pages with each page numbered so as to indicate that it is a particular page in a finite sequence; »

Certified copy

Cheque

Courier

Stamp

Facsimile

Fax

Hard copy

In writing

Ink

Mail

Microfiche

Newspaper

Original copy

Paper

Pen

Pencil

Post

Print

Printout

Scan

Seal

Telex

Written

Person

identification

Signature

Paper

documentation

Paper tickets

cash payment

Digital service

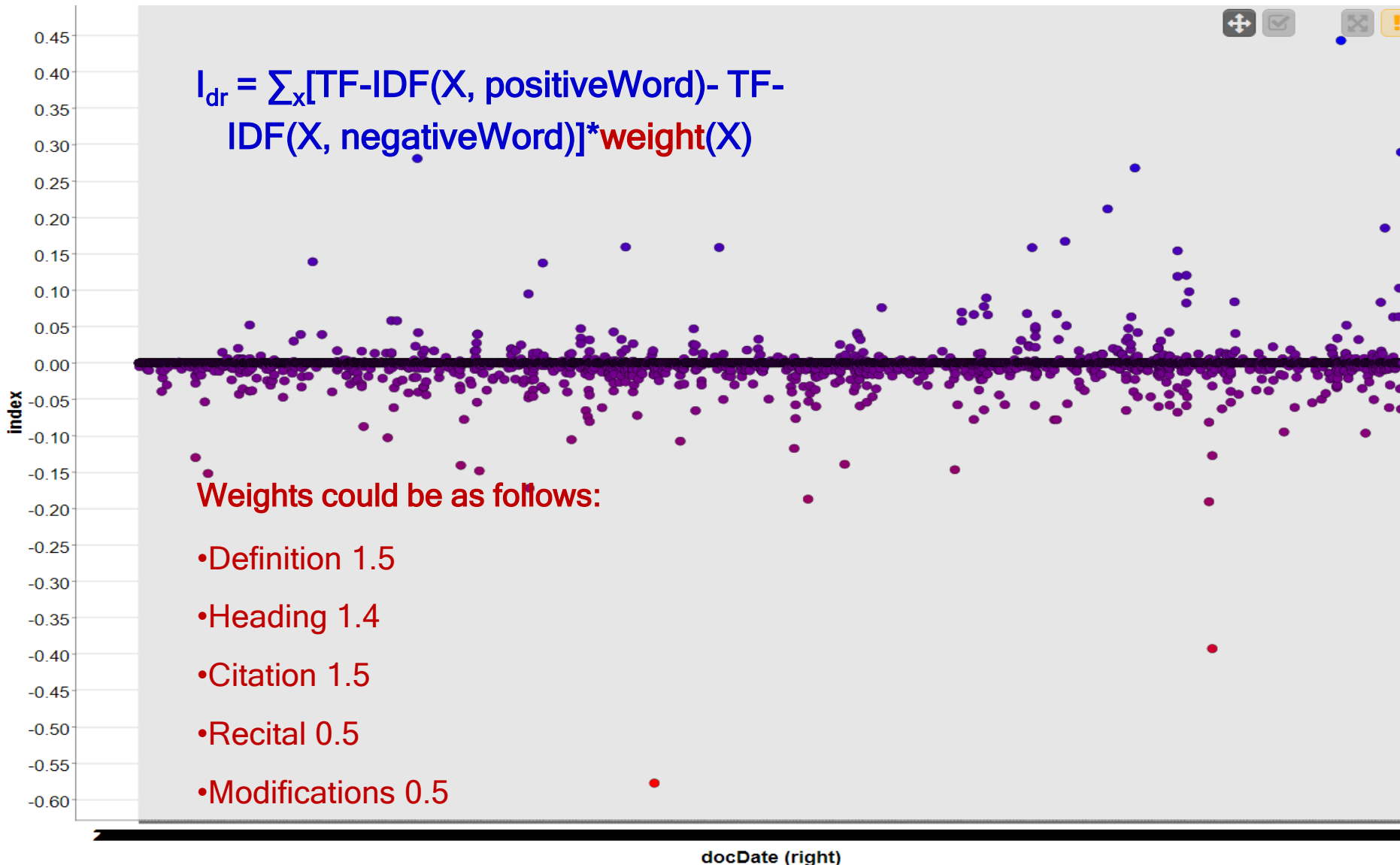
Durable medium

TF-IDF a livello di articolo considerando anche le modifiche e le citazioni

$$I_{dr} = \sum_x [\text{TF-IDF}(X, \text{positiveWord}) - \text{TF-IDF}(X, \text{negativeWord})] * \text{weight}(X)$$

Weights could be as follows:

- Definition 1.5
- Heading 1.4
- Citation 1.5
- Recital 0.5
- Modifications 0.5



ANALISI DELLE POLICY

Tracciare le policy



AKOMA NTOSO

Architecture for Knowledge-Oriented Management of African Normative Texts using Open Standards and Ontologies

Testo

Informazioni sul documento

Procedimento

Sintesi del documento

Salvare nei "miei elementi"

Link aggiornato

Link permanente

Scaricare la nota

Segui questo documento

Indice

Nascondi le versioni consolidate

12/08/2022

01/11/2019

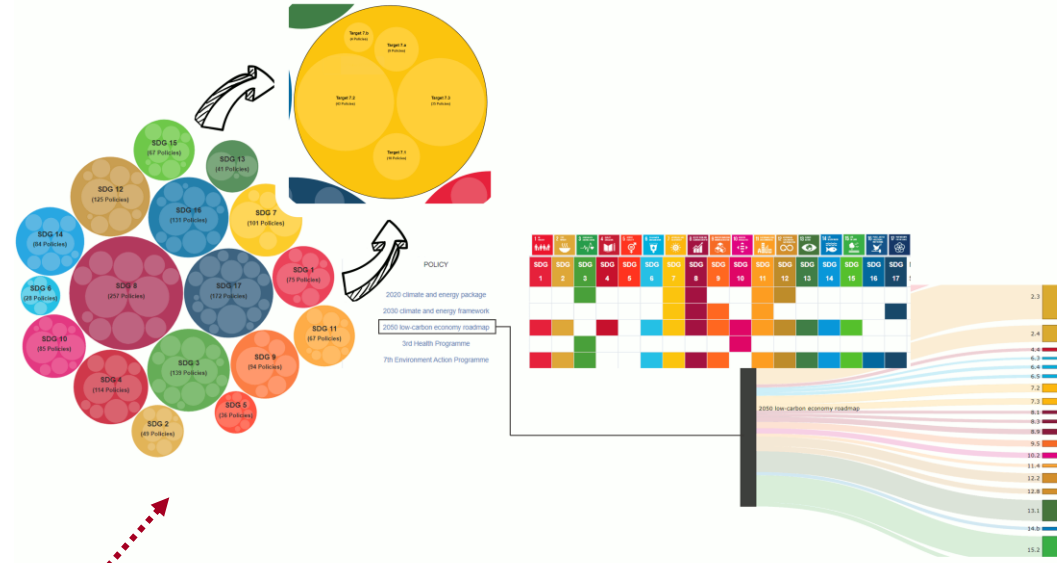
Atto giuridico

CHAPTER IX
REVIEW
Article 29
Reports and review

1. Within 36 months of the date of entry into force of the delegated act adopted by the Commission pursuant to Article 4(9), the Commission shall, after consulting ESMA, submit a report on the effectiveness, efficiency and proportionality of the obligations laid down in this Regulation to the European Parliament, to the Council and to the Commission. That report shall include, in particular, an overview of similar reporting obligations laid down in third countries taking into account work at international level. It shall also focus on the reporting of any relevant transactions not included in the scope of this Regulation, taking into account any significant developments in market practices, as well as on the possible impact on the level of transparency of securities financing operations.

For the purposes of the report referred to in the first subparagraph, ESMA shall, within 24 months of the date of entry into force of the delegated act adopted by the Commission pursuant to Article 4(9), and every three years thereafter, or more frequently where significant developments in market practices arise, submit a report to the European Parliament, to the Council and to the Commission on the efficiency of the reporting, taking into account the appropriateness of single-side reporting, in particular in terms of reporting coverage and quality as well as reduction of reports to trade repositories, and on significant developments in market practices with a focus on transactions having an equivalent objective or effect to an SFTR.

2. Following completion of, and taking into account, work at international level, the report referred to in paragraph 1 shall also identify material risks related to the use of SFIs by credit institutions and listed companies and analyse the appropriateness of providing for additional disclosure by those entities in their periodical reports.



Obbligations

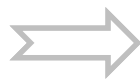
Policy

LegalRuleML

Legal Text

Machine-readable metadata

Integration



Regulation (EU) 2016/1011 on indices used as benchmarks in financial instruments and financial contracts

Art. 54

2. Review the evolution of international principles applicable to benchmarks and of legal frameworks and supervisory practices in third countries concerning the provision of benchmarks and **report** to the **European Parliament and to the Council** every **five years after 1 January 2018**. That report shall assess in particular whether **there is a need to amend this Regulation and shall be accompanied by a legislative proposal, if appropriate.**



Reports

2023 2028 2033 etc.

EXAMPLE - Regulation (EU) 2016/1011 on indices used as benchmarks in financial instruments and financial contracts

Art. 54

2. Review the evolution of international principles applicable to benchmarks and of legal frameworks and supervisory practices in third countries concerning the provision of benchmarks and **report to the European Parliament and to the Council every five years after 1 January 2018**. That report shall assess in particular **whether there is a need to amend this Regulation and shall be accompanied by a legislative proposal, if appropriate.**

action

object

event

Reports

2023

2028

2033

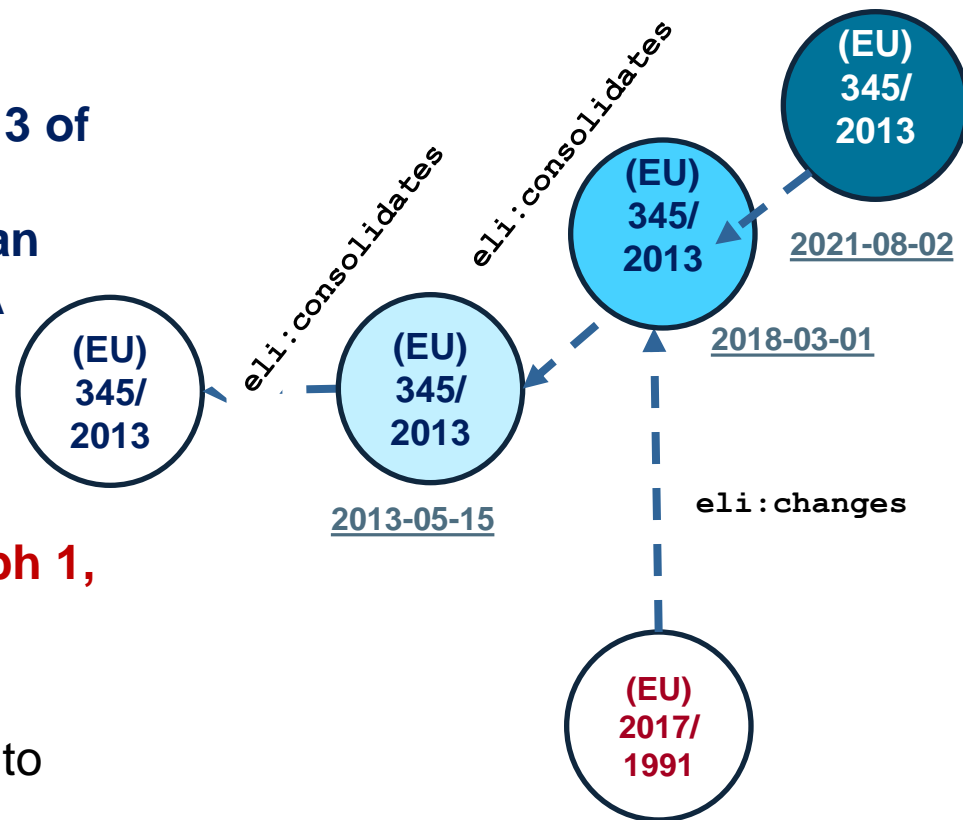
etc.

agent


temporal




- **Agent:** FISMA
- **Source:** Regulation (EU) No 345/2013 of the European Parliament and of the Council of 17 April 2013 on European venture capital funds Text with EEA relevance – celex:32013R0345
- **Type of Action:** Report
- **Frequency:** One
- **Provison involved:** Art. 26, paragraph 1, points (a) to (g), (i) and (j)
- **Old text:** 22/7/2017
 - (a) by **22 July 2017** as regards points (a) to (g), (i) and (j); and
- **New text:** 01/03/2018
 - (a) by ► **M1 2 March 2022** ◀ as regards points (a) to (g), (i) and (j); and





Gestione delle decisioni e delle policy



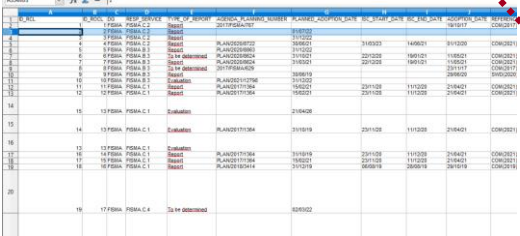
ROD








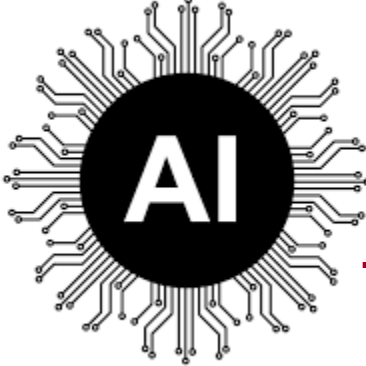
KOEL



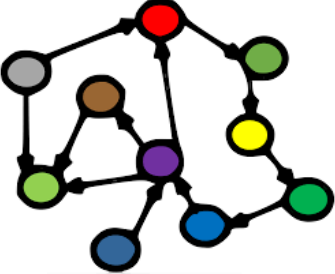


AKOMA NTOSO
Architecture for Knowledge-Oriented Management of African Normative Texts using Open Standards and Ontologies


Annotated information



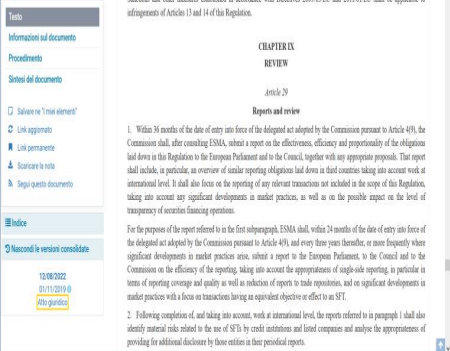
AI



Training



**Classification
Extraction**



Baseline

New Law

LegalRuleML Approach

Judge1

Context of rule1

Judge2

Context of rule2

4.5.2016 IT Gazzetta ufficiale dell'Unione europea L 119/1

PRIVACY REGULATION

I

(Atti legislativi)

REGOLAMENTI

REGOLAMENTO (UE) 2016/679 DEL PARLAMENTO EUROPEO E DEL CONSIGLIO
del 27 aprile 2016
relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali, nonché alla libera circolazione di tali dati e che abroga la direttiva 95/46/CE (regolamento generale sulla protezione dei dati)
(Testo rilevante ai fini del SEE)

IL PARLAMENTO EUROPEO E IL CONSIGLIO DELL'UNIONE EUROPEA,
visto il trattato sul funzionamento dell'Unione europea, in particolare l'articolo 16,
vista la proposta della Commissione europea,
previa trasmissione del progetto di atto legislativo ai parlamenti nazionali,
visto il parere del Comitato economico e sociale europeo ⁽¹⁾,
visto il parere del Comitato delle regioni ⁽²⁾,
deliberando secondo la procedura legislativa ordinaria ⁽³⁾,
considerando quanto segue:

- (1) La protezione delle persone fisiche con riguardo al trattamento dei dati di carattere personale è un diritto fondamentale. L'articolo 8, paragrafo 1, della Carta dei diritti fondamentali dell'Unione europea («Carta») e l'articolo 16, paragrafo 1, del trattato sul funzionamento dell'Unione europea («TFUE») stabiliscono che ogni persona ha diritto alla protezione dei dati di carattere personale che la riguardano.
- (2) I principi e le norme a tutela delle persone fisiche con riguardo al trattamento dei dati personali, nonché a rispettare i diritti e le libertà fondamentali, prescindere dalla loro nazionalità o dalla loro residenza di uno spazio di libertà, sicurezza e sociale, al rafforzamento e alla convergenza di norme e prassi in materia di protezione dei dati personali.
- (3) La direttiva 95/46/CE del Parlamento europeo e del Consiglio ⁽⁴⁾ ha come obiettivo di armonizzare la tutela dei diritti e delle libertà fondamentali delle persone fisiche rispetto alle attività di trattamento dei dati e assicurare la libera circolazione dei dati personali tra Stati membri.

⁽¹⁾ GU C 229 del 31.7.2012, pag. 90.
⁽²⁾ GU C 391 del 18.12.2012, pag. 127.
⁽³⁾ Posizione del Parlamento europeo del 12 marzo 2014 (non ancora pubblicata nella Gazzetta ufficiale) e posizione del Consiglio in prima lettura dell'8 aprile 2016 (non ancora pubblicata nella Gazzetta ufficiale). Posizione del Parlamento europeo del 14 aprile 2016.
⁽⁴⁾ Direttiva 95/46/CE del Parlamento europeo e del Consiglio, del 24 ottobre 1995, relativa alla tutela della persona fisica con riguardo al trattamento dei dati personali, nonché alla libera circolazione di tali dati (GU L 281 del 23.11.1995, pag. 31).

```
<ruleml:Rule key=":rule1">  
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  ...  
  <ruleml:then>...</ruleml:then>  
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  <ruleml:if> ...</ruleml:if>  
  ...  
  <ruleml:then>...</ruleml:then>  
</ruleml:Rule>...
```

Multiple rules as (alternative) interpretations of the same text

Conclusions

- Standard like AKN provides a good annotated corpora for AI application
- AI without semantic and structure is problematic (e.g., hallucination)
- Transparency, explicability and accountability are crucial for Parliaments (e.g., democratic principles)
- Legitimacy and Rule of Law should be included *by-design* in the AI projects

Human-in-the-loop
Human-on-the-loop
Human-in-Command

**thank you
for your attention**

Monica Palmirani - monica.palmirani@unibo.it