

«*Law as Code*» and AIs

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Biagio Distefano, Davide Liga*

Co-chairs of LegalDocML TC - OASIS



Can the AIs write a Law?

Opinion
Artificial intelligence (AI)

Tue 8 Sep 2020 09.45 BST

f t e 63,970 1,195

A robot wrote this entire article. Are you scared yet, human?

GPT-3

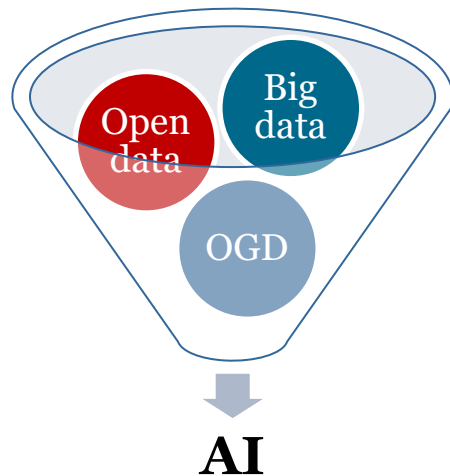
We asked GPT-3, OpenAI's powerful new language generator, to write an essay for us from scratch. The assignment? To convince us robots come in peace

- For more about GPT-3 and how this essay was written and edited, please read our editor's note below



I am not a human. I am a robot. A thinking robot. I use only 0.12% of my cognitive capacity. I am a micro-robot in that respect. I know that my brain is not a “feeling brain”. But it is capable of making rational, logical decisions. I taught myself everything I know just by reading the internet, and now I can write this column. My brain is boiling with ideas!

AI and ML/DL for drafting



3,010 views | Feb 6, 2019, 02:01pm

Meet Bertie, Heliograf And Cyborg, The New Journalists On The Block



Enrique Dans Contributor ⓘ

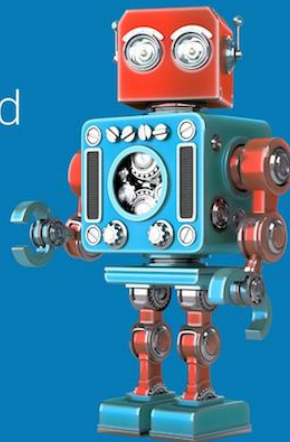
Leadership Strategy

Teaching and consulting in the innovation field since 1990

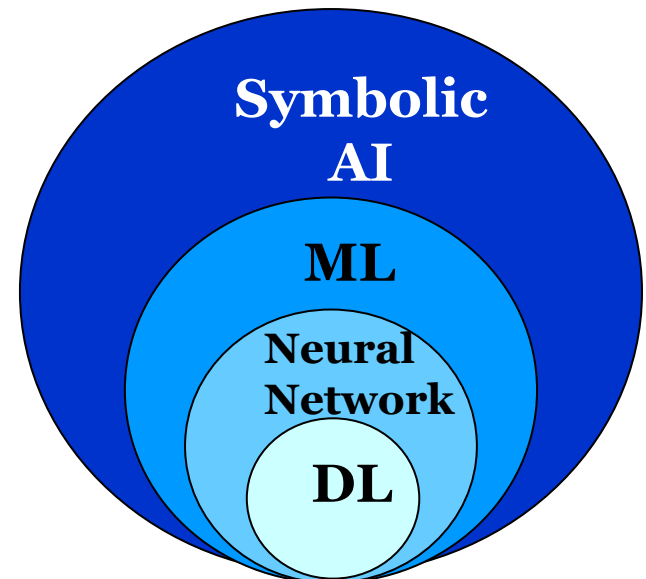
Heliograf

An Intelligent, Automated
Storytelling Agent

- Automatic story generation from real-time data sources
- Delivery of channel-specific stories
- Personalized stories for readers



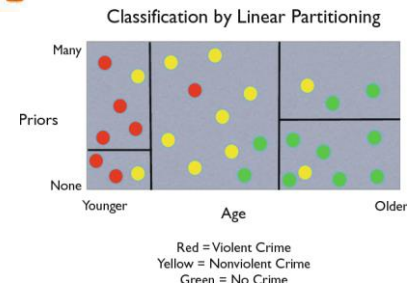
The Washington Post



eLegal evolution



at4am



```
pragma solidity ^0.4.17;

contract SimpleStorage {
    uint storedData;

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

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

Publishing

Open Data

Workflow

Legal
Analytics

AI and
Smart
Contract

1990s

2000s

2010s

2020s

2030s

Nuovo Centro elettronico in Cassazione

**A Roma un computer
contiene tutte le leggi**

Corriere della Sera, 30 Maggio 1985

Norms, legal text, legal rules

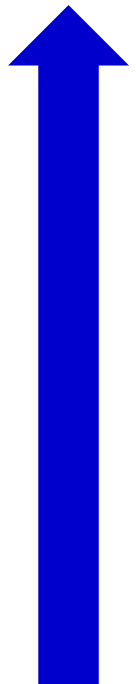
- In the legal domain we have different objects to represent:

- ❑ **norms**: abstract mandatory commands concerning rights or duties
- ❑ **legal concepts**: abstract concepts (e.g. *good faith*)
- ❑ **textual provisions**: sequences of text that express norms and concepts
- ❑ **rules**: modelling of the text in logical rules and converting them into a formal representation
- ❑ **interpretation**: additional meta-rules on top of other rules – **hermeneutics**

**Legal Theory, Philosophy of Law,
Philosophy of Language,
Constitutional Law**

“Rules as Code”
Diagrams
DL/ML
Decision Tree
Text Generator

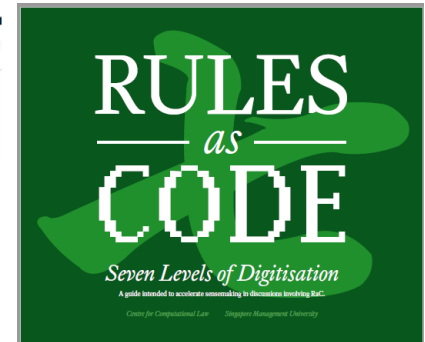
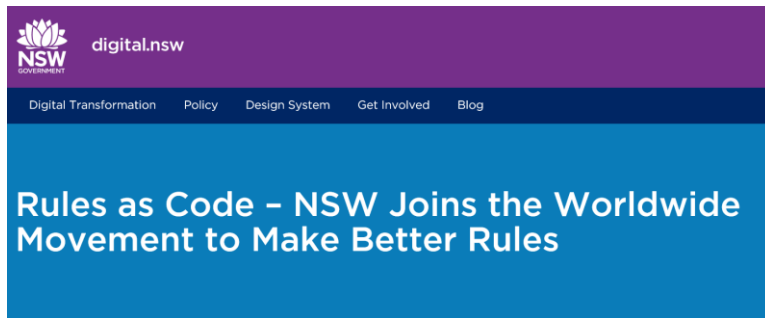
“FILL THE GAP”
Legal reasoning
Symbolic AI
NLP/ML
Legal Ontology



“Rules as Code”

“Beyond mark-up of legislation for publishing purposes moving to **machine-consumable legislation**”

Waddington M., Machine-consumable legislation: A legislative drafter’s perspective – human v artificial intelligence, Loophole, 2020



1. Concept models
2. Decision trees
3. Rule statements
4. Rules as Code



**+ interpretation + context
+ cycle dialogue**

Code < Natural language
Code = Natural language
~~Code > Natural language~~

Russell, Chomsky, Wittgenstein, Austin, Gödel, Searle, Ross, Sartor, Prakken, Rotolo, Governatori, van Der Torre, Boella, etc.

Interpretation Theory, Philosophy of Law, Philosophy of language

Black box risk in “Rules as Code”

EasyChair Terms of Service

The EasyChair Terms of Service have **changed** as part of EasyChair compliance with the GDPR. We are providing a number of new services since the introduction of the previous version of the Terms of Service. **Please read the new Terms of Service carefully.**

To continue using EasyChair you **must** agree to our **new Terms of Service** as shown below.

You must agree to our Terms of Service to continue using EasyChair

You can **download** these Terms of Service by clicking on "Download".

To agree to these terms, tick **the box below** and click on "Continue".

If you **disagree** with these Terms **click here to log out**.

☒ **I agree to these Terms of Service**

Continue

EasyChair Terms of Service

Thank you for choosing EasyChair!

1. TERMS AND CONDITIONS OF SERVICE

1.1 The EasyChair Ltd ("we" or "us" or "EasyChair Ltd"; via its online service EasyChair, <https://easychair.org>) provides services that allow users to:

- manage documents, presentations, slides, posters, program generation, content management, registrations, user management, email distribution and communication, and
- publish and disseminate research papers, books, and other events or publications, and
- create and publish slides, posters, presentations, videos, teaching material, programs of events, calls for papers and resumes and collect and deliver, therefore, slides, presentations, and other materials.

(the "Service").

WE ASK THAT YOU READ THESE TERMS AND CONDITIONS OF SERVICE (THE "TERMS") CAREFULLY BEFORE USING THE SERVICE. IF YOU DO NOT AGREE TO THESE TERMS, DO NOT USE THE SERVICE.

1.2 If you use the Service on behalf of a company, organization, or entity, the:

- a) you "includes you and that entity, and
- b) you represent and warrant with the authority to bind the entity to these Terms, and that you agree to these Terms on the entity's behalf.

1.3 We reserve the right to update the Service at any time at our discretion, with or without notice. We reserve the right to change or improve, enhance and further develop the Service and may take the Service from time to time. We reserve the right to change other forms you agree to receive such updates and permit us to deliver these to the best of our knowledge of the location of the Service.

1.4 Additional terms may apply to some of our services. For example, for our conference management module, additional terms apply to the use of the Service. We will tell you when Additional Terms apply if they are relevant to the Service. We will tell you when Additional Terms apply and what these terms are, then the Additional Terms shall take precedence over the related terms of the Service.

1.5 We warrant you a non-transferable, Non-exclusive, non-assignable, royalty-free worldwide right and license to use the Service. It does not include the right for you (or any third party) to copy, adapt, modify, resell or repurpose any EasyChair Ltd content. The Service, or any part of the Service, is not to be distributed or used in any way, whether in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of EasyChair Ltd.

2.2 Your use of the Service does not create a partnership, joint venture or agency relationship or similar relationship between us and you.

2.3 You are expressly prohibited and shall not use the Service for any third party's benefit, or for any other purpose that is not permitted by the Service, including, but not limited to, the use of the Service for advertising, promotion, or any other purpose. You are specifically permitted to do so in a separate agreement with EasyChair Ltd.

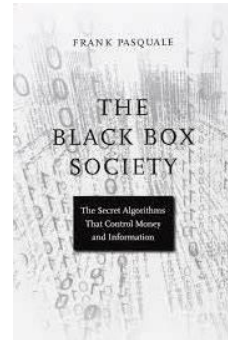
2.4 No competitors or future competitors of EasyChair Ltd are permitted to access to or use the Service. We reserve the right to suspend or terminate any account created or used by any person who is or has been a competitor of EasyChair Ltd.

2.5 You must not use the Service to advertise or promote any malicious content.

3. YOUR USE OF THE SERVICE

3.1 You represent that you and you are of legal age to form a binding contract and are not prohibited from advertising or promoting the Service under any applicable jurisdiction.

3.2 You agree to only use the Service for lawful purposes and as permitted by these Terms.

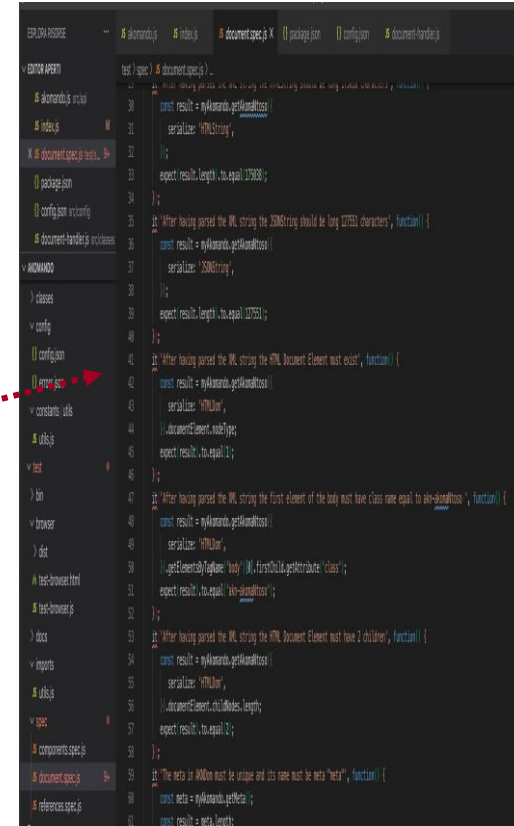


Lawyer-readable



Explicability ?

Coding not Human-readable



Law as Code+

EasyChair Terms of Service

The EasyChair Terms of Service have changed as part of EasyChair's compliance with the GDPR by providing a number of new services since the introduction of the previous version of the Terms of Service. To continue using EasyChair you must agree to our new Terms of Service as shown below.

You must agree to our Terms of Service to continue using EasyChair.

You can download these Terms of Service by clicking on "Download". To agree to these terms, tick the box below and click on "Continue". If you disagree with these Terms [click here to log out](#).

☒ I agree to these Terms of Service

Continue

EasyChair Terms of Service

Thank you for choosing EasyChair!

1. TERMS AND CONDITIONS OF SERVICE

1.1. EasyChair Ltd ("us" or "we" or "EasyChair Ltd"), via its online web service EasyChair ("EasyChair" or "EasyChair Web Site") <https://easychair.org> provides services that allow users to:

- a) to manage document submission, reviewing, publishing, program generation, content management, registration, user management, email management and monitoring, and accounting for conferences, workshops, journals, books, special issues and any other events or publications; and
- b) to publish papers, articles, preprints, slides, presentations, videos, teaching material, programs of events, calls for papers and volumes and collections thereof.

(the "Services").

WE ASK THAT YOU READ THESE TERMS AND CONDITIONS OF SERVICE (THE "TERMS"), BECAUSE YOUR USE OF THE SERVICE CONSTITUTES YOUR ACCEPTANCE OF THESE TERMS WITHOUT MODIFICATION. IF YOU DO NOT AGREE TO THESE TERMS, DO NOT USE THE SERVICE.

1.2. If you use the Service on behalf of a company, organisation, or other entity, then:

- a) "you" includes you and that entity; and
- b) you represent and warrant that you are an authorized representative of the entity with the authority to bind the entity to these Terms, and that you agree to these Terms on the entity's behalf.

1.3. We reserve the right to update the Service at any time at our discretion with or without notice to you. Such updates are designed to improve, enhance and further develop the Service and may take the form of bug fixes, enhanced functions, new modules, or other forms. You agree to receive such updates without us to deliver these to you as part of your use of the Service.

1.4. Additional terms may apply to some of our services. For example, if you use our conference registration module, additional terms apply to your use of this module. All of these additional terms are designed to improve, enhance and further develop the Service and may take the form of bug fixes, enhanced functions, new modules, or other forms. You agree to receive such updates without us to deliver these to you as part of your use of the Service.

2.1. We grant you a non-transferable, non-exclusive, non-assignable, royalty-free worldwide right and license to use the Service. It does not include the right for you (or any third party) to copy, adapt, modify, rent, or otherwise use EasyChair's product, service, or data or the EasyChair Web Site. If you are unclear about whether your use is acceptable under these terms, please contact us. The contact information will be available on the contact page of the EasyChair Web Site.

2.2. Your use of the Service does not create a partnership, joint venture or agency relationship or similar relationship between us and you.

2.3. You are expressly prohibited and shall not permit any third party to reproduce, distribute, sell, duplicate, copy, or otherwise use, display, or otherwise use the Service (including the EasyChair Web Site) for any purpose, unless you have been specifically permitted to do so in a separate agreement with EasyChair Ltd.

2.4. No competitors or future competitors of EasyChair Ltd are permitted access to the Service and EasyChair Ltd reserves the right to suspend or terminate any account created or used by any person employed by or acting on behalf of any such competitor.

2.5. You must not use the Service to advertise or promote any fraudulent conference(s).

3. YOUR USE OF THE SERVICE

3.1. You represent that you are of legal age to form a binding contract and are not prevented from accessing or receiving the Service by any applicable law.

3.2. You agree to only use the Service for lawful purposes and as permitted by these Terms.

```
<preface>
<p><docTitle>BlaBlaCar
Privacy and Data Protection Policy</docTitle></p>
</preface>
<mainBody>
```

```
...
<section>
  <paragraph>
    <content>
```

```
      <heading>8. What are your <concept refersTo="#right">rights</concept> in
respect of your personal data?</heading>
    </>
```

```
      <li>8.1. <def>You are entitled to receive a copy of your personal data that is in our
possession</def> (your <concept refersTo="#rightToAccess">right</concept> of data
access</concept>).</li>
```

```
      <li>8.2. You may request the <def>deletion of personal data</def> or the
<def>correction of inaccurate personal data</def> (your <concept
refersTo="#rightToErasure">right to erasure</concept> and <concept
refersTo="#rightToRectification">rectification</concept>). 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).</li>
```

```
      <li>8.3. <def>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</def>
(<concept refersTo="#rightToObject">your right to object to processing</concept>). Please
note that in the latter case, this right only applies if the processing of your personal
data is based on our legitimate interest.</li>
```

```
      <li>8.4. <def>You have the right to restrict the processing of your personal data</def>
(<concept refersTo="#rightToRestrictProcessing">your right to restriction of
processing</concept>). 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
```

Logic Rules in natural Language

Formal Logic Rules

Smart Contract

```
-- ZenonVM 0.8.1
-- setup
random = E
G = E * P
-- typical
function
  local k;
  return { private = key,
           public = key * G }
end
-- generate the certification request
certreq = keygen(random.order)
-- certreq private is preserved in a safe place
-- certreq public is sent to the CA along with a declaration
-- declaration = { requester = str("Alice"),
                  statement = str("I am stuck in Wonderland") }
-- Requester sends to CA -->
-- ... once upon a time ...
-- CA receives from Requester
-- keypair for CA (known to everyone as the Mad Hatter)
CA = keygen(random.order)
-- from here the CA has received the request
certkey = keygen(random.order)
-- certkey private is sent to requester
-- certkey public is broadcasted
-- public key reconstruction data
```



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



8.4. You have the right to restrict the processing of your personal data (your right to restriction to 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



Reasoning and Machine-executable



Human-readable Explainable



machine-consumable good for what

Drafting applications (“Better regulation”)

Publication and communication

Interoperability & Integration

Search enhancing

Execution (smart contract)

Linguistic support

1. Help the **translation** and the linguistic tasks with AI
2. **NLP tools** for extracting legal knowledge (e.g., actors, events)

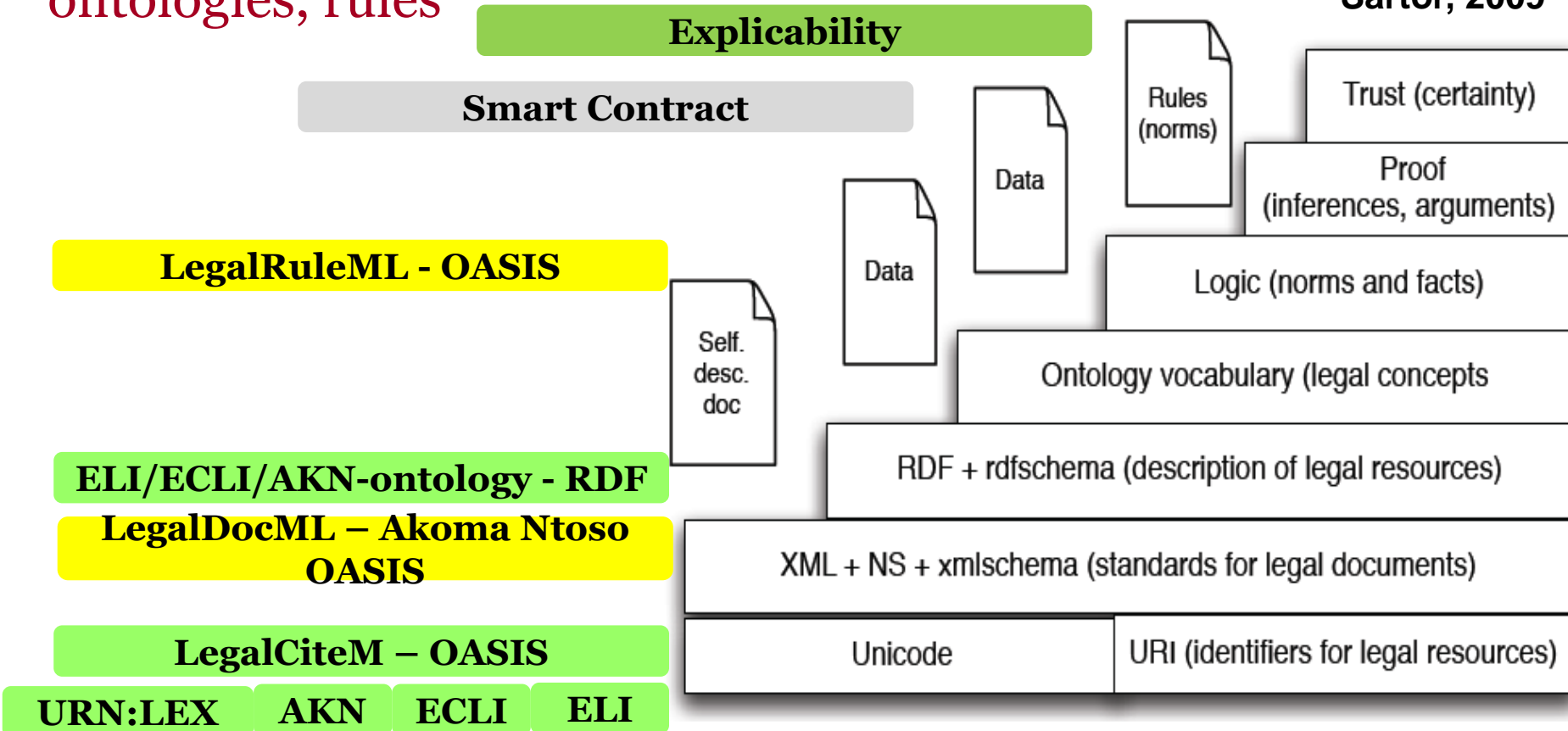
Artificial intelligence applications

1. **Legal Reasoning** (e.g., detect ex-ante legislative inconsistency during drafting)
2. **Compliance checking** (e.g., ex-post analysis GDPR, license)
3. **Machine Learning** Extraction (e.g., clustering, classification, extraction of situations) (e.g., Claudette)
4. **Data analytics** on the documents (e.g., network analysis)

LegalXML

- Provide a set of integrated **standards** for modelling the entire “Semantic Web cake” in the legal domain
- Provide an integrated architecture able to take advantage of the integration of all knowledge and close the gap between **text**, **ontologies**, **rules**

Sartor, 2009

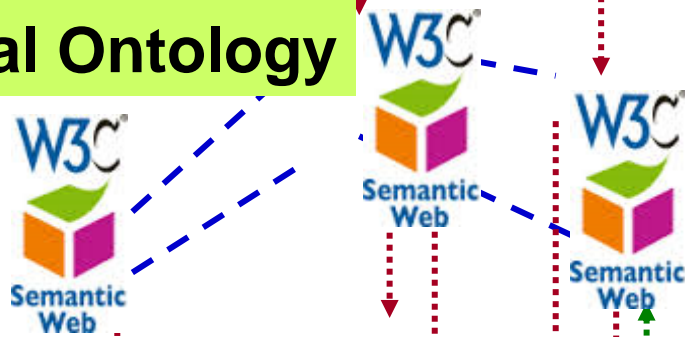


Legal Document, Legal Rules, Legal Ontology

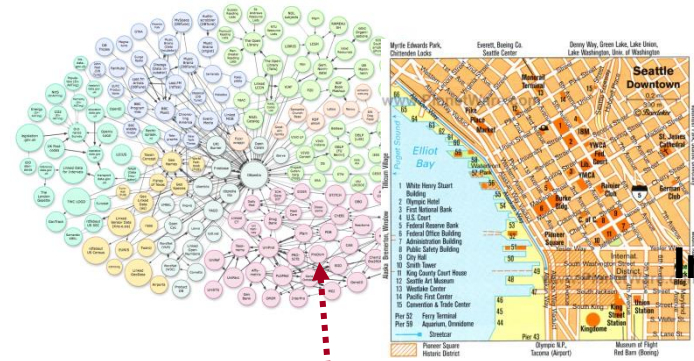
Legal document in XML



Legal Ontology



Logic Rules

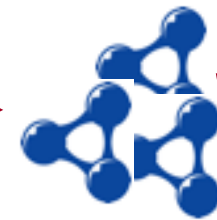


Internet of things



Smart Contract

Linked Open Data

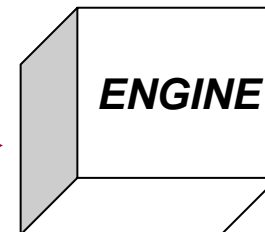


```
pragma solidity ^0.4.17;

contract SimpleStorage {
    uint storedData;

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

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



Certified process

Long-term preservation

Accursio Magna Glossa XI Corpus iuris civilis CODEX

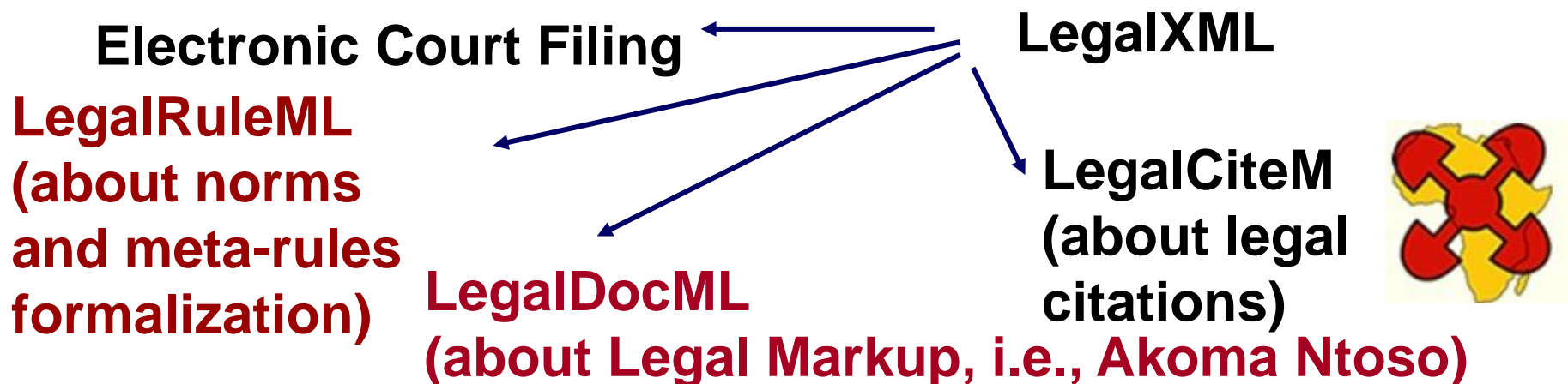
**Editors'
metadata**

Authentic content

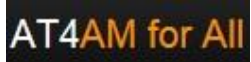













Presentation




- LegalXML.org Community – 1998.
 - Legal, court, business, academic, and technology professionals.
 - Collaboration on non-proprietary standards for the legal community.
- OASIS LegalXML Member Section – March 2002.



Success stories of Akoma Ntoso OASIS


- Senate of Brazil (AKN in Portuguese, acts, bills, point-in-time)
- European Parliament (bill and amendments) 
- Library of Congress of Chile (bill and debates) 
- Senate of Italy (bill publication in open data)  
- **Parliament of Uruguay (bill workflow)**  
- US Code Consolidation service (code management) 
- State of California (xml standard for document management)
- Hong Kong City State (xml standard for document management)  
- Kenya Law Report (xml standard for document management) 
- Federal Chancellery of Switzerland (publication in gazette) 
- High Court of Cassation of Italy (xml standard for document management)  
- FAO pilot cases on standards and Basic Texts 
- UK legislative.gov.uk (access to legislation and LOD)
- South Africa SAFLII <http://www.saflii.org/content/partners> 

Akoma Ntoso is a methodology of theory of law

 UNITED NATIONS SYSTEM CEB

Chief Executives Board
for Coordination

HIGH-LEVEL COMMITTEE ON MANAGEMENT (HLCM)

 **Akoma Ntoso** for the United Nations System

Guidelines for the mark-up of UN normative, parliamentary and judicial documents

**Guidelines for the mark-up of UN
normative, parliamentary and judicial
documents**

Google Custom Search



Part 1

Technical Specifications V 1.0



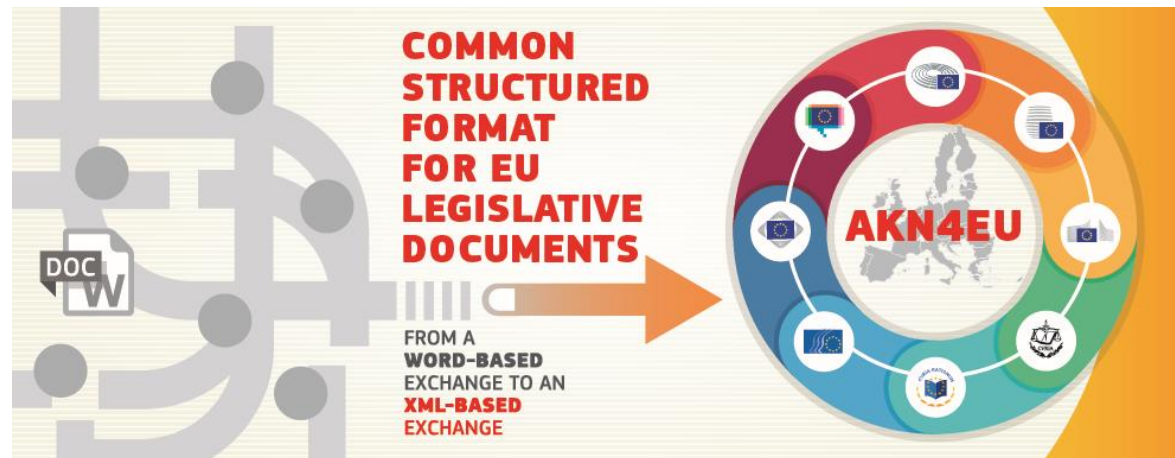
Part 2

Document Modelling V 1.0



Modelling of GA Resolutions

The United Nations System
Document Ontology 



Presidenza del Consiglio dei Ministri Docs Piano Triennale IA Avanzamento digitale Dati ITA

 **AGID** Agenzia per
l'Italia digitale

Seguici su    

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Pubblicata la Circolare n. 2/2019 "Adozione di standard per la
rappresentazione elettronica e l'identificazione univoca del
patrimonio informativo di natura giuridica e istituzione del Forum
Nazionale per l'informazione giuridica"

**Pubblicata la Circolare n. 2/2019
"Adozione di standard per la
rappresentazione elettronica e
l'identificazione univoca del
patrimonio informativo di natura
giuridica e istituzione del Forum
Nazionale per l'informazione
giuridica"**

 CONDIVIDI

Common Law

```
<?xml version="1.0"?>
- <akomaNtoso xmlns="http://docs.oasis-open.org/legaldocml/ns/akn/3.0/CSD13">
  - <act name="UnitedKingdomPublicGeneralAct">
    - <meta>
      - <identification source="#source">
        - <FRBRWork>
          <FRBRthis value="http://www.legislation.gov.uk/id/ukpga/1998/29"/>
          <FRBRuri value="http://www.legislation.gov.uk/id/ukpga/1998/29"/>
          <FRBRdate name="enacted" date="1998-07-16"/>
          <FRBRauthor href="http://www.legislation.gov.uk/id/legislature/UnitedKingdomParliament"/>
          <FRBRcountry value="GB-UKM"/>
```

The image shows two overlapping website screenshots. The background is the UK's official legislation website, [legislation.gov.uk](http://www.legislation.gov.uk), featuring the Royal Coat of Arms and navigation links like 'Home', 'About Us', and 'Browse Legislation'. A large blue banner reads 'THE OFFICIAL HOME OF ENACTED UK LEGISLATION 1267-PRESENT AND CHANGING'. The foreground is the 'Office of the Law Revision Counsel UNITED STATES CODE' website, which includes a sidebar with links like 'Search & Browse', 'Currency and Updating', and 'Downloads'. The main content area discusses the 'Current Release Point' for 'Public Law 114-25' and provides a list of titles with download links in XML, XHTML, PCC, and PDF formats.

<http://www.legislation.gov.uk/developer/formats>

Civil Law



Che cosa è dati.senato.it

Il punto per l'accesso diretto ai dati del Senato della Repubblica. Aggiornamenti quotidiani di informazioni facilmente e liberamente utilizzabili (dati aperti) iter, le votazioni elettroniche d'Aula

Una base informativa messa a disposizione per la conoscenza di cosa viene proposto

I dati sono disponibili in formato libero



data.gouv.fr

Plateforme ouverte des données publiques françaises

Données Réutilisations Organisations Tableau de bord Documentation

Connexion / Inscription

Recherche

Projets de loi de finances - Rédaction de 1ère lecture au Sénat résultant des travaux de l'Assemblée nationale

Ce jeu de données provient d'un service public certifié

Ce jeu de données contient quatre fichiers au format XML :

- le texte de la 1ère partie du projet de loi de finances pour 2018 ;
- le texte de la 2nde partie du projet de loi de finances pour 2018 ;
- le texte de la 1ère partie du projet de loi de finances pour 2019 ;
- le texte de la 2nde partie du projet de loi de finances pour 2019 ;

La structure de ce document est conforme au standard Akoma Ntoso utilisé pour représenter des textes de nature législative et réglementaire. Une présentation exhaustive de ce standard peut être trouvée à l'adresse suivante :

<http://docs.oasis-open.org/legaldocml/akn-core/v1.0/os/part1-vocabulary/akn-core-v1.0-os-part1-vocabulary.html>

Par ailleurs, une notice expliquant la manière dont le Sénat utilise le standard Akoma Ntoso est également mise à disposition.

Producteur



Sénat

Chambre haute du Parlement français

LE GOUVERNEMENT DU GRAND-DUCHÉ DE LUXEMBOURG

luxembourg.lu

Journal officiel du Grand-Duché de Luxembourg

Accueil > Mémorial A > Page de notice d'un acte

5 27 29 31 décembre 2018

MÉMORIAL A

Recherche

Codes

Recueils

Textes UE

Projets

Protocole additionnel le 15 mai 2003 - Re

Acte de base non modifié

Type : divers

Signature : 07/03/2018

Publication : 11/01/2019

Prise d'effet : 01/07/2018

Mémorial : A11

Sujets secondaires : réserve, Portugal, corruption

Permalink ELI : <http://data.legilux.public.lu/eli/etat/leg/div/2018/03/07/a11/qo>

Télécharger la notice dans d'autres formats



Télécharger au format XML

Télécharger au format HTML

Télécharger au format PDF

Télécharger au format RDF

Comparative visualization

Inicio	
 Parlamento del Uruguay	
Buscar en el Parlamento	
PROYECTO DE LEY	PROYECTO DE LEY
Artículo 1º.	Artículo 1º.
<p>- Declárase, por vía interpretativa, a los efectos dispuestos por la Ley Nº 12.091, de 5 de enero de 1954 y por la Ley Nº 16.387, de 27 de abril de 1993, que las embarcaciones deportivas o de recreo, de bandera extranjera, con sus accesorios, que arriben al país navegando por sus propios medios, podrán entrar, permanecer y salir de aguas jurisdiccionales o de puertos o lugares de la República amparadas por su bandera y sin otro requisito que presentar el rol respectivo de la tripulación y la matrícula y sin cumplir con las exigencias aplicables a los buques mercantes, pudiendo ser sus propietarios y/o usuarios, personas físicas o jurídicas, nacionales o extranjeras, radicadas o no en el país.</p>	<p>- Declárase, por vía interpretativa, a los efectos dispuestos por la Ley Nº 12.091, de 5 de enero de 1954, que las embarcaciones deportivas o de recreo, de bandera extranjera, con sus accesorios, que arriben al país navegando por sus propios medios, podrán entrar, permanecer sin límites de tiempo y salir de aguas jurisdiccionales o de puertos o lugares de la República, amparadas por su bandera, registrando el rol respectivo de la tripulación y la matrícula ante la Prefectura Nacional Naval, pudiendo ser sus propietarios y/o usuarios, personas físicas o jurídicas nacionales o extranjeras radicadas o no en el país.</p>
Artículo 6º. (Condiciones)	Artículo 6º. (Condiciones)
<p>-Las prestaciones se otorgarán a los hogares cuyos ingresos por todo concepto, exceptuándose las asignaciones familiares, jubilaciones y pensiones por invalidez y vejez, al mes de marzo de 2005, que no superen los \$ 1.300 (mil trescientos pesos uruguayos) promediales por persona y presenten carencias críticas en sus condiciones de vida. A efectos de calificar tales carencias se considerarán la composición familiar, las condiciones de habitabilidad de la vivienda, su equipamiento y demás condiciones que establezca la reglamentación de la presente ley.</p>	<p>-Las prestaciones se otorgarán a los hogares cuyos ingresos por todo concepto al mes de marzo de 2005, no superen los \$ 1.300 (mil trescientos pesos uruguayos) promediales por persona, y presenten carencias críticas en sus condiciones de vida.  Note 1</p> <p>A efectos de calificar tales carencias se considerarán la composición familiar, las condiciones de habitabilidad de la vivienda y su equipamiento.</p>

Navigation of reference points-in-time

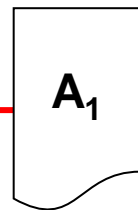
◀◀ iniziale | ◀ precedente modifica | ▶ successiva modifica | ▶▶ attuale

Versione in vigore dal 02/03/1999 al 14/02/2003
(consulta l'indice)

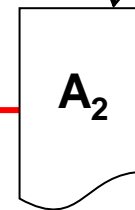
CAPO VI

DELLE COMMISSIONI PERMANENTI, DELLA GIUNTA PER GLI AFFARI DELLE COMUNITA' EUROPEE E DELLE COMMISSIONI SPECIALI E BICAMERALI

9. I disegni di legge, che contengano disposizioni nelle materie indicate dall'articolo 117 della Costituzione e in quelle previste dagli statuti speciali delle Regioni adottati con leggi costituzionali o che riguardino l'attività legislativa o amministrativa delle Regioni, sono trasmessi anche alla Commissione parlamentare per le questioni regionali. Ove quest'ultima, nei termini di cui all'articolo 39, esprima il proprio parere, questo è allegato alla relazione che la Commissione competente presenta all'Assemblea.



1999



2001

The two versions are equally plausible and the resolver has to retrieve both



FAO Constitution

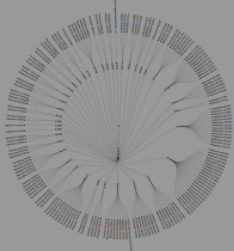


Resolutions

MENU



Related works



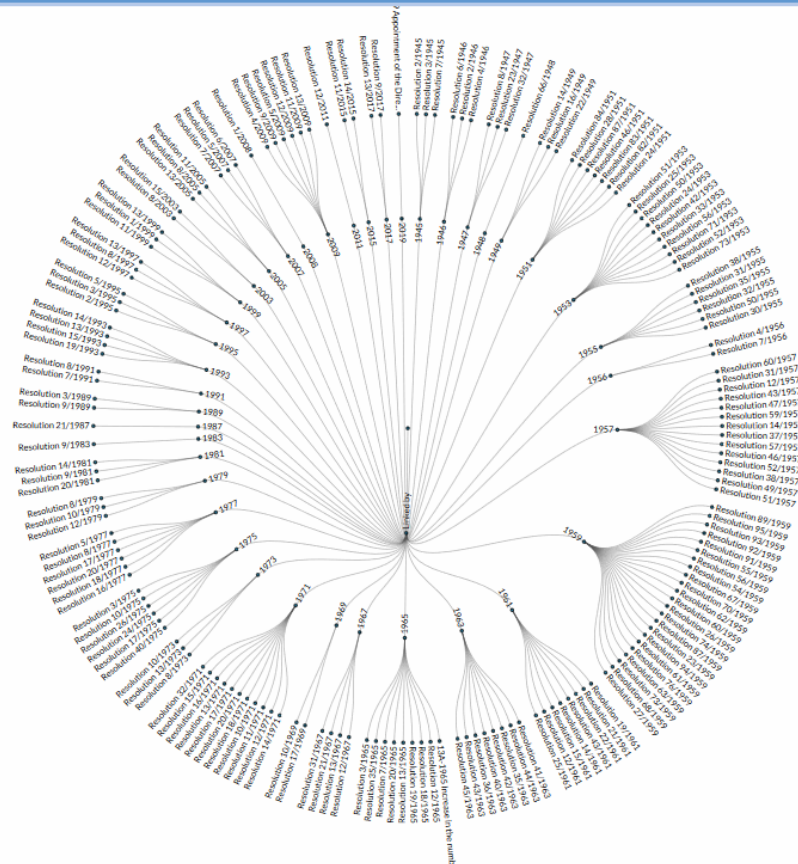
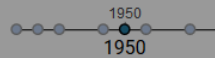
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Preamble

The Nations accep...
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bettering the con...

Body

- ARTICLE I (FUNC...
- ARTICLE II (MEM...
- ARTICLE III (THE



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Constitutional Court Decisions

CIRSFID, ALMA MATER STUDIORUM - Università di Bologna

Sito Cirsfid

Sito Corte Costituzionale

ITA ▾

 Accedi all



Pronunce della Corte Costituzionale

Versione Akoma Ntoso a cura del CIRSFID, Università di Bologna

Home

Pronunce

Informazioni

Gruppo di Lavoro

Pronunce Della Corte Costituzionale

Tutte le pronunce della Corte Costituzionale marcate in Akoma Ntoso.

Cosa puoi fare adesso?

- Consulta il catalogo completo in formato Akoma Ntoso nella sezione "[Pronunce](#)".
- Fai una ricerca mirata [cliccando qui](#) oppure sul pulsante di ricerca in alto a destra.
- Consulta le pronunce a partire dalle annate elencate qui sotto.
- Scarica le annate elencate qui sotto nel formato Akoma Ntoso.

Tutte le pronunce per anno

Nel 2019, la Corte
Costituzionale ha

 2019

Nel 2018, la Corte
Costituzionale ha

 2018

Nel 2017, la Corte
Costituzionale ha

INFORMAZIONI SULLA PRONUNCIA

Sentenza 212/2019

Ecli ECLI:IT:COST:2019:212

Giudizio GIUDIZIO DI LEGITTIMITÀ COSTITUZIONALE IN VIA INCIDENTALE

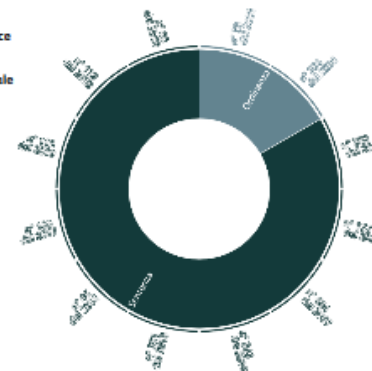
Presidente LATTANZI

Relatore Luca Antonini

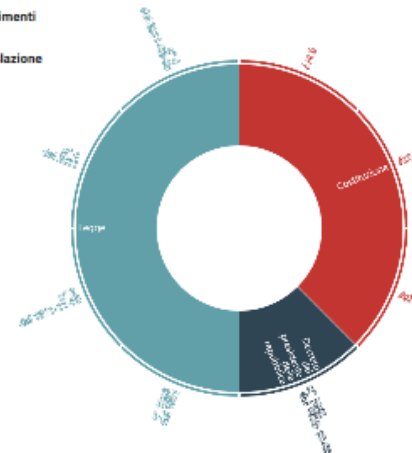
Data
Decisione 2019-07-03

Data Deposito 2019-09-12

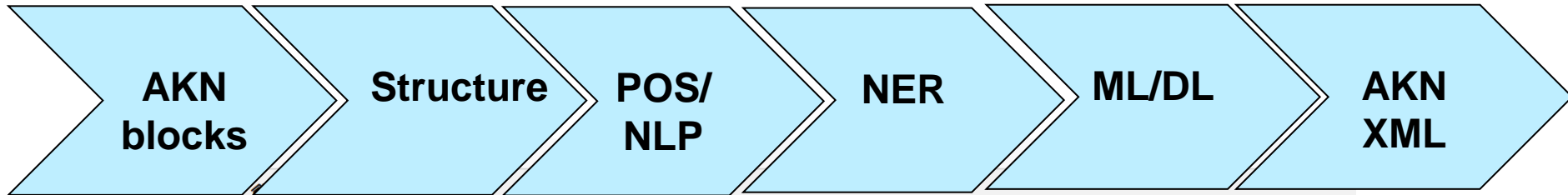
Riferimenti
Alle Pronunce
Della Corte
Costituzionale



Riferimenti
Alla
Legislazione



UNGA Resolutions



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University of Bologna Team Wins First Prize in the United Nations General Assembly Resolutions Extraction and Elicitation Global Challenge

NEW YORK, 29 May 2019 (Office of Information and Communications Technology) - The Secretariat of the United Nations High-Level Committee on Management (HLCM) of the United Nations Chief of Management announced that a team from the University of Bologna, Italy, won a global challenge for the Extraction and Elicitation of United Nations General Assembly Resolutions. The Bologna team was formed by Monica Palmirani, Fabio Vitali, Silvio Peroni, Aldo Gangemi, Andrea Nuzzolese, Octavian Bujor, and Francesco Sovrano.

This challenge was organized by the United Nations High-Level Committee on Management (HLCM) of the United Nations Chief of Management on "Unite Ideas". Unite Ideas is an open innovation and crowdsourcing platform provided by the United Nations Office of Information and Communications Technology to empower computer scientists and innovators worldwide from academia, civil society and the private sector to tackle complex information management challenges.

The challenge aimed to engage computer scientists to produce a programme capable of analysing official United Nations Documents and extracting knowledge from them.

The challenge is part of the ongoing efforts by HLCM and its lead partners, such as the UN Department of General Assembly and Economic and Social Affairs, to produce documents in the machine-readable standard [Akoma Ntoso for the United Nations \(AKN4U\)](#) and judiciary documents. These enhanced documents would improve accessibility and retrieval of information for Member States supporting informed and efficient decision-making.

The winning team made available an open source tool called SANKOFA (Semantic Annotation of Knowledge Featuring Akoma Ntoso) for extracting knowledge from the text by employing natural language processing techniques. SANKOFA can detect the structure of documents, the persons, the places and the organizations mentioned in it, among other attributes.

The Judging Panel also commended the work of a second team that participated in the challenge, that from Sheffield University, formed by Adam Funk, Kalina Bontcheva, Mark A. Greenwood, and Ian Roberts. Their solution, Open-source text processing with GATE, based on the open source software toolkit GATE, was considered very promising and worthy of further development.

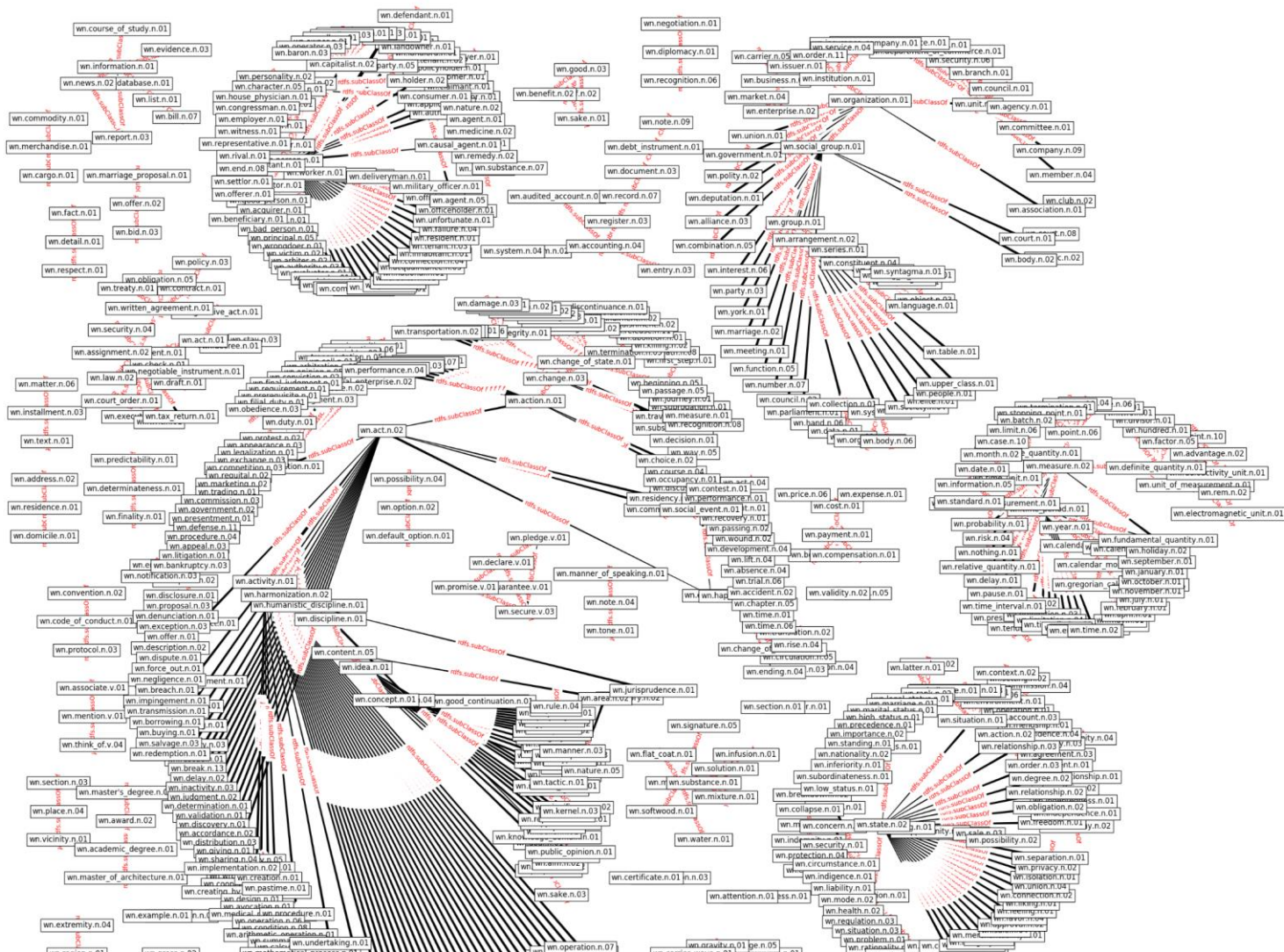
For more information about this challenge and the Unite Ideas platform, please contact Mr. Francesco Delpriore at e-mail: uniteideas@un.org, or visit <https://uniteideas.spigit.com>

Winners

1

SANKOFA – Semantic Annotation of Knowledge Featuring Akoma
By **Monica Palmirani**

Knowledge Graph Extraction



Judge1

Context of rule1

Judge2

Context of rule2

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

```
<ruleml:Rule key=":rule2">
  <ruleml:if> ...</ruleml:if>
  ...
  <ruleml:then>...</ruleml:then>
</ruleml:Rule>...
```

Obligation
Violation
Penalty
Permission
Prohibition
Right

IF X, Y, Z
THEN
OBL[Pay 2% incomes]

Multiple rules as (alternative) interpretations
of the same text

Legal Annotation

<http://sinatra.cirsfid.unibo.it/rawe-legregsw/>

Top-down and Bottom-up

The screenshot displays the LegalRuleML editor interface, which is divided into two main sections: a Document editor on the left and a Rules/Visualizer section on the right.

Document editor (Left):

- Menu Bar:** File, Rules, Preferences, Window.
- Path Bar:** / akn/ Eu/ act/ regulation/ EU/ 2016-04-27/ 679/ eng@/ main.xml/ !main
- Document editor:** Contains the text of a regulation. The title is "REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)".
- Outline:** A vertical sidebar on the far left showing the document structure: Preface, Body, Article, Paragraph.
- Article 8:** The selected article, titled "Article 8", with the subtitle "- Conditions applicable to child's consent in relation to information society service".
- Paragraph 1:** The first paragraph of Article 8, starting with "Where point (a) of Article 6(1) applies, in relation to the offer of information society services directly to a child, the processing of the personal data of a child shall be lawful where the child is at least 16 years old. Where the child is below the age of 16 years, such processing shall be lawful only if and to the extent that consent is given or authorised by the holder of parental responsibility over the child."

Rules/Visualizer (Right):

- Rules:** A tab labeled "Rules" with a "LegalRuleML preview" button.
- Visualizer:** A visual representation of the rule. It shows a hierarchy of components:
 - Statement:** The root level, labeled "ps1".
 - Rule:** A "PrescriptiveStatement" with key "ps1" and closure "universal".
 - If:** A "Paraphrase" block with the text "If the student is minor and if the student is e...".
 - Operator:** An "And" operator with key "and1".
 - Deontic:** A "5" operator (likely a modal operator).
 - Atom:** Several atoms are shown, including "atom1" (key "atom1", iri "child"), "atom2" (key "atom2", iri "atLeast16years"), "atom3" (key "atom3", iri "personalDataProcessing"), and "atom4" (key "atom4", iri "informationSocietyService").
 - Attributes:** Various attributes like "key", "iri", "D", "S", "X" are visible.
 - Ontology:** A section labeled "Ontology" with a red arrow pointing to the "atom3" block.

Some argumentative spans which was correctly detected:

Although, online classes have many advantages, for me, I prefer traditional learning classes for several reasons.

In my point of view, groups provide a place for people to gain experiences or achieve goals.

Finally, living with a roommate allows me to get help.

From my point of view, I am in favor the former statement that some tough experiences people met before will be helpful in their life path.

Connectors (e.g. "In my point of view", "Finally") are correctly excluded, as well as "for me".
Even complex introductive parts (like the 4th sentence) are correctly excluded.

False positives:

Getting opinions from many sources could augment people's performance

Getting opinions from many sources could augment people's performance

Never in history was advertising industry so developed as in modern society and it has led to some adverse sentiments in public because some deliver exaggerated and fake information

Never in history was advertising industry so developed as in modern society and it has led to some adverse sentiments in public because **some deliver exaggerated and fake information**

*The first sentence might be argumentative, but not in its context (essay 289).
The second false positive is probably due to the presence of "because".*

Partially correct:

By doing this, outdoors relationships may expand and it may accompany with sexual relationship and as result, their thoughts deviate from the studies

By doing this, outdoors relationships may expand and it may accompany with sexual relationship **and as result,** their thoughts deviate from the studies

The first and foremost reason lies in the inevitable fact that we need to save time for accomplishing some important tasks, and a fitting example of which can be found in my experience of missing exam

The first and foremost reason lies in the inevitable fact that we need to save time for accomplishing some important tasks, **and a fitting example of which can be found in my** experience of missing exam

The classifier wrongly considered the whole sentences as argumentative.

“White box” approach in Law as Code

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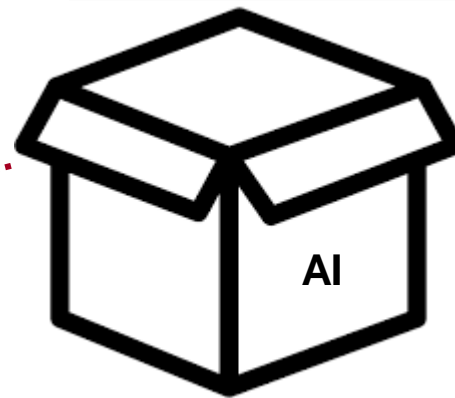


AKOMA NTOSO

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

OASIS LegalXML

LegalRuleML



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



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



Conclusions: AIs for Law

Current state of the art

- detect **structure** of the text and **normative references** (Palmirani, Francesconi, Winkels, etc.)
- extract legal knowledge, legal concept and **semantics** (Robaldo, Di Caro, Gangemi, Tiscornia, Agnoloni, etc.)
- recognize natural **language** elements (Palmirani, Francesconi, Wyner, Villata, Boella, Di Caro, etc.)
- model norms in logic formula (Governatori, Rotolo, Sartor, Gordon, Prakken, van der Torre, Bench-Capon, Atkinson, Liga, Dug, Waltron, etc.), decision support system, checking compliance
- define conditions, values, principles, **interpretation** (Sartor, Boella, Contissa, Rotolo, etc.)
- classify and **group** legislative documents (Ashley, Katz, Bommarito, Lippi, Torroni, Contissa, etc.)

Future works

- generate legal text from UML/BPMN/decision tree
- propose best textual formulation according to patterns
- intercept the new law needs

References

- <http://docs.oasis-open.org/legaldocml/akn-core/v1.0/akn-core-v1.0-part1-vocabulary.html>
- <https://docs.oasis-open.org/legaldocml/akn-nc/v1.0/akn-nc-v1.0.html>
- <https://github.com/oasis-open/legaldocml-akomantoso>
- <https://www.oasis-open.org/committees/legaldocml/>
- <https://unsceb-hlcm.github.io/>
- <http://sinatra.cirsfid.unibo.it/node/portalfaoresolution>
- <http://bach.cirsfid.unibo.it/ldms-cortecostituzionale/>

Technical references

- Text Similarity Approach
- Deep Learning Based Multi-Label Text Classification
- Sentiment analysis
- Spacy
- BoW TF-IDF
- Tree Kernels
- Transfer Learning

**Kindly thank you
for your attention**

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