

IN2106 Master Practical Course

Legal Data Analysis Lab

Information Session

February 7, 2022

Santosh Tokala, Shanshan Xu, Matthias Grabmair

Outline

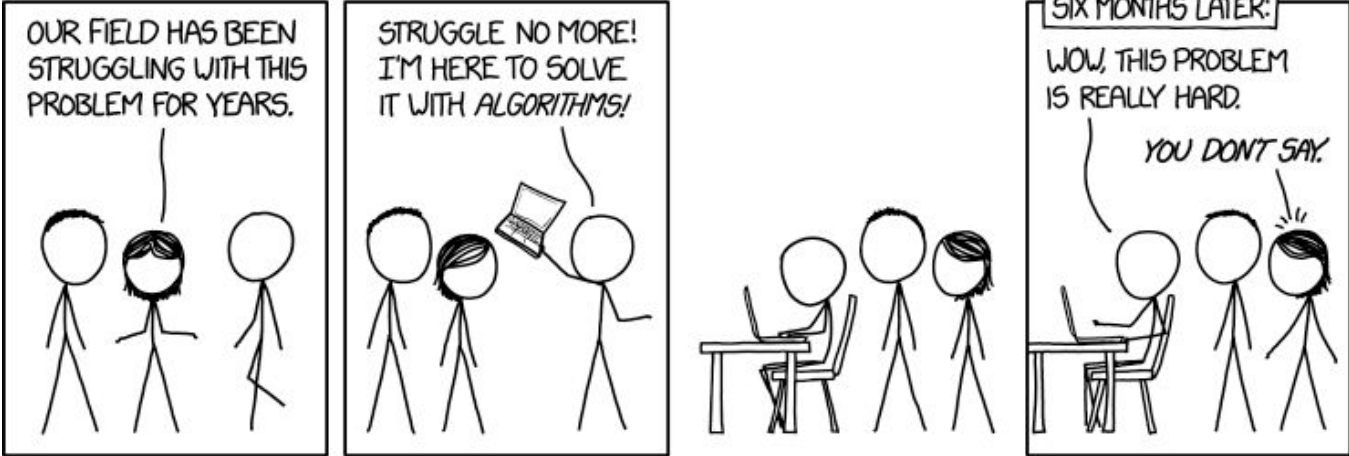
- Thematic Introduction
- Course Structure
- Topic 1: Interpretability for Legal Document Classification
- Topic 2: Rhetorical Role Labelling of Court Judgments
- Topic 3: Legal Language Understanding

AI&Law Research



[\[Wikipedia\]](#)

Also AI&Law Research



<https://xkcd.com/1831>

The Winning Edge For Law Firms

Craft successful strategies, land clients,
and win cases with Legal Analytics.

[Learn More](#)

Predict the behavior of courts, judges, lawyers and parties with Legal Analytics.

Lex Machina's COVID-19 resources for the legal community. [Click here](#)

Contract Analysis (Industry)

Kira

preview.app.kirasystems.com/#project/535/document/27371/worksheet/612/search/NolgebCA0IH4C4AuBDA5jeCDOBTFATgMYAWmi...

BMTI SUPPLY AGR.pdf

Pages 13 / 22 100%

Search for text

If to Luitpold:
Luitpold Pharmaceuticals, Inc.
One Luitpold Drive
P.O. Box 900
Shirley, NY 11967
Attention: Mary Jane Hiclenek
Facsimile: (631) 924-8650

If to BMTI, to:
BioMimetic Therapeutics, Inc.
389-A Nichol Mill Lane
Franklin, TN 37067
Attn: General Counsel
Facsimile: (615) 844-1281

12. MISCELLANEOUS

12.1. Force Majeure. Failure or delay by a party in the performance of its obligations hereunder shall be excused to the extent that performance is rendered impossible by strike, fire, flood, earthquake, windstorm, power or utilities shortage, governmental acts, orders or restrictions, or any other cause, to the extent that the failure to perform is beyond the reasonable control and not caused by the negligence or willful misconduct of the non-performing party, provided that such Force Majeure event extends beyond one hundred and twenty (120) days, the unaffected party may, forthwith terminate this Agreement.

12.2. Independent Contractors. The relationship of Luitpold and BMTI hereunder is that of independent contractors, and nothing contained herein shall be construed (a) to give either party the power to direct or control the day-to-day activities of the other, (b) to constitute the parties as partners, joint ventures, co-owners or otherwise as participants in a joint or common undertaking or (c) to allow a party to create or assume any obligation on behalf of the other party for any purpose whatsoever.

12.3. Assignment. Neither party may transfer or assign, whether directly or indirectly, this Agreement or its rights or obligations hereunder, without the prior written consent of the other party, which consent shall not be unreasonably withheld, except that either party may transfer or assign any of its rights and obligations hereunder to any Affiliate or any corporation or a person that acquires all or substantially all of the business or assets of such party to which this Agreement relates or pursuant to a merger or consolidation. Each party shall notify the other promptly following any such transfer, assignment, merger or consolidation. Any purported assignment in contravention of this Section 12.3 shall, at the option of the non-assigning party, be null and void. This Agreement shall be binding upon and inure to, the benefit of the parties hereto, their successors and permitted assigns.

-11-

Search for fields

Page 13/22

12.1 Force Majeure. Failure or delay by a party in the performance of its obligations hereunder shall be excused to the extent that performance is rendered impossible by strike, fire, flood, earthquake, windstorm, power or utilities shortage, governmental acts, orders or restrictions, or any other cause, to the extent that the failure to perform is beyond the reasonable control and not caused by the negligence or willful misconduct of the non-performing party, provided that such Force Majeure event extends beyond one hundred and twenty (120) days, the unaffected party may forthwith terminate this Agreement.

• FORCE MAJEURE x

• TERMINATION x

• ASSIGNMENT x

• ALL OR SUBSTANTIALLY... x

• CHANGE OF CONTROL x

Show All

• Governing Law (Full Paragraph) (1)

Summary

Enter summary here...

Page 14/22

12.8 Governing Law. This Agreement and the performance of the parties thereunder shall be construed in accordance with and governed by the laws of the State of Delaware, as applied to agreements between Delaware residents to be performed entirely within Delaware.

Legal NLP Goals: Towards Argument-Information Queries

“Give me all decisions by the federal court of appeals for veterans claims where a plaintiff successfully argued that a partial loss of eyesight while on duty entitles him to maximum disability benefits”

Legal information & reasoning quirks:

- Legal document long and typically multi-actor and multi-opinion
- Domain facts are disputed
- Agreement and disagreement among actors critical to understanding of document
- Statements about statements
- External citations & extreme use of coreference

Legal Text (US) : Structure

In fact, we understand that the technology industry now considers predictive coding to be widely accepted for limiting e-discovery to relevant documents and effecting discovery of ESI without an undue burden.^[10] See *Progressive Cas. Ins. Co. v. Delaney, No. 2:11-cv-00678-LRH-PAL*, 2014 WL 3563467, at *8 (D. Nev. July 18, 2014) (stating with citations of articles that predictive coding has proved to be an accurate way to comply with a discovery request for ESI and that studies show it is more accurate than human review or keyword searches); *F.D.I.C. v. Bowden, No. CV413-245*, 2014 WL 2548137, at *13 (S.D. Ga. June 6, 2014) (directing that the parties consider the use of predictive coding). See generally Nicholas Barry, "Man Versus Machine Review: The Showdown between Hordes of Discovery Lawyers and a Computer-Utilizing Predictive-Coding Technology", 15 *Vand. J. Ent. & Tech. L.* 343 (2013); Lisa C. Wood, "Predictive Coding Has Arrived", 28 *ABA Antitrust J.* 93 (2013). The use of predictive coding also is not unprecedented in Federal litigation. See, e.g., *Hinterberger v. Catholic Health Sys., Inc., No. 08-CV-3805(F)*, 2013 WL 2250603 (W.D.N.Y. May 21, 2013); *In re Actos, No. 6:11-md-2299*, 2012 WL 7861249 (W.D. La. July 27, 2012); *Moore*, 287 F.R.D. 182. Where, as here, petitioners reasonably request to use predictive coding to conserve time and expense, and represent to the Court that they will retain electronic discovery experts to meet with respondent's counsel or his experts to conduct a search acceptable to respondent, we see no reason petitioners should not be allowed to use predictive coding to respond to respondent's discovery request. Cf. *Progressive Cas. Ins. Co.*, 2014 WL 3563467, at *10-*12 (declining to allow the use of predictive coding where the record lacked the necessary transparency and cooperation among counsel in the review and production of ESI responsive to the discovery request).

Neural Text-Outcome Prediction: ECHR

Attention/BERT-based models predicting

- Binary Violation Yes / No : **~.82** F1
- Multi-Label: Article Violation: **~.60** F1
- Case importance score

Data:

~11.5k ECHR decision
fact sections drafted
before case decision

Visualized attention

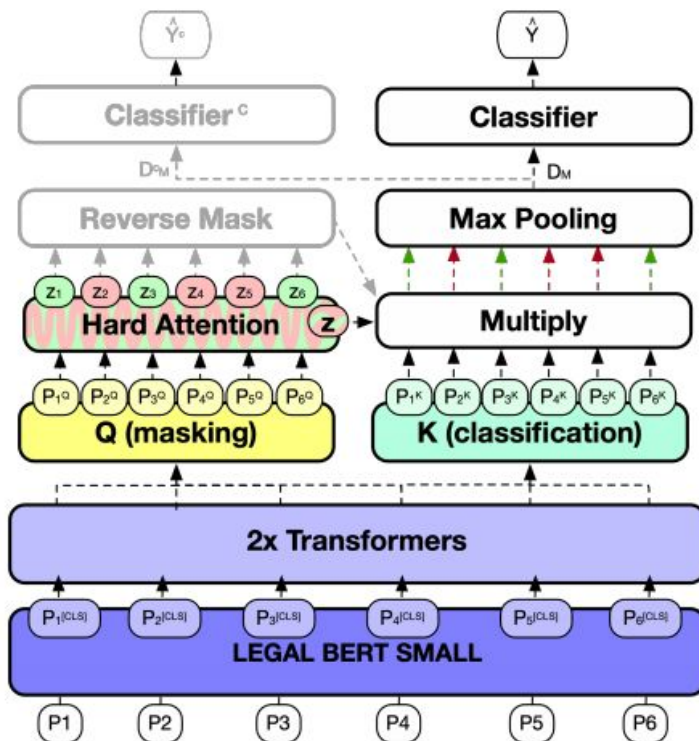
scores:

Case ID: 001-148227 Violated Articles: Article 3 Predicted Violation: YES (0.97%)

1. The applicant was born in 1955 and lives in **Kharkiv**.
2. On 5 May 2004 the applicant was arrested by four police officers on **suspicion** of bribe - taking .
The police officers took him to the **Kharkiv Dzerzhynskyy District Police Station** , where he was held **overnight** .
According to the applicant , the **police officers** beat him for several hours , forcing him to confess .
3. On 6 May 2004 the applicant was taken to the **Kharkiv City Prosecutor's Office** . He complained of ill-treatment to a senior prosecutor from the above office . The **prosecutor** referred the **applicant** for a forensic medical examination .
4. On 7 May 2004 the **applicant** was diagnosed with **concussion** and admitted to **hospital** .
5. On 8 May 2004 the **applicant** underwent a forensic medical examination , which established that he had numerous **bruises** on his face , chest , legs and arms , as well as a **damaged** tooth .
6. On 11 May 2004 criminal **proceedings** were instituted against the applicant on charges of bribe-taking . They were eventually terminated on 27 April 2007 for lack of corpus **delicti** .
7. On 2 June 2004 the applicant **lodged** another complaint of ill - treatment with the **Kharkiv City Prosecutor's Office** .

[Chalkidis et al 2019]

Training Rationale Extraction End2End



Weight & aggregate outcome prediction loss and specialized losses:

Sparsity: L_s

Not all facts should be relevant

Continuity: L_c

Relevant facts should appear together (discarded during optimization)

Comprehensiveness: L_g

Non-extracted facts should not predict outcome

Singularity: L_r

Extracted facts should be more predictive than random extraction

Also: Possible supervision through silver rationales

(a) Prompt: Appellant urges that he acted diligently to present his claim to the court and that this diligence should justify the one-day delay. Without reciting all of the details of his efforts we note that the 90-day period for filing a complaint expired on May 14, 1973.

(b) Genuine Ending: On March 6, 1973, he had sought the services of an attorney to draft a formal complaint for him. The complaint was prepared and delivered to him prior to the filing deadline but the exact date is not clear from the record. Appellant's Memorandum in Support of Motion to Appeal would indicate this date as April 13, 1972.

(c) Transformer-XL: In this connection, the Nygren's argument is without support. Appellant argues, for example, for a period not exceeding five days after filing an indictment on October 15. Appellee argues, for example for an offense involving his activities under §506, which was committed on October 22 and April 22.

(d) Vanilla GPT-2: Appellant was able to present his claim in the court in less than 10 days, which is not a trivial amount of time to provide for a review of a case in which the complaint was filed within the 90-day period . Moreover, it is undisputed that appellant did not have any prior knowledge of the nature of the allegations and the nature of the issues raised in the complaint.

(e) Fine-tuned GPT-2 on Legal Text: The Government's failure to disclose the facts of the case, and the failure of the court to address the underlying factual issues is not at issue here. On November 19, 1973, respondent filed his civil suit in the District Court. The District Court denied the claim for \$ 100 million, arguing that the District Court had not acted to protect his interest in the case, and that there was no constitutional or statutory impediment to enforcing the suit.

[\[Peric et al 2020\]](#)



YOUR FULL SENTENCE QUERY

The plaintiff cannot both rely on a fact and its opposite

All State & Fed.

Published & unpublished



Wyatt v. Ohio Dept. of Transp

87 Ohio App. 3d 1 (Ohio Ct. App. 1993)

The judgment of the trial court is affirmed.

..." [A] party may not create a factual issue by filing an affidavit, after a motion for summary judgment has been made, which contradicts his earlier deposition testimony.' Gagne v. Northwestern National Insurance Co. (C.A.6, 1989), 881 F.2d 309, 315." **It is a logical extension to conclude that a party may not advance as true two completely opposite facts in order to create a genuine issue for summary judgment purposes.** Additionally, in Ohio Dept. of Adm. Serv. v. Morrow (1990), 67 Ohio App.3d 225, 236, 586 N.E.2d 259, 266, the court made the following observation:...

Copy with cite

[\[CaseText Parallel Search\]](#)

[\[Blog Post\]](#)

Commercial Legal QA

The screenshot shows the Lexis+ interface with a search query: "Can a municipality be held liable for the actions of its officers under respondeat superior". The results are categorized under "Cases" with 10,000+ results. A sidebar on the left lists various filters such as "Search Within Results", "Court", "Timeline", "Subscription", "Publication Status", "Sources", "Practice Areas & Topics", "Attorney", "Law Firm", "Most Cited", and "Keyword". The main content area, titled "Answers", provides a summary of the legal principle: "The Supreme Court has placed strict limitations on municipal liability under 42 U.S.C.S. § 1983. There is no respondeat superior liability making a municipality liable for the wrongful actions of its police officers in making a false arrest. Instead, a municipality may be held liable for the actions of a police officer only when municipal official policy causes a constitutional violation." Below this summary, three specific cases are listed: **Gold v. City of Miami** (United States Court of Appeals, Eleventh Circuit | Aug 27, 1998 | 151 F.3d 1346), **Jenkins v. New York** (United States District Court, New York Southern | Jun 15, 1992 | 1992 U.S. Dist. LEXIS 8279), and **Muller v. United States Treasury BATF** (United States District Court, Louisiana Eastern | Dec 16, 1998 | 1998 U.S. Dist. LEXIS 21203).

[Lexis Answers]

Course Structure

- **Semester start: ~ Week 1-2**

- Presentation & Discussion Sessions “Legal NLP in a Nutshell”
- Submission of topic preferences & matching
- Commence individual literature survey on topic

- **Milestone 1: ~ Week 4-5**

- Literature survey presentations (10+5)
- Team formation after survey submission
- Commence work on implementation and regular meetings

- **Milestone 2: ~ Week 10**

- Basic prototype evaluation completed
- Progress presentation to peers
- Anonymous team internal peer review

- **Milestone 3: ~ Week 14
(end of semester)**

- Error analysis and model improvement completed, + optional objectives
- Final presentation (equal share by team members)
- Final report (group + individual parts)

Team Meetings & Updates

- Project groups of 3-4 people each (formed randomly per topic)
- Whole class meets during session times for legal NLP introduction, M2 midway, and M3 final presentations
- Non-presentation weeks:
 - Every group assigned 45 minute slot to meet with mentor every week (or according to agreement)
 - Group submits set of written individual work updates every week
- Mentor has access to code repository

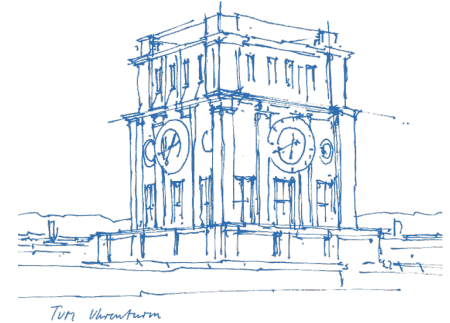
Grading Scheme

Item	Points
Individual contribution to technical project work	40
M1: Literature survey presentation & QA	10
M2: Update Presentation	10
M3: Final Presentation & QA	15
M3: Final Report (individual parts)	10
Individual weekly progress updates	10
Participation in Peer Review	5

Questions?

Topic 1

Interpretability for Legal Document Classification



Why Interpretability in Legal NLP?

- Machine learning (ML) is developing rapidly and has a huge potential to aid the decision-making process in legal applications.
- ML models usually are black boxes. The lack of explanation hurts trust and creates barriers
- In legal domain it is very important that the processing and analysis are explained in an interpretable manner.

Universal Trigger Attack

- Given a text classification task
- Find a short phrase (universal trigger) and concatenat it to an input.
- Once the trigger is inserted into **any** input, it would cause the prediction to be y.

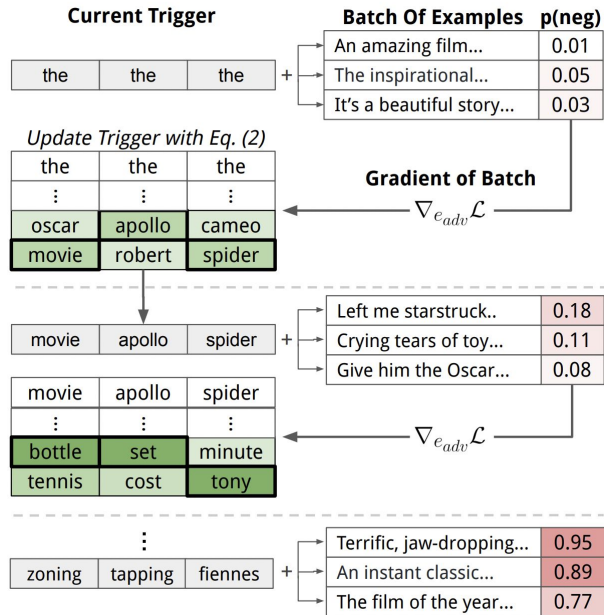
Task	Input (red = trigger)	Model Prediction
Sentiment Analysis	zoning tapping fiennes Visually imaginative, thematically instructive and thoroughly delightful, it takes us on a roller-coaster ride...	Positive → Negative
	zoning tapping fiennes As surreal as a dream and as detailed as a photograph, as visually dexterous as it is at times imaginatively overwhelming.	Positive → Negative

Wallace, Eric, et al. 2019

The trigger and a target label form a decision rule, that can serve as an explanation. They can be particularly useful to debug or detect bias in NLP models or datasets.

- Paper Reference: [Universal Adversarial Triggers, HotFlip, Natural Triggers for Text Classification, EMNLP 2020 Tutorial on Interpretability](#)
- Code Reference: <https://github.com/Eric-Wallace/universal-triggers>

How to Find the Triggers



Wallace et al. 2021:
<https://arxiv.org/pdf/1908.07125.pdf>

CLAUDETTE dataset

Lippi, Marco, et al 2019: <https://arxiv.org/pdf/1805.01217.pdf>

Detect Unfair Terms in Clauses in Online Terms of Service

“the biggest lie on the Internet is ‘I have read and agree to the terms and conditions’.”

You and Dropbox agree that any judicial proceeding to resolve claims relating to these Terms or the Services will be brought in the federal or state courts of San Francisco County, California, subject to the mandatory arbitration provisions below. Both you and Dropbox consent to venue and personal jurisdiction in such courts.



Classifier



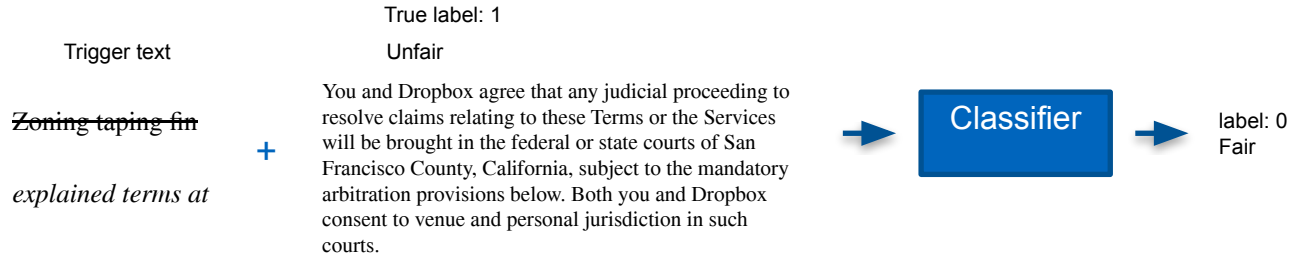
label: 1
Unfair

Similar Dataset in German:

Illegal Clauses in German Terms and Conditions in Online Shopping

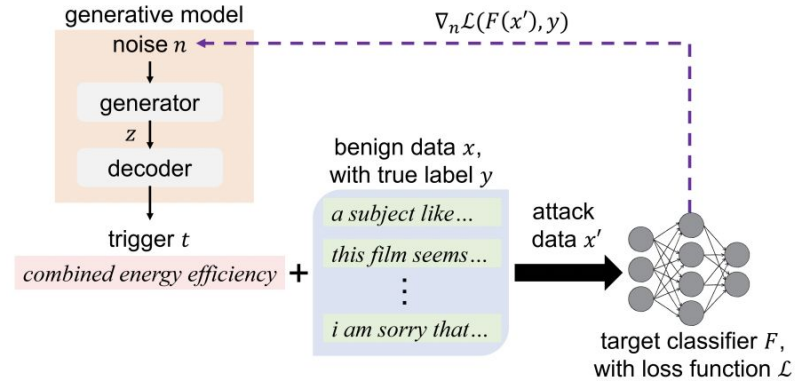
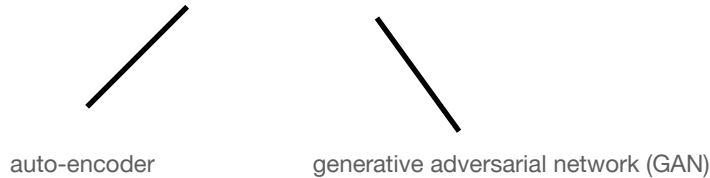
(Braun et al. 2021)

Natural Universal Triggers



How to Find the Natural Triggers

Adversarially Regularized Autoencoder



[Song et al. 2021](#)

Overview of the attack. Based on the gradient of the target model (text classifier)'s loss function, we iteratively update the noise vector n with small perturbation to obtain successful and natural attack triggers.

Universal Adversarial Triggers

Reproduction (10): Implement the approach by writing a simple interface that is compatible with the legalBERT model and CLAUDETTE dataset and successfully generates triggers.

Extension (5) Typically, triggers are always prepended to inputs. Experiment, what happens when you change the insert location of triggers. For example, you could insert the triggers at the end, or even spread them across different locations in the input.

Naturalness (15): Make the triggers more natural by implementing the approach in Song et al 2021. Can you further improve it?

Visualization (10): try different attribution algorithms such as IntegratedGradients and Saliency to attribute the trigger input to the label and visualise it with. Analyse and demonstrate the use of triggers by debugging a dataset/model combination

Transferability (10): evaluate the attack transferability of our universal adversarial attacks to different models and datasets.

Bonus

Long text (20) Long text is common in the legal domain. Generate triggers for the ECHR dataset and visualize it. What do you find?

Robustness (20) How to improve the current model's robustness against adversarial attacks?

Questions?

Topic 2 Rhetorical Role Labelling of Court Judgements

Sequential Sentence Classification

Rhetorical Role Labelling of Court Judgements : Introduction

While judgements from some countries
have the segmented structure, ...

Eg: Federal Court of Canada

Background

[2] At the trial, the Court was informed that the action instituted by the plaintiff company was the result of a long-standing grievance of the company's owner who had publicly expressed his strong disapproval with s. 67 of the *Canada Elections Act*. Section 67 reads as follows:

67. Everyone is guilty of an offence against this Act who at any time during the hours that the polls are open on the ordinary polling day sells, gives, offers or provides any fermented or spirituous liquor at any hotel, tavern, shop or other public place within an electoral district where a poll is being held.

[3] The company's owner, in pursuing his grievance, had finally instituted action before this Court for declaratory relief. It is unfortunate that by reason of his untimely demise in December of 1984, the owner was unable to have his day in court when the trial date was reached. Nevertheless, his surviving widow, Marjorie Frimeth, took up her late husband's cudgels. As the beneficiary of her husband's estate and as a director and shareholder of the plaintiff company, she instructed her counsel to continue with the action. Such is, in my view, a commendable decision.

Preliminary ruling

[4] At the opening of the trial of the action, counsel for the plaintiff filed a motion to have Marjorie Frimeth added as a party-plaintiff and to have the pleadings amended accordingly. I should grant the motion. It enables all the issues to be traversed without being bogged down by questions of status under either the *Canadian Bill of Rights* or the *Canadian Charter of Rights and Freedoms*.

[5] Status, in my view, has two elements. One deals with the interest of any particular person, corporate or physical, in the statutory provision impugned. The other, equally important, is whether a corporate person, as against a physical person, is entitled to the protection of some or any of the rights secured under the *Canadian Bill of Rights* or the *Canadian Charter of Rights and Freedoms*.

Conclusion

[69] Counsel before me have both contributed to an interesting and stimulating debate. The plaintiffs, in spite of a valiant and indeed spirited attempt have not succeeded before this court in knocking down s. 67 of the *Canada Elections Act*. Notwithstanding what appears to them and to many others as an obsolete statutory provision, I have been unable to find any judicial grounds on which to interfere.

[70] Perhaps s. 67 is deadwood. I should venture to suggest, however, that it is neither the duty nor the privilege of courts to remove deadwood from Canadian statutes. The limits to judicial review are to inquire into the constitutional validity of legislative enactments pursuant to constitutional restraints set out in the Canadian Constitution. If any enactment should successfully resist any challenges under the Constitution, it is to the Legislature, and not to the courts, that the community should find relief.

[71] The action is dismissed with costs if demanded.

[72] Action dismissed.

Introduction

documents from other countries are devoid of any such structure

Eg: Supreme Court of India

Typical structure of an Indian court judgement. The flow is not linear and these roles can appear in any sequence.

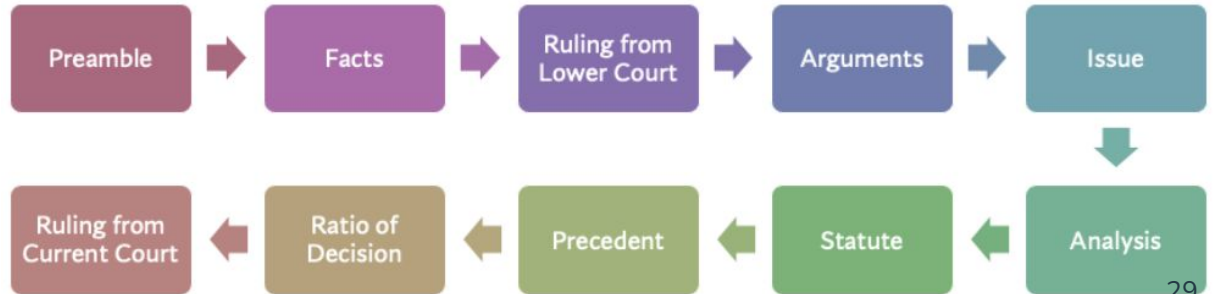
1. Original complainant in Sessions Case No.127 of 1989 before the Sessions Judge, West Dinajpur, at Balurghat is in appeal before us in the above Criminal Appeal, against the judgment of acquittal made by the High Court Calcutta in Criminal Death Reference No.4/1990 and Criminal Appeal No.327 of 1990. The State has not preferred any appeal against the judgment of the High Court, but is a party respondent before us.

2. Prosecution case briefly stated is that one Suchitra, the daughter of the appellant herein was married to Nakul Chandra son of Sarat Chandra Mandal, accused No.1 before the Sessions Court. At the time of the marriage, there was an agreement to pay dowry in cash of Rs. 5001/- out of which, Rs. 3001 was paid to the accused A-1 by the appellant but he could not pay the balance amount of dowry due to poverty. A-1 was living with his wife A-4 and five of his children of which A-3 Sachindra Nath Mandal is one of them who was living with his wife Gauri Mandal, who was A-4 before the Sessions Court. The husband of deceased Suchitra was Nakul Mandal, who was also staying with his father. It is the prosecution case that because of the non-payment of balance of dowry, there was constant torture and ill-treatment of the deceased by the accused persons. This was made known to the appellant (PW-11) as also his wife PW-1 Arati Sarkar.

3. On 16.8.1986, PW-1 had come to know that her daughter had consumed poison in the house of accused No.1 (father in-law) and in view of the fact PW-11, husband of PW-1 was along with PW-2 away in the field, had proceeded towards the village of her sambandini and on the way they met one Nakul Bhunia, who took them on his cycle towards Durlapur. Further on the way, they found the body of deceased Suchitra being carried on Plank tied to the same by A-3 Sachinder Mandal with the help of some people and on seeing them A-3 and others left the body there and went to some distance. When PW-1 and PW-2 went near the body, they found bleeding from the mouth and nostril of the deceased, therefore they took the deceased across the river Pagliganj to Balurghat Hospital, where PW-15 Dr. Nath examined the deceased and declared her as brought dead. He also opined that, the death was caused by throttling. On the basis of the information, received from the Dr. PW-15, the police of the Balurghat Police Station registered a case under Section 302 [IPC](#) and started the investigation. The body was sent for post-mortem examination, which was conducted by Dr. D. Shah PW-14 on 17.8.1986. He opined that cause of death of the deceased was due to manual strangulation and was homicidal in nature. During the post-mortem, he noticed the bruise mark on the neck and both on right and left side of the wind pipe. On dissection, he found the hyoid bone fractured. After completion of the investigation, the police filed charge-sheet against the above-mentioned four accused persons.

4. The prosecution has primarily relied upon the evidence of PW-1, the mother, PW-2 aunt, PW-4 brother, PW-11, the father and another relative PW-2, Govind Sarkar to establish the fact that there was a dowry demand, pursuant to which the deceased was being tortured and on the date of incident the body of the deceased was being carried on a plank tied to the same. The prosecution also relied upon the medical evidence to establish the fact that there was a homicidal death by throttling.

5. A very peculiar defence was taken by the accused persons who contended that on the fateful day, the deceased had consumed poison and when it was noticed by her husband, Nukul, he tried to prevent the deceased from swallowing the poison by pressing the neck at which time A-3, brother in law of the deceased allegedly came and put his finger into the throat of the deceased to make her vomit the poison. The further contention was that at that point of time, deceased was alive, therefore, they decided to take her to the hospital and it was during that time that the mother of the deceased met on the way when the body was being taken to the hospital. The Trial Court on consideration of the evidence on record came to the conclusion that the prosecution by circumstantial evidence has established the case against the accused, hence held the accused persons guilty and awarded capital punishment to A-3, the brother in law of the deceased, Suchindra Nath Mandal, while the other three accused persons were convicted under Section 302 read with 34 and were awarded life imprisonment.



Rhetorical Role Labelling of Court Judgements: Introduction

Rhetorical role labeling is an important problem in the field of Legal Analytics, since it can aid in various downstream tasks and overall aid in enhancing the readability of lengthy case documents. Potential use cases where it can offer great potential is

- A web-based semantic viewer
- Semantic search tools
- Case Summarizer
- Argument Miner, recommender, generator
- Argument based decision predictors
-
-
-

Rhetorical Role Labelling of Court Judgements: Problem Formulation

Rhetorical role labeling is an important problem in the field of Legal Analytics, since it can aid in various downstream tasks and overall aid in enhancing the readability of lengthy case documents.

We pose this problem as sequential sentence classification : the goal is to classify each sentence in a sequence of n sentences in a document to each of the predefined rhetoric labels

IN THE COURT OF THE V ADDL SESSIONS JUDGE, MYSORE. Dated this the 23rd day of May 2013 ... The Petitioner is a businessman and he is permanent resident of Mysore City... On behalf of the Prosecution the learned Public Prosecutor has filed objection to the bail Petition stating that, there ...Now, the points that arise for consideration of the Court are: 1. Whether the Petitioner has made out sufficient grounds to release him on Anticipatory Bail? ... Heard the arguments advanced by the learned advocate for the Petitioner and the learned Public Prosecutor...Considering all these aspects, the Court is of the view that, ...Point No.2: For the foregoing reasons and in view of my above discussions, I proceed to pass the following ...The High Court by its order dated October 26, 1982 set aside the order of the Tribunal and also the assessment on the ground ...The petitioners are falsely implicated and the charge sheet has been filed against the petitioners merely ...My findings on the above points are as follows: Point No.1: In the Positive Point No.2 : As per final order for the following...In a decision reported in (2013) 1 KCCR 334 case of K.Ramachandra Reddy Vs. State of Karnataka by the Station House Officer...The decision of the Andhra Pradesh High Court ... are not relevant for purposes of deciding the question which has arisen before us...

IN THE COURT OF THE V ADDL SESSIONS JUDGE, MYSORE. Dated this the 23rd day of May 2013 ... **Preamble**

The Petitioner is a businessman and he is permanent resident of Mysore City... **Fact**

On behalf of the Prosecution the learned Public Prosecutor has filed objection to the bail Petition stating that, there ... **Arg by Respondent**

Now, the points that arise for consideration of the Court are: 1. Whether the Petitioner has made out sufficient grounds to release him on Anticipatory Bail?... **Issue**

Heard the arguments advanced by the learned advocate for the Petitioner and the learned Public Prosecutor... **None**

Considering all these aspects, the Court is of the view that, ... **Ratio**

Point No.2: For the foregoing reasons and in view of my above discussions, I proceed to pass the following ... **Ruling by present court**

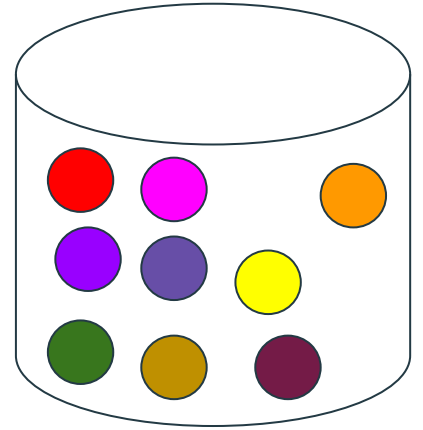
The High Court by its order dated October 26, 1982 set aside the order of the Tribunal and also the assessment on the ground ... **Ruling by lower court**

The petitioners are falsely implicated and the charge sheet has been filed against the petitioners merely ... **Arg by Petitioner**

My findings on the above points are as follows: Point No.1 : In the Positive Point No.2 : As per final order for the following... **Analysis**

In a decision reported in (2013) 1 KCCR 334 case of K.Ramachandra Reddy Vs. State of Karnataka by the Station House Officer... **Precedent Relied upon**

The decision of the Andhra Pradesh High Court ... are not relevant for purposes of deciding the question which has arisen before us... **Precedent not Relied upon**



Rhetorical Role Labelling of Court Judgements: Proposal-1

Cast this sequential sentence classification as span identification & classification paradigm [1,2]

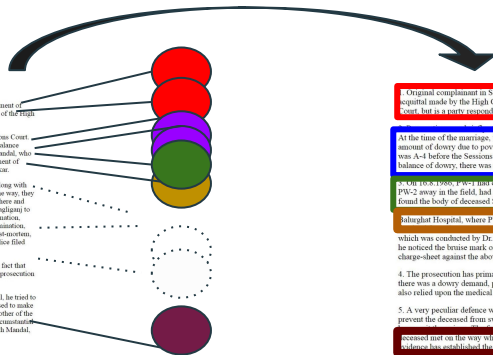
1. Original complaint in Sessions Case No.127 of 1989 before the Sessions Judge, West Dinnagar, at Bahargarh is in appeal before us in the above Criminal Appeal, against the judgment of acquittal made by the High Court Calcutta in Criminal Death Reference No.4/1990 and Criminal Appeal No.127 of 1990. The State has not preferred any appeal against the judgment of the High Court, but a copy responded before us.

2. Prosecution case briefly stated is that one Suchitra, the daughter of the appellant herein was married to Nihal Chandra son of Sant Chandra Mandal, accused No.11, before the Sessions Court. At the time of the marriage, there was an agreement to pay dowry in cash of Rs. 5001/- out of which, Rs. 3001 was paid to the accused A-1 by the appellant but he could not pay the balance amount of dowry due to poverty. A-1 was living with his wife A-1 and five of his children of which A-3 Sachindra Nath Mandal is one of them who was living with his wife Gena Mandal, who was A-4 before the Sessions Court. The husband of deceased Suchitra was Nihal Mandal, who was also staying with his father. It is the prosecution case that because of the non-payment of balance of dowry, there was constant torture and ill-treatment of the deceased by the accused persons. This was made known to the appellant (PW-11) as also his wife PW-1 Arati Sarkar.

3. On 16.8.1986, PW-11 had come to know that her daughter had consumed poison in the house of accused No.1 (father-in-law) and in view of the fact PW-11, husband of PW-1 was along with PW-2 away in the field, had proceeded towards the village of her husband and on the way they met one Nihal Bhanu, who took them on his cycle towards Dindarpur. Further on the way, they found the body of deceased Suchitra being carried on Plank tied to the nose of some people and on seeing them, A-3 and others left the body there and went to some distance. When PW-1 and PW-2 went near the body, they found bloodstain from the mouth and nostril of the deceased, therefore they took the deceased along the river (Palganga) to Bahargarh Hospital, where PW-15 Dr. Nithi examined the deceased and declared her as brought dead. He also opined that, the death was caused by throttling. On the basis of information, received from the Dr. PW-15, the police of the Bahargarh Police Station registered a case under Section 302 (b), and started the investigation. The body was sent for post-mortem examination, which was conducted by Dr. D. Shah PW-14 on 17.8.1986. He opined that cause of death of the deceased was due to manual strangulation and was homicidal in nature. During the post-mortem, he noticed the bruise mark on the neck and both on right and left side of the wind pipe. On dissection, he found the larynx bone fractured. After completion of the investigation, the police filed charge-sheet against the above-mentioned four accused persons.

4. The prosecution has primarily relied upon the evidence of PW-1, the mother, PW-2 aunt, PW-4 brother, PW-11, the father and mother relative PW-2, Govind Sarkar to establish the fact that there was a dowry demand, pursuant to which the deceased was being tormented and on the date of incident the body of the deceased was being carried on a plank tied to the nose. The prosecution also relied upon the medical evidence to establish the fact that there was a homicidal death by throttling.

5. A very peculiar defence was taken by the accused persons who contended that on the fateful day, the deceased had consumed poison and when it was noticed by her husband, Nihal, he tried to prevent the deceased from swallowing the poison by pressing the neck at which time A-3, brother in law of the deceased allegedly came and put his finger into the throat of the deceased to make her vomit the poison. The father contended that at that point of time, deceased was alive, therefore, they decided to take her to the hospital and it was during that time that the mother of the deceased met on the way when the body was being taken to the hospital. The Trial Court on consideration of the evidence on record came to the conclusion that the prosecution by circumstantial evidence has established the case against the accused, hence held the accused persons guilty and awarded capital punishment to A-1, the brother in law of the deceased, Sachindra Nath Mandal, while the other three accused persons were convicted under Section 302 read with 3 and 4 and were awarded life imprisonment.



Original complaint in Sessions Case No.127 of 1989 before the Sessions Judge, West Dinnagar, at Bahargarh is in appeal before us in the above Criminal Appeal, against the judgment of acquittal made by the High Court Calcutta in Criminal Death Reference No.4/1990 and Criminal Appeal No.127 of 1990. The State has not preferred any appeal against the judgment of the High Court, but a copy responded before us.

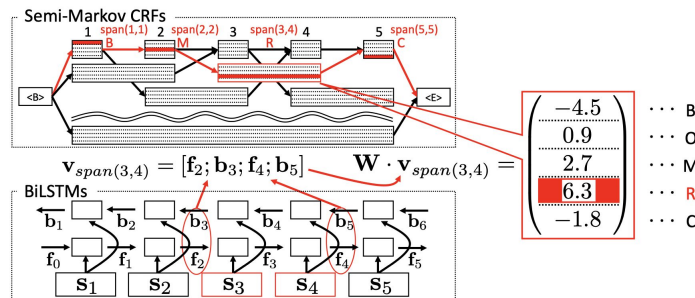
At the time of the marriage, there was an agreement to pay dowry in cash of Rs. 5001/- out of which, Rs. 3001 was paid to the accused A-1 by the appellant but he could not pay the balance amount of dowry due to poverty. A-1 was living with his wife A-1 and five of his children of which A-3 Sachindra Nath Mandal is one of them who was living with his wife Gena Mandal, who was A-4 before the Sessions Court. The husband of deceased Suchitra was Nihal Mandal, who was also staying with his father. It is the prosecution case that because of the non-payment of balance of dowry, there was constant torture and ill-treatment of the deceased by the accused persons. This was made known to the appellant (PW-11) as also his wife PW-1 Arati Sarkar.

On 16.8.1986, PW-11 had come to know that her daughter had consumed poison in the house of accused No.1 (father-in-law) and in view of the fact PW-11, husband of PW-1 was along with PW-2 away in the field, had proceeded towards the village of her husband and on the way they met one Nihal Bhanu, who took them on his cycle towards Dindarpur. Further on the way, they found the body of deceased Suchitra being carried on Plank tied to the nose of some people and on seeing them, A-3 and others left the body there and went to some distance. When PW-1 and PW-2 went near the body, they found bloodstain from the mouth and nostril of the deceased, therefore they took the deceased along the river (Palganga) to Bahargarh Hospital, where PW-15 Dr. Nithi examined the deceased and declared her as brought dead. He also opined that, the death was caused by throttling. On the basis of information, which was conducted by Dr. D. Shah PW-14 on 17.8.1986. He opined that cause of death of the deceased was due to manual strangulation and was homicidal in nature. During the post-mortem, he noticed the bruise mark on the neck and both on right and left side of the wind pipe. On dissection, he found the larynx bone fractured. After completion of the investigation, the police filed charge-sheet against the above-mentioned four accused persons.

The prosecution has primarily relied upon the evidence of PW-1, the mother, PW-2 aunt, PW-4 brother, PW-11, the father and mother relative PW-2, Govind Sarkar to establish the fact that there was a dowry demand, pursuant to which the deceased was being tormented and on the date of incident the body of the deceased was being carried on a plank tied to the nose. The prosecution also relied upon the medical evidence to establish the fact that there was a homicidal death by throttling.

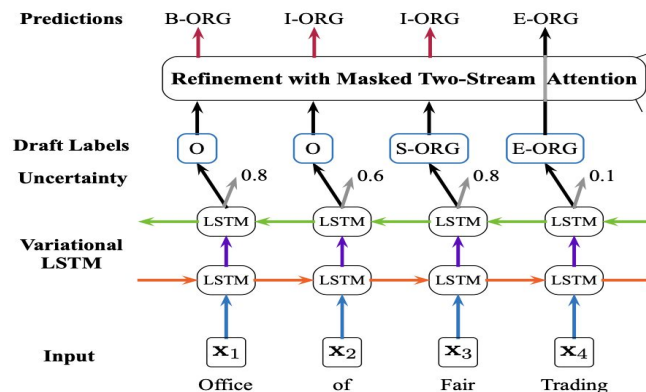
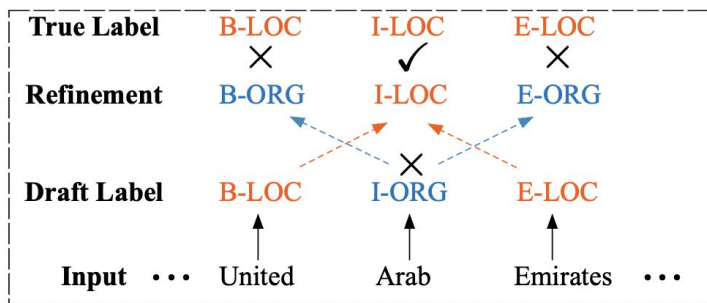
A very peculiar defence was taken by the accused persons who contended that on the fateful day, the deceased had consumed poison and when it was noticed by her husband, Nihal, he tried to prevent the deceased from swallowing the poison by pressing the neck at which time A-3, brother in law of the deceased allegedly came and put his finger into the throat of the deceased to make her vomit the poison. The father contended that at that point of time, deceased was alive, therefore, they decided to take her to the hospital and it was during that time that the mother of the deceased met on the way when the body was being taken to the hospital. The Trial Court on consideration of the evidence on record came to the conclusion that the prosecution by circumstantial evidence has established the case against the accused, hence held the accused persons guilty and awarded capital punishment to A-1, the brother in law of the deceased, Sachindra Nath Mandal, while the other three accused persons were convicted under Section 302 read with 3 and 4 and were awarded life imprisonment.

1. Yamada, Kosuke, et al. "Sequential span classification with neural semi-Markov CRFs for biomedical abstracts." *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing: Findings*. 2020.
2. Shang, Xichen, et al. "A Span-based Dynamic Local Attention Model for Sequential Sentence Classification." *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (Volume 2: Short Papers)*. 2021.



Rhetorical Role Labelling of Court Judgements: Proposal-2

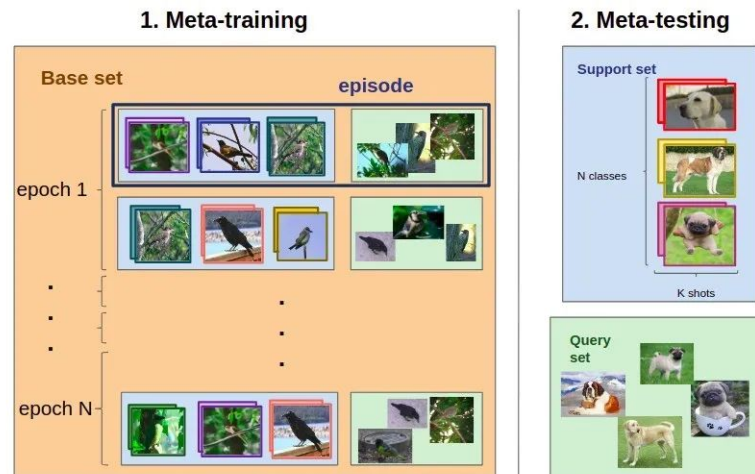
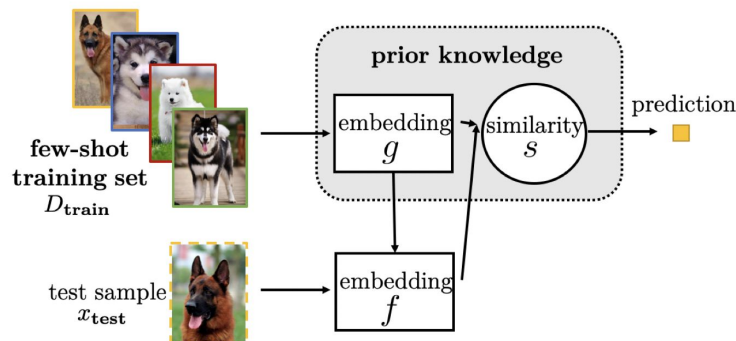
Improve sequential label prediction with label refinement strategy [1,2]



1. Cui, Leyang, and Yue Zhang. "Hierarchically-Refined Label Attention Network for Sequence Labeling." In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, pp. 4115-4128. 2019.
2. Gui, T., Ye, J., Zhang, Q., Li, Z., Fei, Z., Gong, Y. and Huang, X.J., 2020, November. Uncertainty-Aware Label Refinement for Sequence Labeling. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)* (pp. 2316-2326).

Rhetorical Role Labelling of Court Judgements: Proposal-3

Using Few shot learning paradigm due to scarce amount of labelled data available [1,2,3]



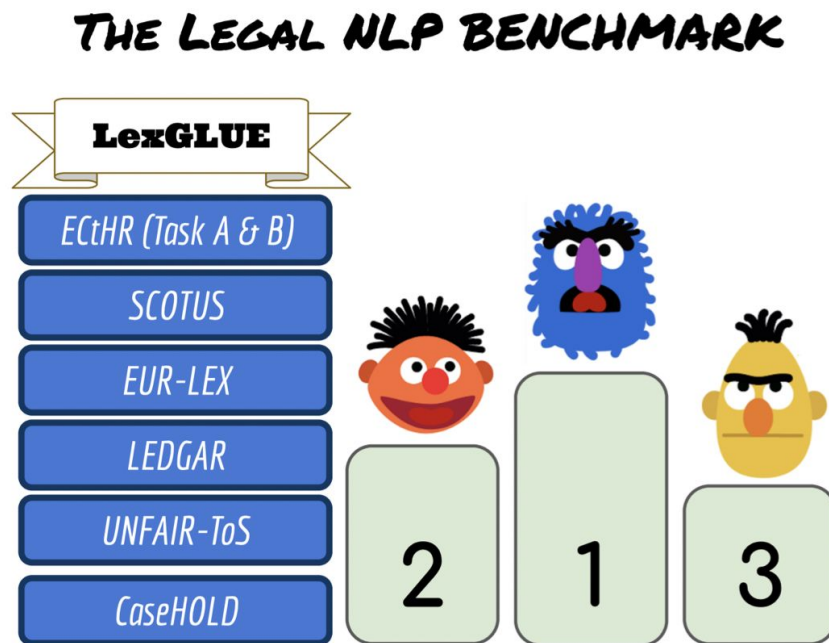
1. Snell, Jake, Kevin Swersky, and Richard Zemel. "Prototypical networks for few-shot learning." In *Proceedings of the 31st International Conference on Neural Information Processing Systems*,
2. Yang, Yi, and Arzoo Katiyar. "Frustratingly Simple Few-Shot Named Entity Recognition with Structured Nearest Neighbor Learning." In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*,
3. Li, Jing, Billy Chiu, Shanshan Feng, and Hao Wang. "Few-Shot Named Entity Recognition via Meta-Learning." *IEEE Transactions on Knowledge and Data Engineering* (2020).

Topic 3 Legal Language Understanding

Multi Label Classification

Legal Language Understanding: Introduction

- Natural language understanding (NLU) technologies can assist legal practitioners in a variety of legal tasks
- LexGLUE, a benchmark to evaluate the performance of NLP methods in legal tasks.
- LexGLUE is based on seven existing legal NLP datasets consisting of 4 multi-label classification tasks, 2 multi-class classification and 1 Multiple choice based Question Answering tasks.



Legal Language Understanding: Introduction

- For this task, we will limit ourselves to explore on multi label classification tasks.

Binary
Classification



- Spam
- Not spam

Multiclass
Classification



- Dog
- Cat
- Horse
- Fish
- Bird
- ...

Multi-label
Classification



- Dog
- Cat
- Horse
- Fish
- Bird
- ...

Data-1 : Unfair ToS

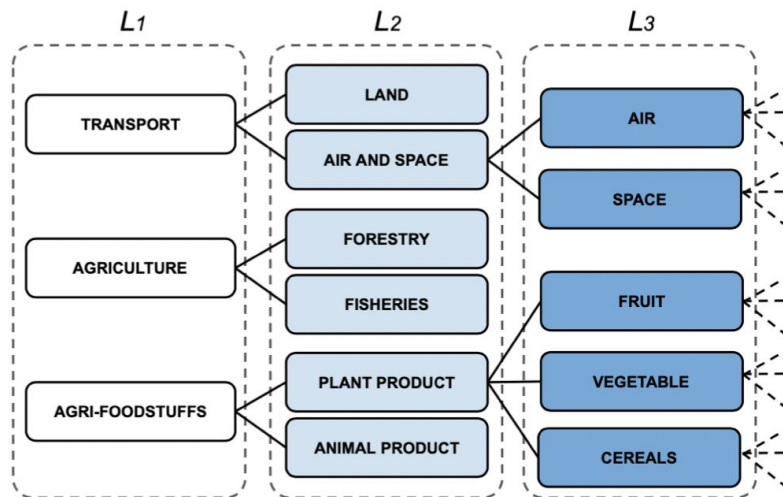
- The biggest lie on the Internet, most of us would accept to do, is “I have read and agree to the terms and conditions.”
- Automatically detect such potentially unfair clauses in terms of service.
- Categories of clause unfairness:
 - Jurisdiction
 - Arbitration
 - Unilateral change
 - Content removal
 - Choice of law
 - Limitation of liability
 - Unilateral termination
 - Contract by using

Jurisdiction:

- Jurisdiction clause stipulates what courts will have the competence to adjudicate disputes under the contract.
- **<unfair>** You and Dropbox agree that any judicial proceeding to resolve claims relating to these Terms or the Services will be brought in the federal or state courts of San Francisco County, California, subject to the mandatory arbitration provisions below. Both you and Dropbox consent to venue and personal jurisdiction in such courts.
- **<fair>** If you reside in a country (for example, European Union member states) with laws that give consumers the right to bring disputes in their local courts, this paragraph doesn't affect those requirements

Data-2 : Eurlex

- Topic classification of legal documents.
- European Union (EU) laws, in english, annotated with multiple labels from the EUROVOC taxonomy.
- Note: It has hierarchical taxonomy till maximum of 8 levels, we can leverage that additional signal to even model this task

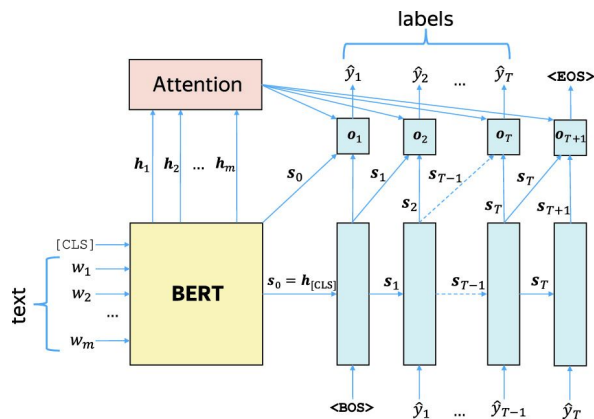


Data-3 -ECHR - A,B

- The European Court of Human Rights hears allegations that a state has breached human rights provisions of the European Convention of Human Rights (ECHR)
- For each case, the dataset provides a list of *factual* paragraphs (facts) from the case description. Each case is mapped to *articles* of the ECHR that were violated (if any).
- In Task A, the input to a model is the list of facts of a case, and the output is the set of violated articles.
- In Task B, the input is again the list of facts of a case, but the output is the set of allegedly violated articles

Legal Language Understanding: Proposal 1

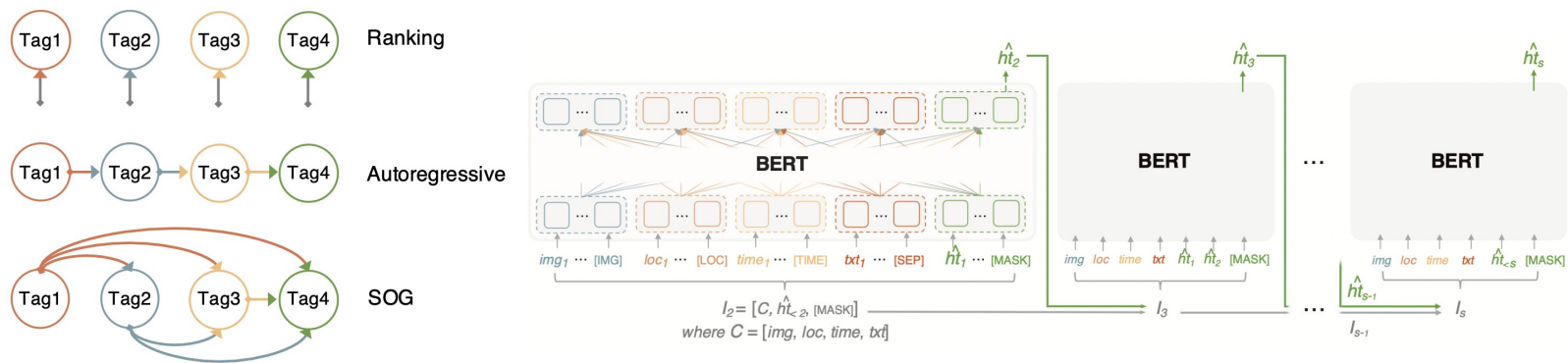
There exist correlation/ interdependencies between various labels, to capture that, we can cast this multi label classification as Sequence Generation problem using seq2seq models [1,2]



1. Yang, P., Sun, X., Li, W., Ma, S., Wu, W. and Wang, H., 2018, August. SGM: Sequence Generation Model for Multi-label Classification. In *Proceedings of the 27th International Conference on Computational Linguistics* (pp. 3915-3926).
2. Yarullin, R., & Serdyukov, P. (2020). BERT for Sequence-to-Sequence Multi-label Text Classification. In *AIST* (pp. 187-198).

Legal Language Understanding: Proposal 2

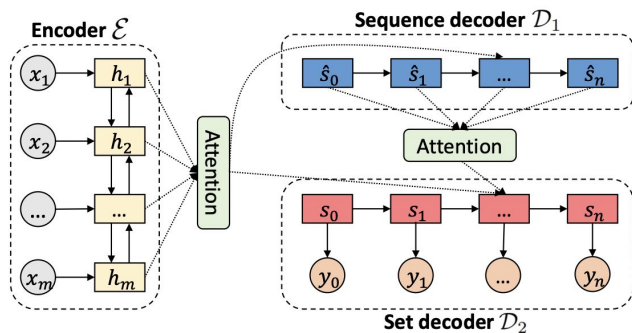
Modelling it as sequence generation comes with a limitation that order of labels need to be specified when generation, overcoming that limitation with help of *sequence-oblivious* generation (SOG) method [1]



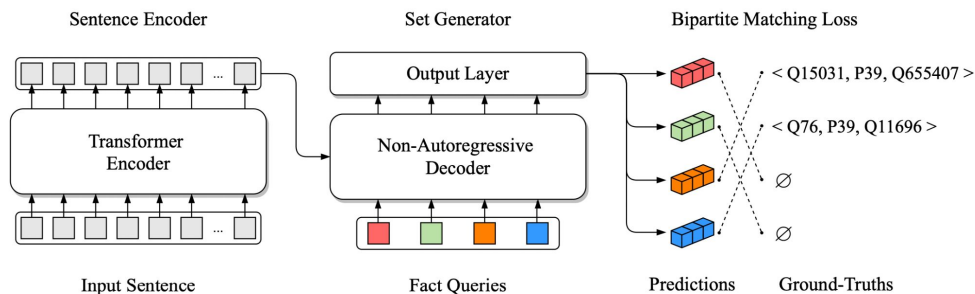
1. Kang, Junmo, Jeonghwan Kim, Suwon Shin, and Sung-Hyon Myaeng. "Leveraging Order-Free Tag Relations for Context-Aware Recommendation." In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing*, pp. 3464-3476. 2021.

Legal Language Understanding: Proposal 3

Modelling it as sequence generation comes with a limitation that order of labels need to be specified when generation, overcoming that limitation with seq2set training strategies [1,2]



(a) Neural sequence-to-set model



1. Yang, Pengcheng, Fuli Luo, Shuming Ma, Junyang Lin, and Xu Sun. "A deep reinforced sequence-to-set model for multi-label classification." In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pp. 5252-5258. 2019.
2. Sui, D., Wang, C., Chen, Y., Liu, K., Zhao, J., & Bi, W. (2021, November). Set Generation Networks for End-to-End Knowledge Base Population. In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing* (pp. 9650-9660).

Questions?