Predicting Legal Needs

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2020-04-16 Thu

Outline

Topic

Opening Question

9

Moving back: Should I worry about old parking tickets?

I have (had?) two unpaid parking tickets from late 2011 and early 2012. (After the LAZ takeover.) I was too poor at the time to pay them, so I just... didn't. I do not have the car/plates that I had back then anymore.

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Does anyone know if these old tickets are going to cause any issues, or can they be ignored? Has anyone been though anything similar, and of so what happened?
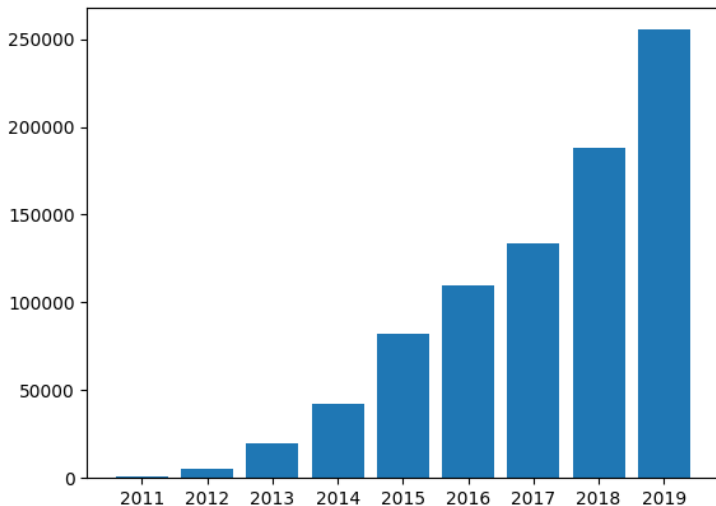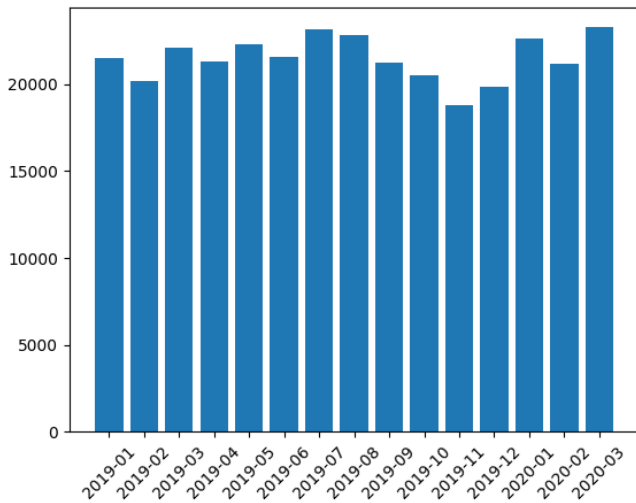
Questions I

- Is it a legal issue?
- What kind of legal issue is it?
- How to deal with it?

Annual Submissions(2010 - 2019)

Monthly Submissions(01/2019 - 03/2020)

Questions II

- Can Reddit data shed a light to legal trend?
- Are there seasonality effects?
- How does society react to pandemic?

Topic

National Subject Matter Index(NSMI v2)

The NSMI Database Browse Download Request Addition [   ] Search

Home » Browse NSMI V2

The full NSMI V2 listing is below, click the ➕ button to see the subterms of the category. The number of subterms ⊞ can be found next to the N

➕ **Accidents and Torts** TO-00-00-00-00 ⊞ 5	➕ **Benefits** BE-00-00-00-00 ⊞ 8
➕ **Civil and Human Rights** RI-00-00-00-00 ⊞ 20	➕ **Courts and Lawyers** CO-00-00-00-00 ⊞ 9
➕ **Crime and Prisons** CR-00-00-00-00 ⊞ 16	➕ **Disaster Relief** DI-00-00-00-00 ⊞ 8
➕ **Education** ED-00-00-00-00 ⊞ 10	➕ **Environmental Justice** EN-00-00-00-00 ⊞ 7
➕ **Estates and Wills** ES-00-00-00-00 ⊞ 7	➕ **Family** FA-00-00-00-00 ⊞ 18
➕ **Government Services** GO-00-00-00-00 ⊞ 3	➕ **Health** HE-00-00-00-00 ⊞ 10
➕ **Housing** HO-00-00-00-00 ⊞ 8	➕ **Immigration** IM-00-00-00-00 ⊞ 12
➕ **Money, Debt, and Consumer Issues** MO-00-00-00-00 ⊞ 16	➕ **Native American Issues and Tribal Law** NA-00-00-00-00 ⊞ 9
➕ **Small Business and IP** BU-00-00-00-00 ⊞ 7	➕ **Traffic and Cars** TR-00-00-00-00 ⊞ 5
➕ **Veterans and Military** VE-00-00-00-00 ⊞ 10	➕ **Work and Employment Law** WO-00-00-00-00 ⊞ 8

National Subject Matter Index(NSMI v2)

Housing HO-00-00-00-00 ⊞ 8

Discrimination around housing HO-01-00-00-00

Eviction from a home HO-02-00-00-00

Foreclosure on a home HO-08-00-00-00

Housing Assistance and Subsidized Housing HO-03-00-00-00

Owning or buying a home HO-04-00-00-00

Problems witih living conditions HO-05-00-00-00

Renting or leasing a home HO-06-00-00-00

Utilities, Energy, and Heating at home HO-07-00-00-00

Training Data

Foo Bar

Join team LIT Lab, and have your points count towards their online service challenge. Click here to join event

Don't show this banner again

0/10

[Michigan] "Intent to Vacate"

Hoping someone could help me out.

I made it clear when I signed by lease as well as multiple times orally throughout the year that I was looking for a house and my intention to stay at this apartment was only till the end of my lease, if not sooner (at which point I would notify them).

It was made clear to me that if I wanted to leave early I would have to give notice. That's fine. But my intention was to leave when my lease was up. It was not made clear that there was a 60 day intent to vacate clause under all circumstances.

Is there anyway I can fight this? My lease is up Aug 6th and they expect 60 days. I do not wish to spend two months rent somewhere that I will not be living. They will assuredly be able to rent this unit almost immediately.

any help would be appreciated.

Do you see a legal issue around <u>Family</u> in this post? Check all that apply, if any.

Training Data

	_id	full_text	BE-00-00-00-00	BE-01-00-00-00
0	5b60e59cda52255c20cff794	Will he serve time?. Long story short my broth...	0.0	0.0
1	5b60e59cda52255c20cff79a	Groundwater leaking out of street 24/7. Ground...	0.0	0.0
2	5b60e59cda52255c20cff7a0	How do I get my mom's license taken away. My m...	0.0	0.0
3	5b60e59cda52255c20cff7bf	My boss hasn't paid me. What do i do?. I work ...	NaN	NaN
4	5b60e59cda52255c20cff7b8	[Texas] I signed a non-compete contract, but t...	0.0	0.0
...	...	...	...	...
2772	5b60e66dda52255c20df433f	Do you and your parents get deported because o...	0.0	0.0
2773	5b60e66dda52255c20df43ae	Wondering the legality of a minor (me) being a...	0.0	0.0
2774	5b60e66dda52255c20df4462	Can I sue a billion dollar company in small cl...	0.0	0.0
2775	5b60e66dda52255c20df4448	Sued by creditor and currently in settlement n...	0.0	0.0
2776	5b60e66dda52255c20df4491	(CA) Sales job. Income based on performance. A...	0.0	0.0

Prevalence

Class	# pos	# docs	Prevalence
HO-06	34	1662	0.0205
IM-00	36	1964	0.0183
MO-00	366	1429	0.2561
TO-00	230	1257	0.1830
TR-00	260	2006	0.1296
TR-01	22	1827	0.0120
TR-05	31	1816	0.0171
WO-00	387	1991	0.1944

Prevalence(cont.)

Class	# pos	# docs	Prevalence
BU-00	93	1590	0.0585
CO-00	106	1164	0.0911
CR-00	302	1679	0.1799
ED-00	24	1813	0.0132
ES-00	78	1944	0.0401
FA-00	357	2042	0.1748
HE-00	122	1900	0.0642
HO-00	550	2132	0.2580

Test Data

- Legal Advice Subreddit(*/r/legal_advice*)
- First submission: April 20, 2010
- 906,693 submissions(04/2010 - 03/2020)
- 21,490 / month (01/2019 - 03/2020)
- 5,005 / week (01/2020 - 03/2020)
- 740 / day (02/2020 - 03/2020)

Pushshift API

```python
import requests

# Retrieve 1000 submissions with specified fields
url = "https://api.pushshift.io/reddit/search/              \
        submission/?subreddit=legaladvice&                   \
        fields=id,created_utc,title,selftext&                \
        size=1000&after=2020-01-01&before=2020-01-31"
subs = requests.get(url)
```

(http:
//github.com/heeh/subreddit_downloader/sample.py)

Topic

TF-IDF L1

- ▶ Input representation: TF-IDF Dimension: 90k - 160k
- ▶ 10-fold validation
- ▶ Class weight: balanced
- ▶ Logistic regression with cross entropy loss and L1 regularization

$$score(\lambda) = loss(\mathbf{x}^{de}, \mathbf{y}^{de}, \hat{\theta}) : \hat{\theta} = \arg\max_{\theta} \log P_\theta(\mathbf{y}^{tr}|\mathbf{x}^{tr}) - \lambda|\theta|$$

- ▶ Grid search over powers of $2(2^{-12}, 2^{-11}, \dots, 2^{-1})$

Comparison

Classifier	Acc.	Prec.	Rec.	F1	$\log_{\text{loss}}$	brier
TF-IDF L1	0.97	0.52	0.41	0.46	0.0829	0.0186
TF-IDF L2	0.97	0.55	0.22	0.28	0.0759	0.0194
GloVe(50) L1	0.93	0.25	0.54	0.32	0.2049	0.0521
GloVe(50) L2	0.92	0.24	0.56	0.31	0.2081	0.0571
GloVe(300)L1	0.96	0.37	0.52	0.42	0.1086	0.0273
GloVe(300)L2	0.97	0.40	0.51	0.44	0.0968	0.0242

Recall Top 10

Top10 Recall Scores

Recall Distribution
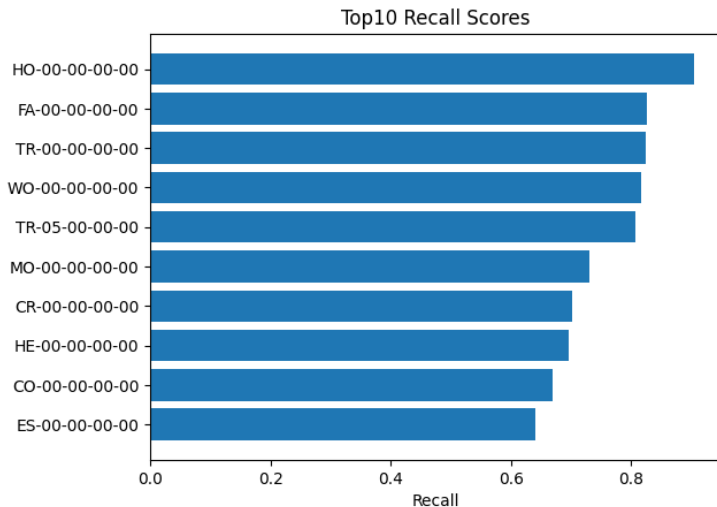
Recall Distribution
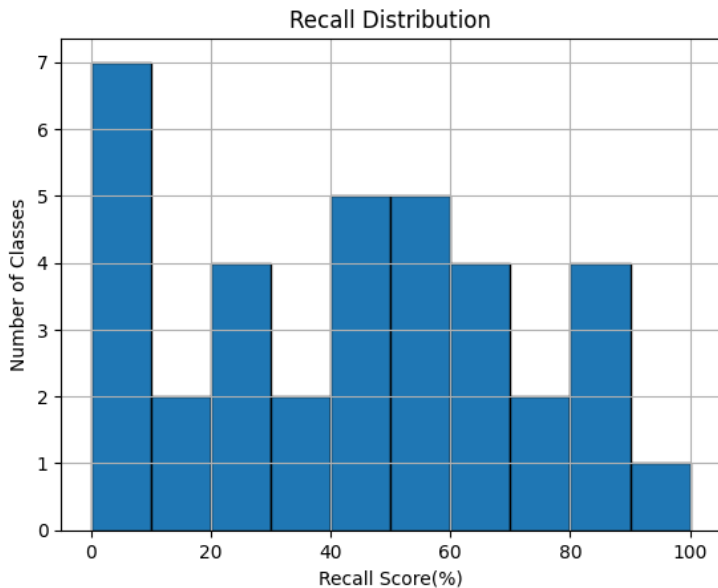
Input

Posted by u/DivineJustice 10 months ago 🟨

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💬 51 Comments   ➦ Share   🔖 Save   ⊘ Hide   🏳 Report   62% Upvoted

Output

Class	Prediction
TR-00-00-00-00	0.9561
CO-00-00-00-00	0.6452
MO-00-00-00-00	0.3711
BU-00-00-00-00	0.0486
TO-00-00-00-00	0.0211
FA-00-00-00-00	0.0131
CR-00-00-00-00	0.0129
TR-01-00-00-00	0.0087
HO-06-00-00-00	0.0061
ED-00-00-00-00	0.0043

Topic
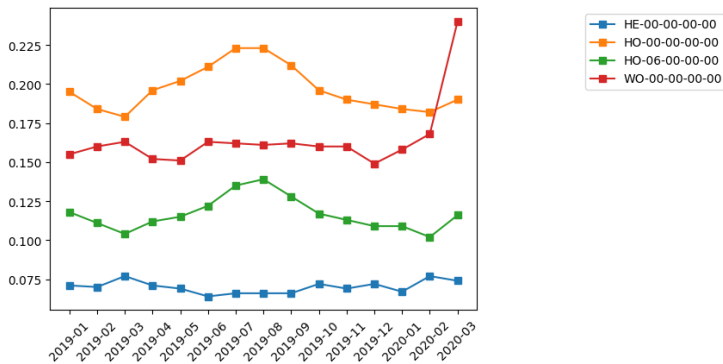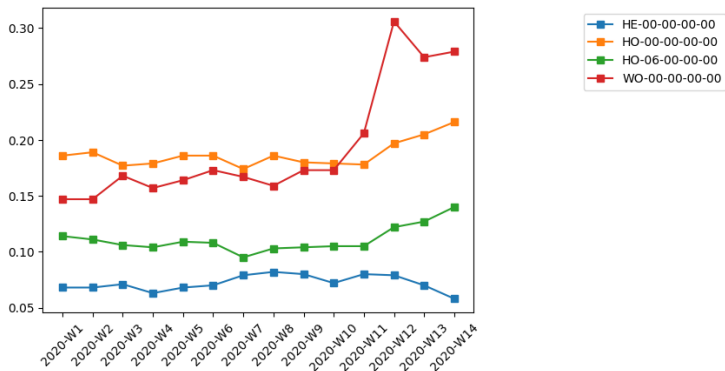
Freq-e
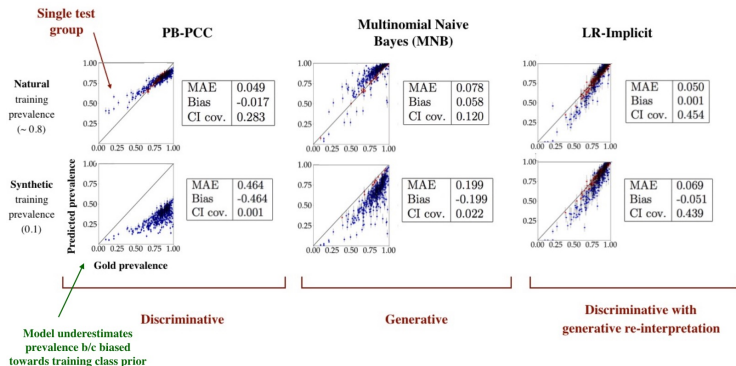
(Katherine and O'Connor, 2018)
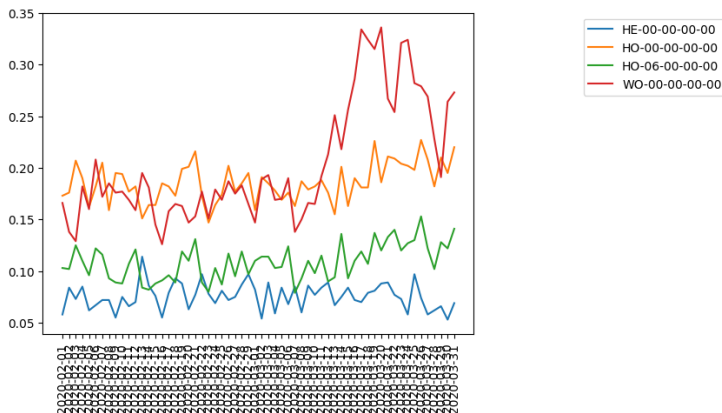
Monthly Prevalence

- ▶ WO-00: Work and Employment Law
- ▶ HO-00: Housing
- ▶ HO-06: Renting or leasing a home
- ▶ HE-00: Health

Weekly Prevalence

- ▶ WO-00: Work and Employment Law
- ▶ HO-00: Housing
- ▶ HO-06: Renting or leasing a home
- ▶ HE-00: Health

Daily Prevalence

- ▶ WO-00: Work and Employment Law
- ▶ HO-00: Housing
- ▶ HO-06: Renting or leasing a home
- ▶ HE-00: Health

Sample - Work and Employment Law

2020-W11 (03/09 - 03/16)
1. TX - property manager showing home while occupying space
2. Can employees sue employer for not allowing them to work fr
3. [OH] My wife is being told she has to work in an office buildi
4. OSHA question regarding pandemic
5. [Ohio, US] Employer allowing staff with children to telecomm

2020-W12 (03/16 - 03/23)
1. Started a new job during COVID-19 pandemic and have ques
2. Self-employed retailer in Vermont, USA temporarily closes br
3. My SO has chronic illness, can he be fired for requesting to w
4. Can I temporarily lay off my employees because of the pande
5. [NJ] Employer is allowing the option to work from home amo

Sample - Work and Employment Law

2020-W13 (03/23 - 03/30)
1. Employed as nanny, time off for pandemic, family ignoring m
2. I am an RBT that was told to work in clients home during a
3. Evicted due to being laid off in service industry during pande
4. Prior to the pandemic, my employer denied my request to wo
5. Company is reducing the pay of all it's employees by 10% du

2020-W14 (03-30 - 04-06)
1. Can I be fired for taking a leave of absence during this pande
2. Filed for unemployment on the 24th in MD due to the pande
3. Company changing official pandemic response after a confirm
4. Put in my resignation letter (3 month notice) a couple month
5. Access Denied during a pandemic! WTF Really?!

Summary

- Provides people better understanding of their issues
- Helps understand seasonal legal needs
- Learn how a natural disaster affects legal needs

Todo

- Need More labeled data(Currently 16 classes available)
- Perform the protocol with dataset from other communities (California statewide legal help portal)
- Build an automated system to improve the model

Reference

► Keith, K., & O'Connor, B. (2018). Uncertainty-aware generative models for inferring document class prevalence. In Proceedings of EMNLP.