

Linguistic Location Data: LawChat

Ethan Henley

How can you determine a user's location from a single message?

A model to predict whether a legal advice request is coming from America or the United Kingdom based on the message alone.



reddit

+

pushshift.io

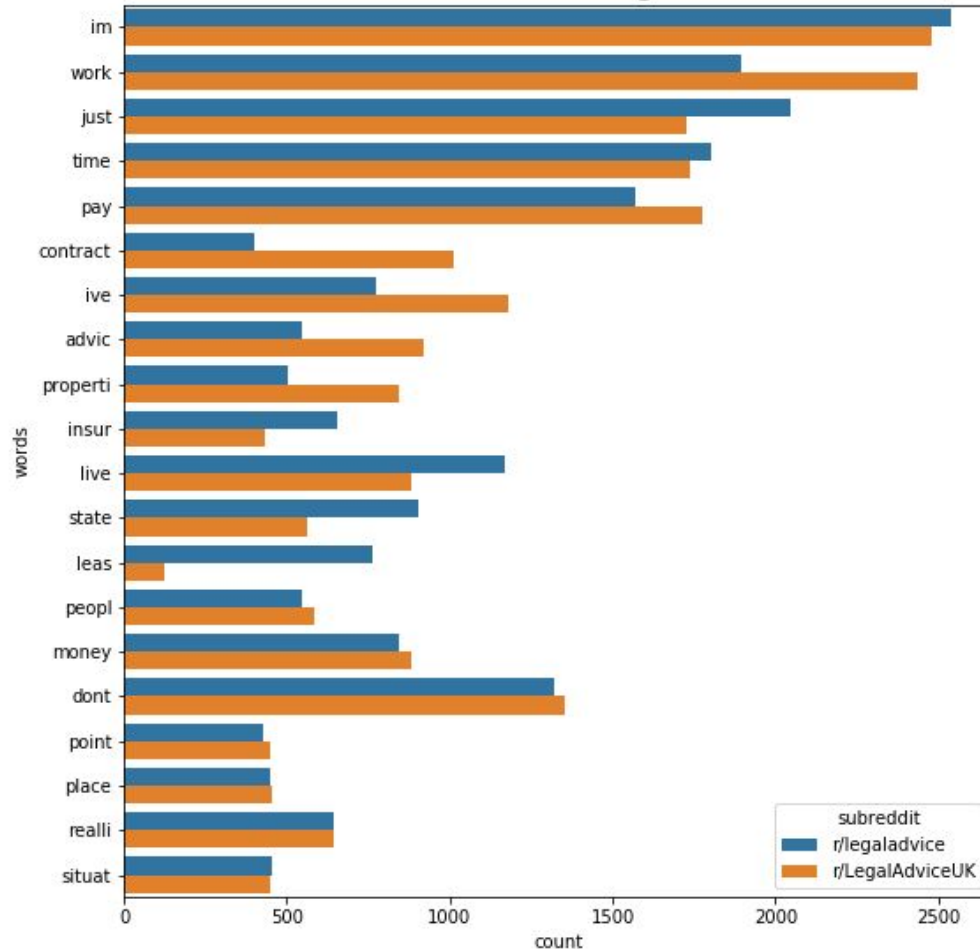
Most Common Stems

r/legaladvice	r/LegalAdviceUK
im	im
just	work
work	time
time	just
want	year

Least Common of Top 100 Overall Stems

r/legaladvice	r/LegalAdviceUK
reason	office
employ	insur
contract	law
current	check
chang	report

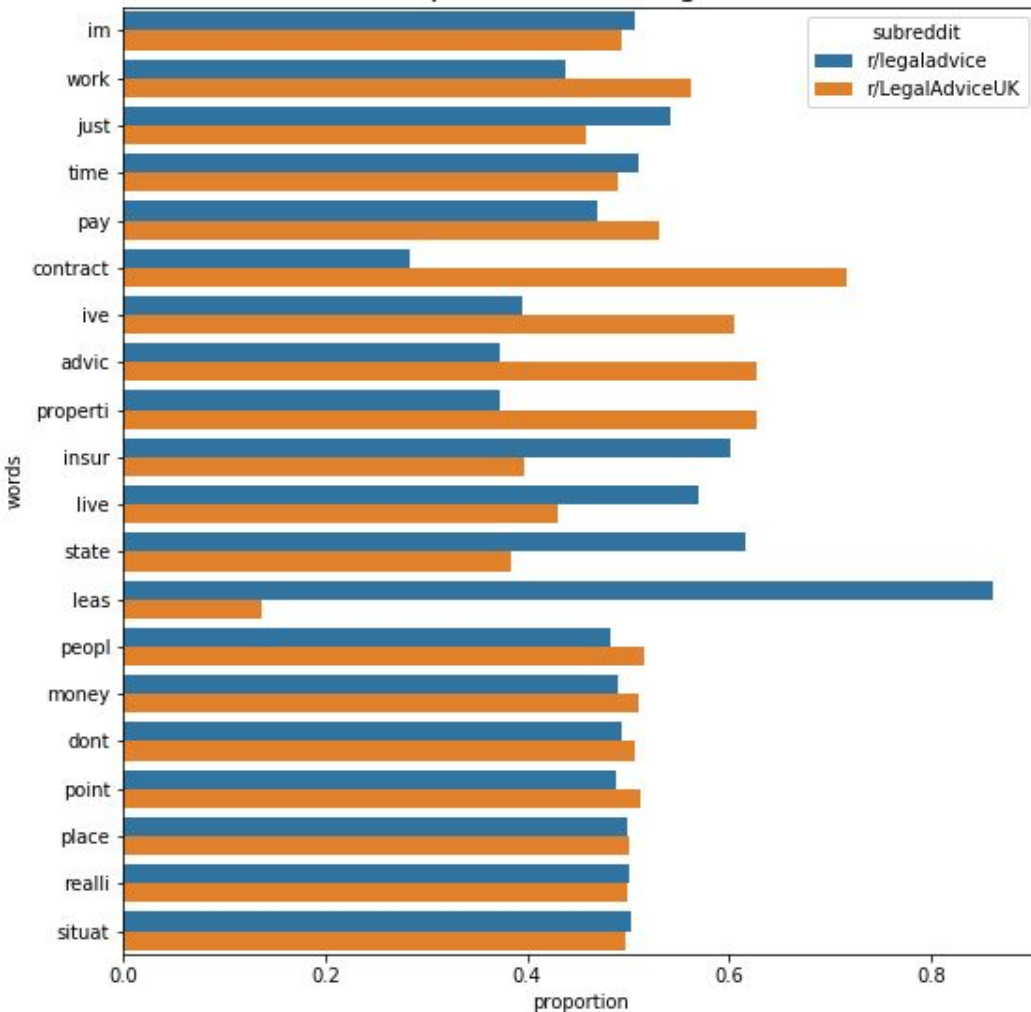
Selected Stems Counted from Legal Advice Subreddits



Word counts compared across each subreddit as a whole show certain words in one subreddit much more often than in another.

But, that linear count 'distance' means something different for every word. How can they be compared?

Selected Stem Proportions from Legal Advice Subreddits



Comparing proportions allows us to see certain words that are “more British” or “less British.”

This type of analysis is possible partly because average post length is approximately the same across the subreddits; neither has many more words overall.

Classifier Predictive Modeling

- Stemmed & vectorized data
- Ran numerous classification models
- Used pipeline and gridsearch to optimize models
- Compared models by accuracy
 - False positives and false negatives equally bad

Model	Vectorizer	Train Accuracy	Test Accuracy
Baseline (all UK)	n/a	.5	.5
Logistic Regression	TFIDF	.798	.769
Multinomial Naive Bayes	Count	.908	.853
Gaussian Naive Bayes	TFIDF	.919	.809
Support Vector Machine (rbf)	TFIDF	.992	.824
AdaBoost	Count	.931	.791
k-Nearest Neighbors	TFIDF	.756	.69
Bagging Decision Trees	Count	.984	.755

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Confusion Matrix

r/legaladvice : 0

r/LegalAdviceUK : 1

	Pred. 0	Pred. 1
Actual 0	594	156
Actual 1	130	620

How much money can be garnished for medical debt? suffolk New York

As the title says, I tried google but it tells me stuff like it can be 25% of your disposable income to the extent that it equals 30% of minimum wage. If your disposable income is less than 30 time minimum wage then your wage cannot be garnished at all. The person in question makes 15 an hour full time and after bills has little extra money

Correct Answer	
Model Prediction	

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Correct Answer	r/legaladvice
Model Prediction	r/legaladvice

Buyer delays house move 2 days prior to completion, is this legal?

Housing

I am due to move house (from Edinburgh to Kirkcaldy) on Friday.

I have just been informed today (after asking for clarification that everything is all going smoothly, and therefore would not have been told otherwise) that the person buying my property has not yet signed the missives.

After sending multiple emails to my solicitor and getting no response, she finally emailed me at 8.30pm tonight telling me to contact my buyer directly as she is not allowed to do that but I am.

I tried to call the buyer, no answer. So I sent a text. His response is that he is still waiting £20000 to come through and it may be another 2-3 weeks before he has it. We had previously agreed in writing that the date of entry was to be this Friday, the 9th of August.

I am due to move on Friday. The deposit for my purchase is coming from the proceeds of my sale. I have already signed the missives to my new property (after being told to do so by my solicitor). I have quit my current job in Edinburgh and am due to start a new job next week in Kirkcaldy. I don't drive so commuting is not a possibility. I may lose this job now. I have spent £200 on removal vans arranged for Friday and have just £100 left in my bank account as I was supposed to be having a profit of over £5000 after the sale and fees.

I am not in a position to be approved for a second mortgage. However my parents could cover the deposit for me in the interim if that is a possibility (although I'm going to assume probably not) until the sale is complete and I can pay them back in full.

Surely this should not be allowed to have happened? What can/should I do? Am I still going to be able to move on Friday? Am I entitled to any compensation?

Correct Answer	
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Correct Answer	r/LegalAdviceUK
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[WA,USA] My bank refuses to do anything more to help me get my money back.

On June 25th, I had \$370 stolen from my debit card linked to my account. Someone had gotten my email and password, and made purchases with the card on the service I had the card for. I called my bank about the fraud activity and they immediately gave me Temp Credit for the amount of 437.23

The Bank agent I worked with gave me credit for the \$370 AND two charges I made to the vendor weeks before the fraud charges. Along with my monthly charge of \$12 from my bank. The two non fraud charges were \$11.04 and \$44.19 for. All for a total of 437.23

I made it very clear in my first call that I was just asking for the \$370 to be refunded, but since they refunded the other stuff I ended up losing the content that I paid for, not really a big deal but I thought I'd mention it. The big deal is that the two non fraud charges have made it hard for my bank to look past them.

When the vendor finally sent the refund for a total of 425.23 the refund was also sent with documents saying that the two other charges were non fraud related and didn't need to be refunded. Instead of just taking that portion out and refunding the rest my bank sent the whole amount back. I called the vendor about the problem and they told me my bank didn't accept it for that reason.

So I call my bank, and they tell me they have "compelling evidence" that these were non fraud charges, I explain the situation to the person I'm speaking to and they tell me to just have the vendor send in another refund, and this time for sure they'll take it.

So the vendor issues the refund once again and my bank denies it. The Temp credit is then taken out of my account leaving me with next to nothing when my bills are due the next day. Now I have the vendor telling me that the money was sent to my wallet (As in the an online wallet for the service), because it had no where else to go. And since it's in the wallet they aren't able to take it out and send it to my bank account, UNLESS my bank opens up another dispute and goes for the money.

My Bank telling me that it is IMPOSSIBLE to open another dispute on the same money as before, I've tried asking if there was some way to spin it into making it into a new case but they again reply with it being impossible and not doing anything more trying to help me get it back.

Because of all this, I am deadlocked with both companies telling me to call the other. Due to the vendor's policy there's no way I can set up a three way call so they can talk it out themselves either. So really I have no idea what I should do next. I've been dealing with this for nearly two months. I have Overdue bills and haven't been grocery shopping since. I really need to figure this out. Thank you

(My Bank is blue, the vendor is a game company.)

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Correct Answer	r/legaladvice
Model Prediction	r/LegalAdviceUK

How do we account for
imperfections?

Ethan Henley, Data Science Consultant