Unsupervised Exploration of “craigslist musicians”

Robert Hill
11/10/2017

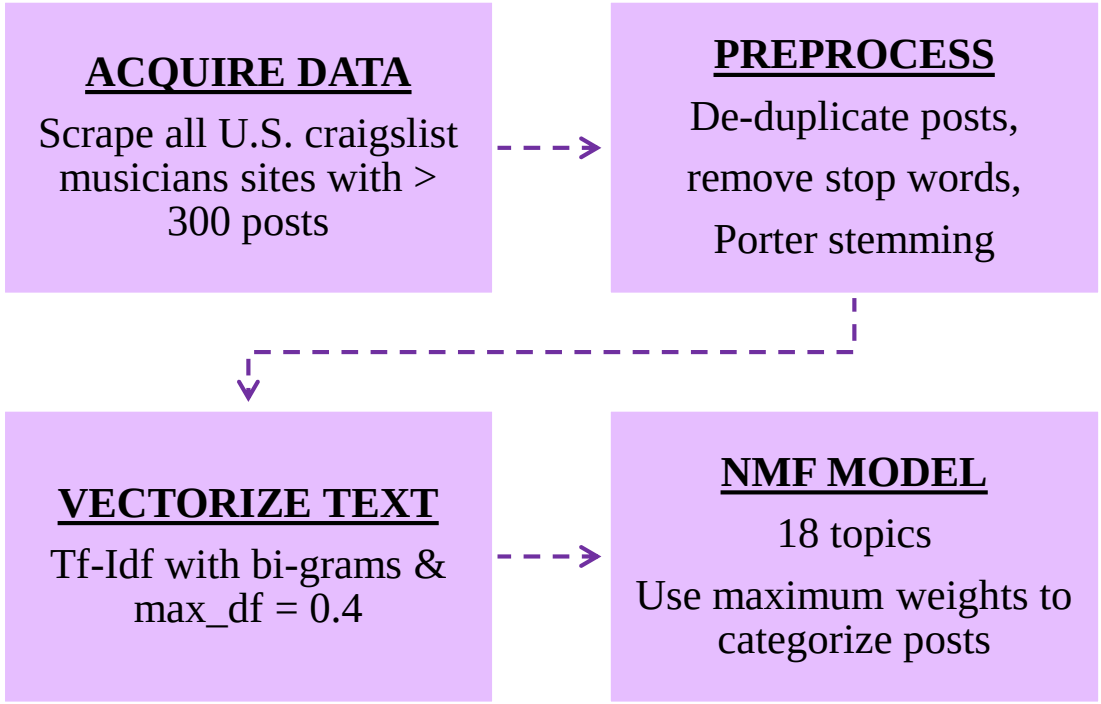
Why am I doing this?

- Can I categorize the types of posts in craigslist musicians?
- How do these motivations change across different cities?

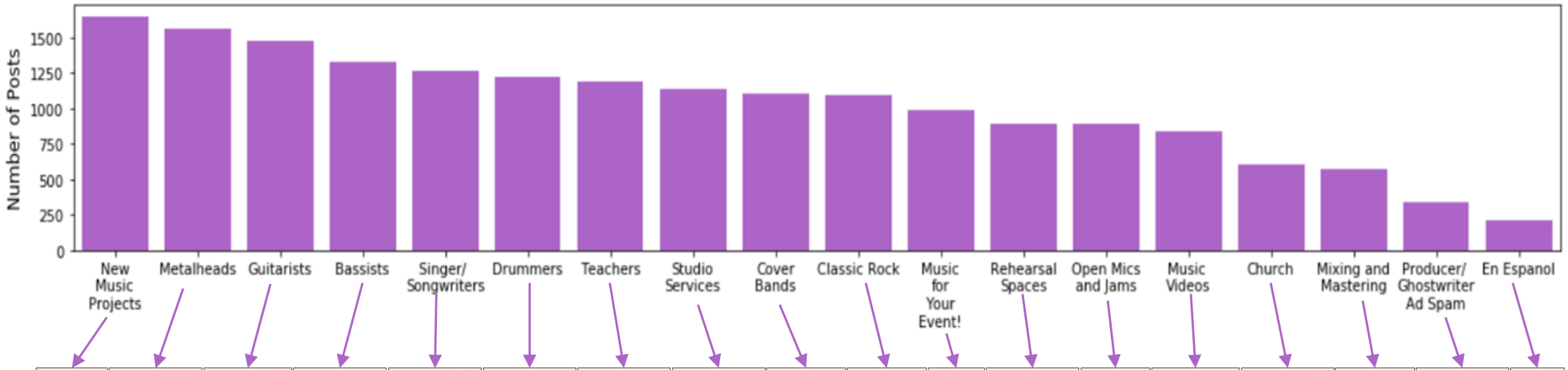
Why am I doing this?

- Can I categorize the types of posts in craigslist musicians? > **Topic Modeling**
- How do these motivations change across different cities? > **Flask app**

Pipeline


ACQUIRE DATA
Scrape all U.S. craigslist musicians sites with > 300 posts
PREPROCESS
De-duplicate posts,
remove stop words,
Porter stemming
VECTORIZE TEXT
Tf-Idf with bi-grams & max_df = 0.4
NMF MODEL
18 topics
Use maximum weights to categorize posts

Topics Composition and Frequencies



New Music Projects	Metalheads	Guitarists	Bassists	Singer/ Songwriters	Drummers	Teachers	Studio Services	Cover Bands	Classic Rock	Music for Your Event!	Rehearsal Spaces	Open Mics and Jams	Music Videos	Church	Mixing and Mastering	Producer/ Ghostwriter Ad Spam	En Espanol
song	guitarist	guitar	bass player	singer	drummer	lesson	record	cover	rock	event	rehears	mic	video	church	mix	call inform	de
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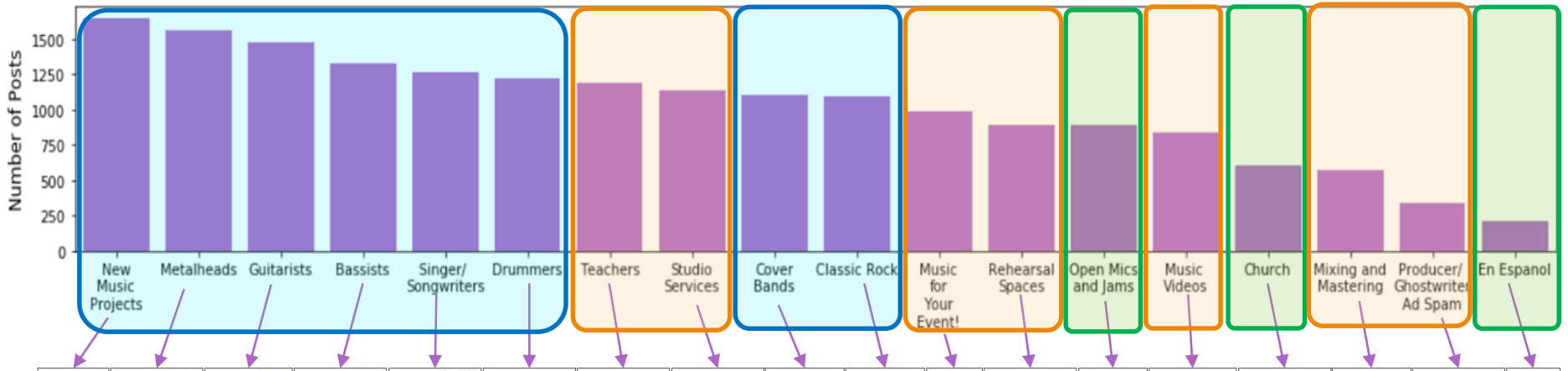
someon	vocalist	guitar bass	need	seek	need	guitar lesson	hr	must	countri	privat	practic	thursday	video product	prais	track	afford	lo
peopl	start	rhythm guitar	player need	songwrit	need drummer	guitar	pro	tribut	rock blue	special	avail	come	link	god	product	contact us	un
good	lead guitarist	play guitar	player drummer	singer songwrit	gig	voic	product	gear	origin	dj	rehears studio	tuesday	film	leader	record mix	quick turnaround	clase

Topics Composition and Frequencies

Musicians Networking: 68%
Music Services: 23%
Events/Other: 9%



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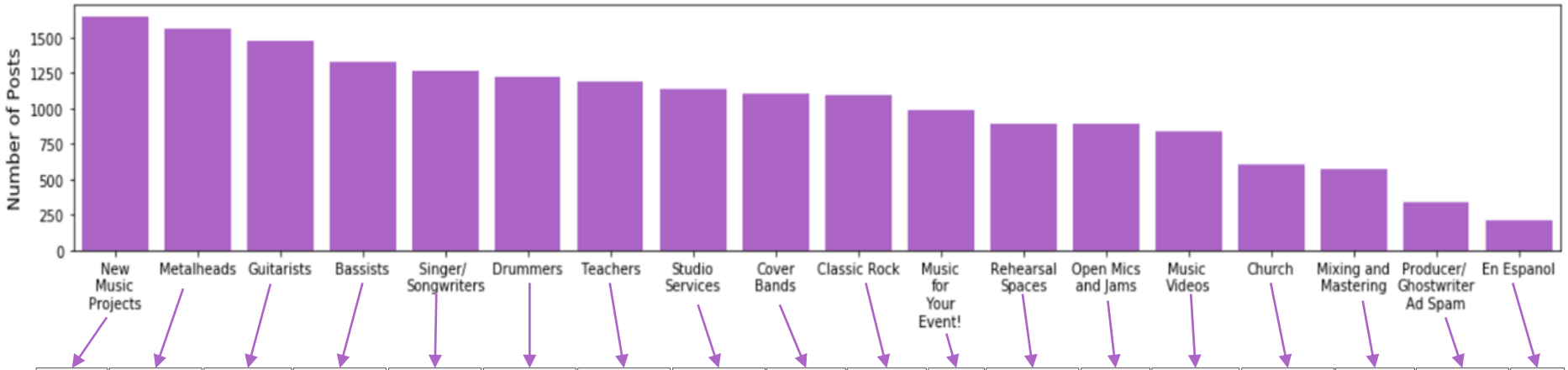
What's Missing?



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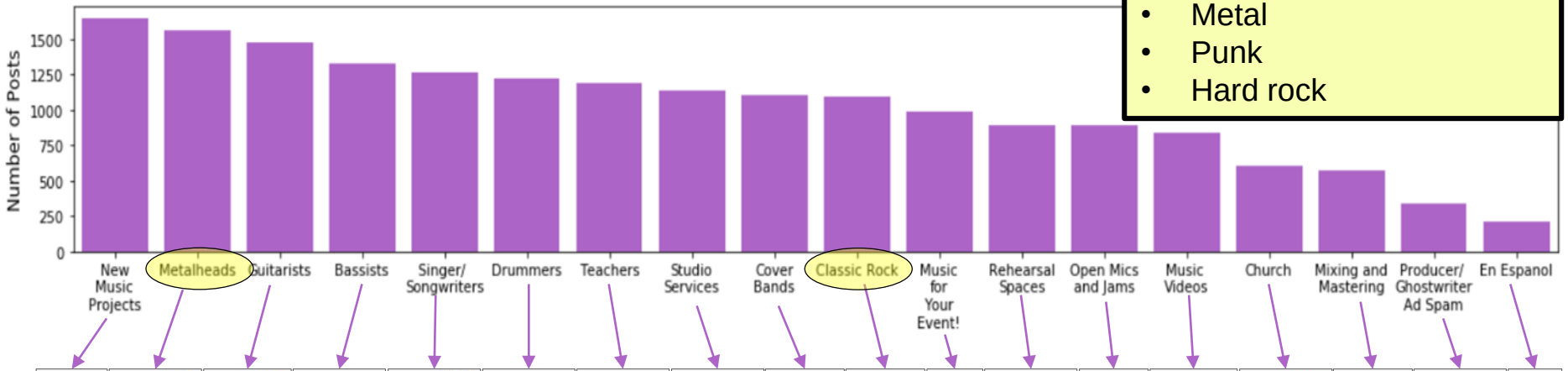
What's Missing?

Over-represented:
- Rock
- Classic rock
- Metal
- Punk
- Hard rock



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What's Missing?

Under-represented:
- Hip hop / rap
- Pop
- Electronic
- Classical
- R&B

Over-represented:
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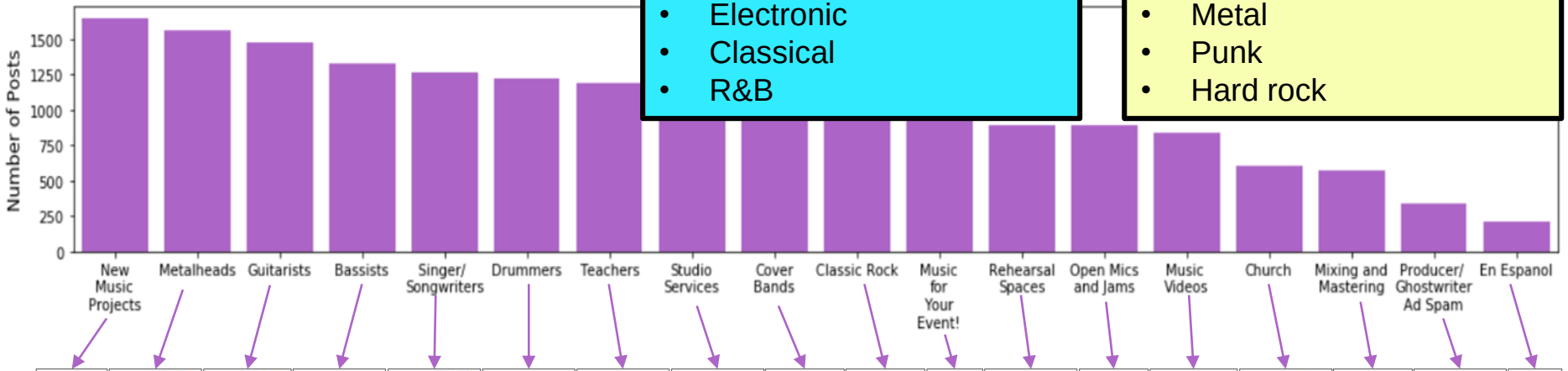
- Classic rock
- Metal
- Punk
- Hard rock



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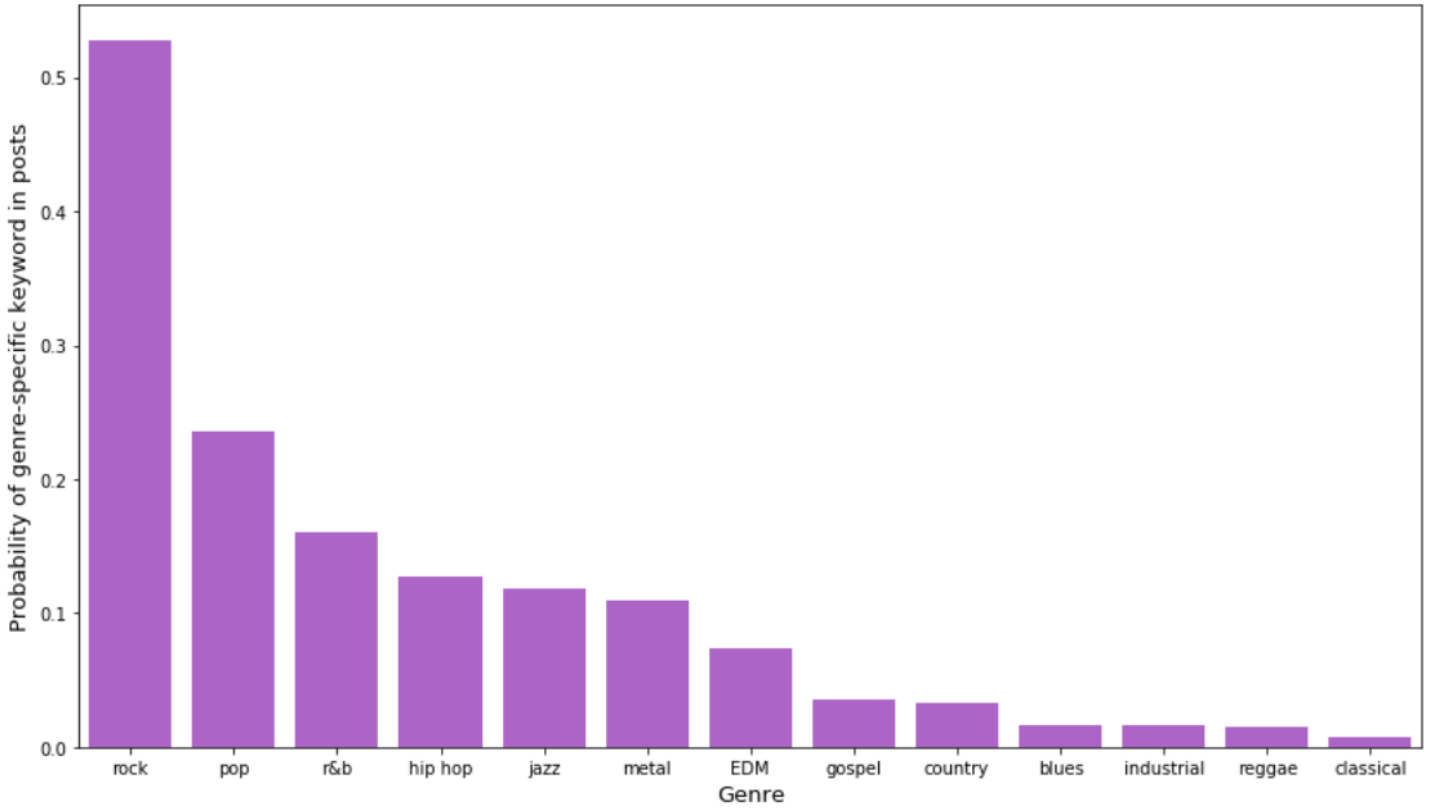
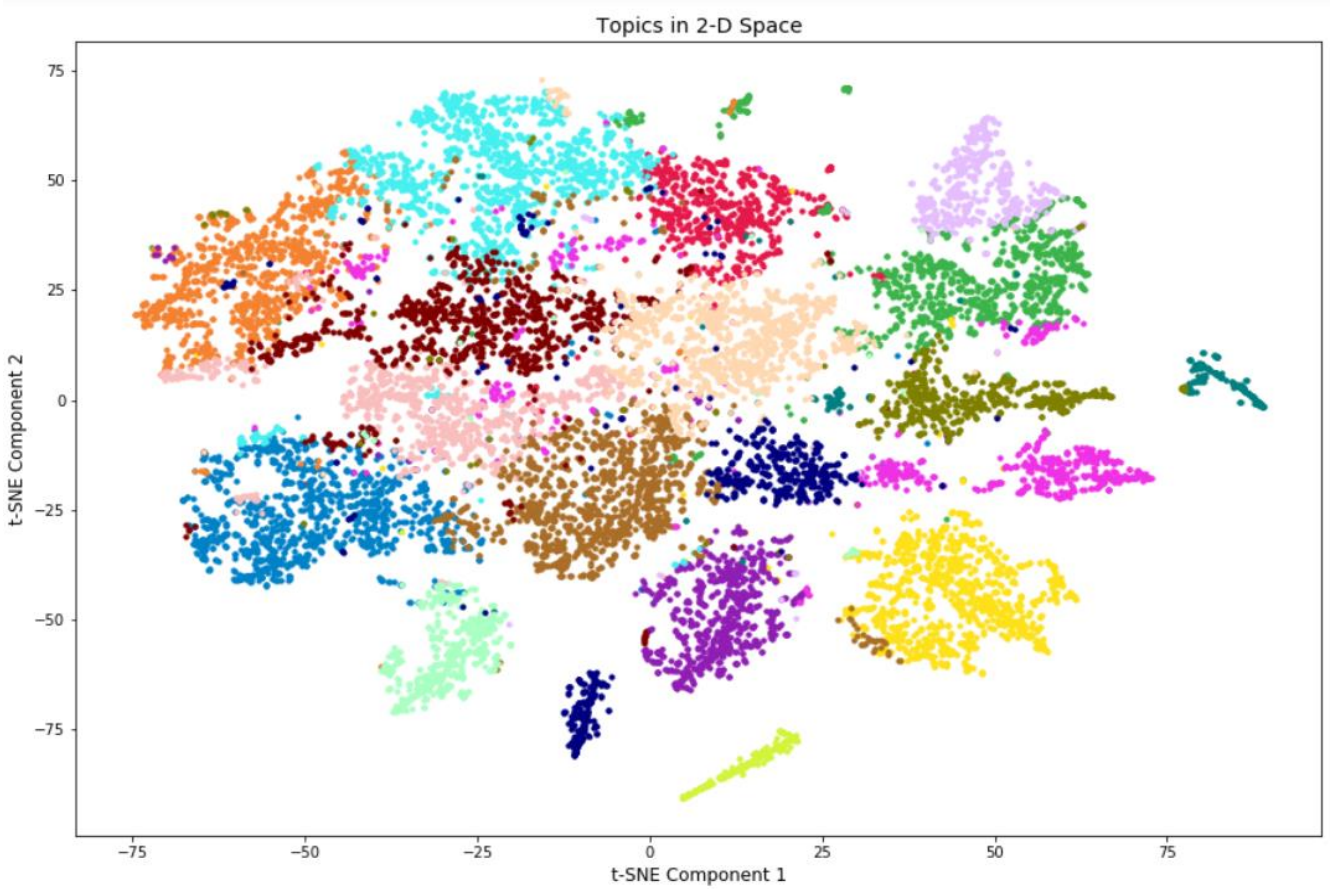
Genre prevalence across the musicians' corpus

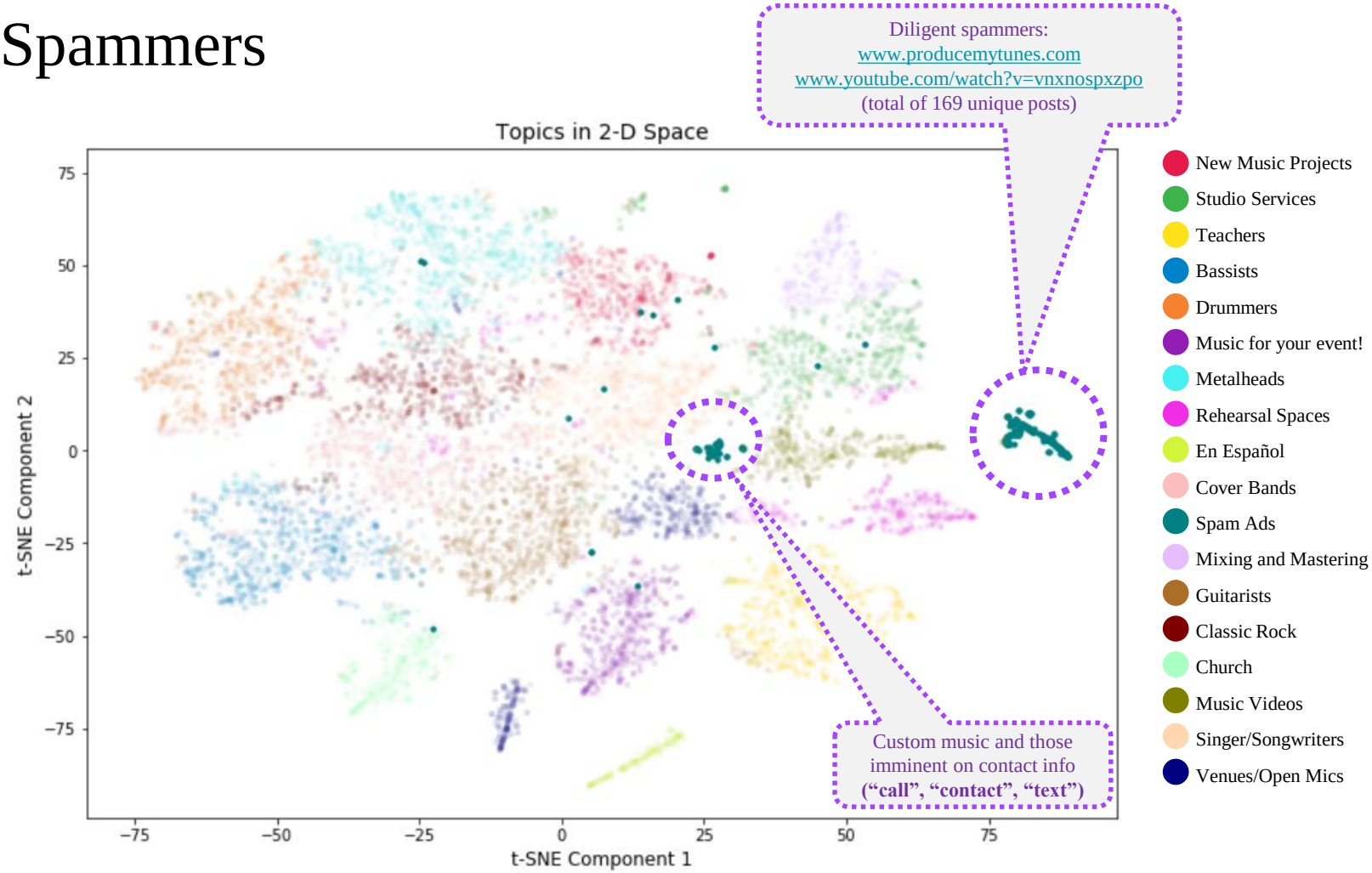


Topic Clusters



- New Music Projects
- Studio Services
- Teachers
- Bassists
- Drummers
- Music for your event!
- Metalheads
- Rehearsal Spaces
- En Español
- Cover Bands
- Spam Ads
- Mixing and Mastering
- Guitarists
- Classic Rock
- Church
- Music Videos
- Singer/Songwriters
- Venues/Open Mics

Spammers


Diligent spammers:
www.producemytunes.com
www.youtube.com/watch?v=vnxnospxzpo
(total of 169 unique posts)
Topics in 2-D Space
t-SNE Component 2
t-SNE Component 1
75
50
25
0
−25
−50
−75
−75
−50
−25
0
25
50
75
Custom music and those imminent on contact info
(“call”, “contact”, “text”)
New Music Projects
Studio Services
Teachers
Bassists
Drummers
Music for your event!
Metalheads
Rehearsal Spaces
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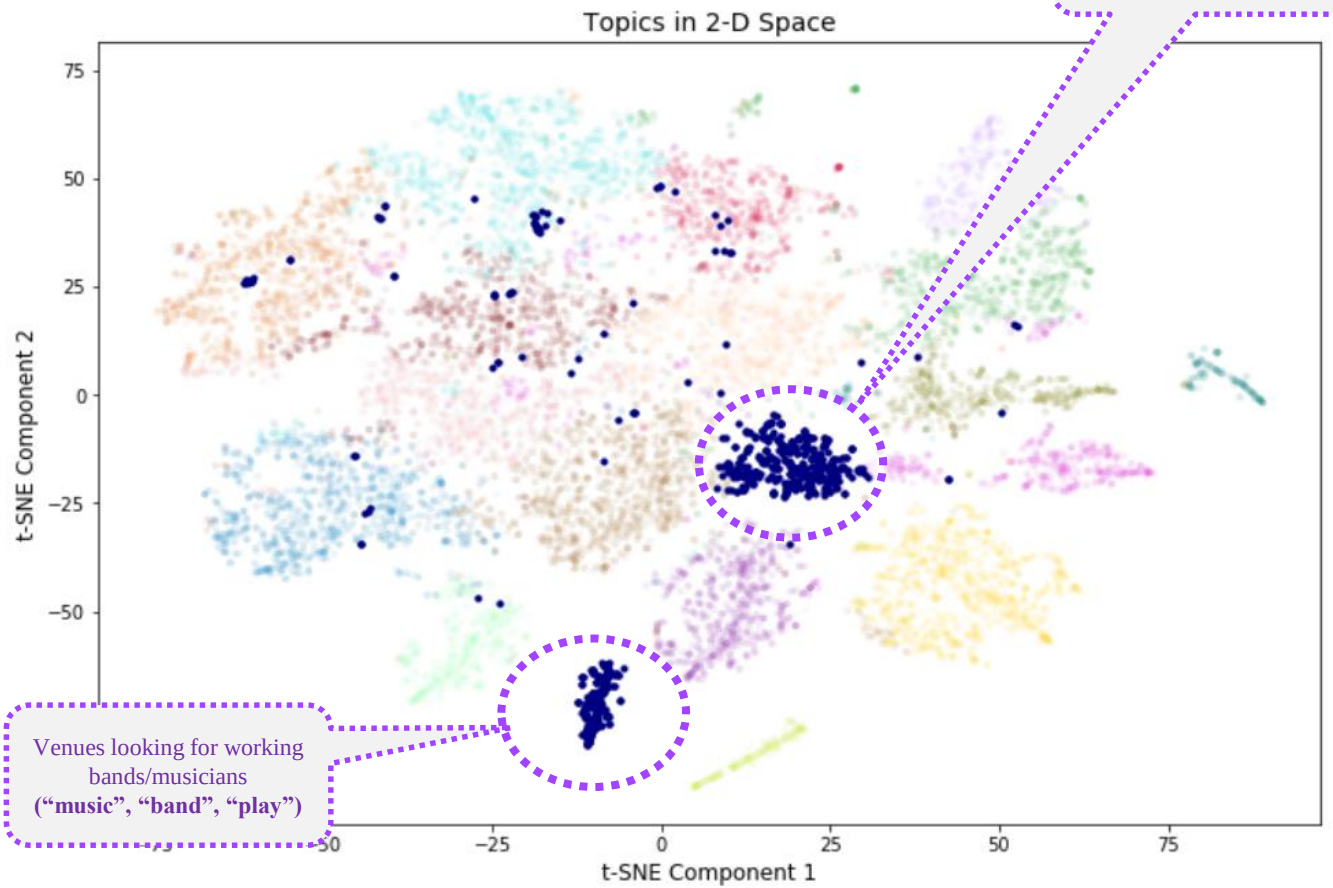
The Open Mic Split



Venues advertising open mics to incorporate patrons **(“open”, “mic”, “pm”)**

Venues looking for working bands/musicians **(“music”, “band”, “play”)**

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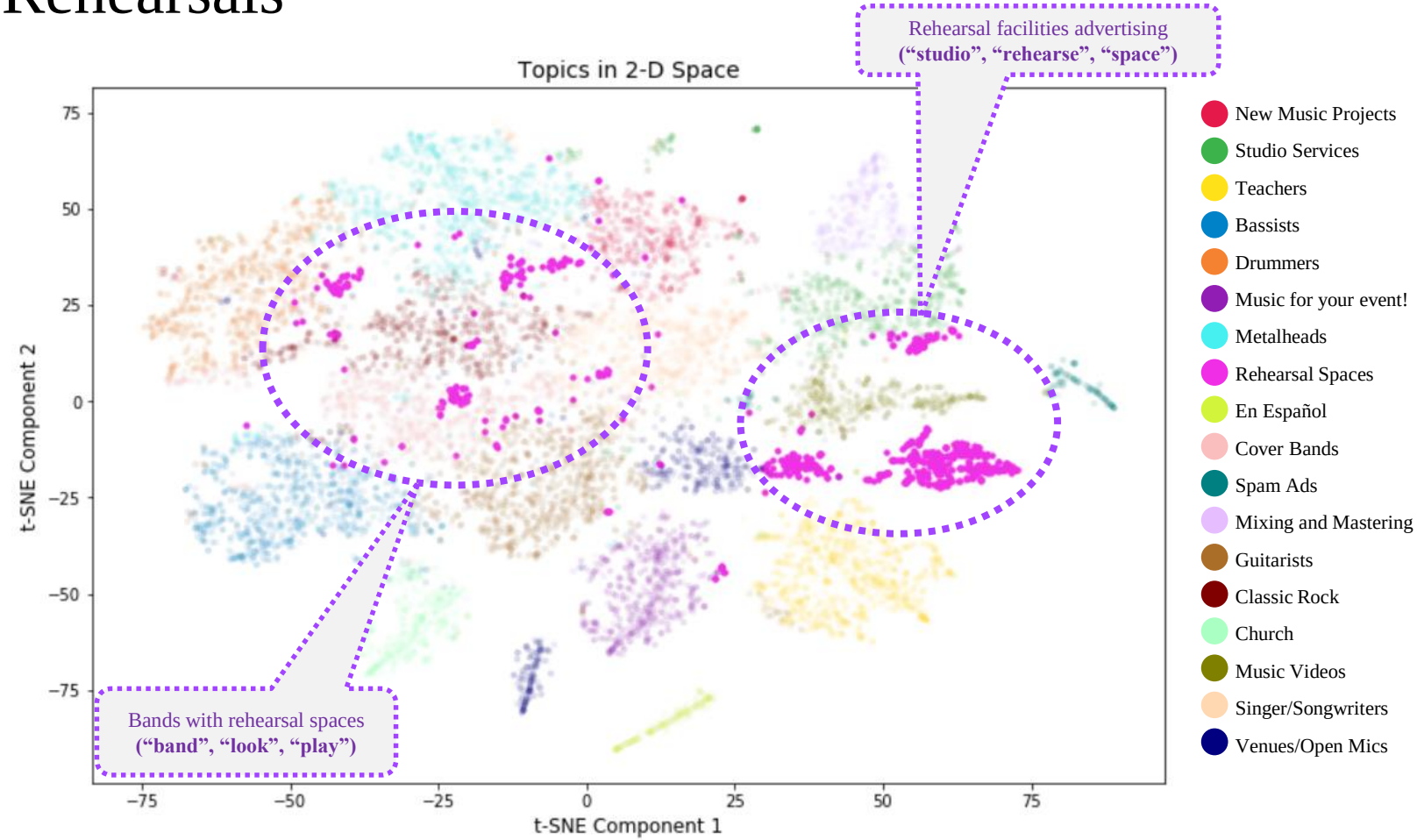
Rehearsals


Topics in 2-D Space
Rehearsal facilities advertising
("studio", "rehearse", "space")
Bands with rehearsal spaces
("band", "look", "play")
t-SNE Component 1
t-SNE Component 2
75
50
25
0
−25
−50
−75
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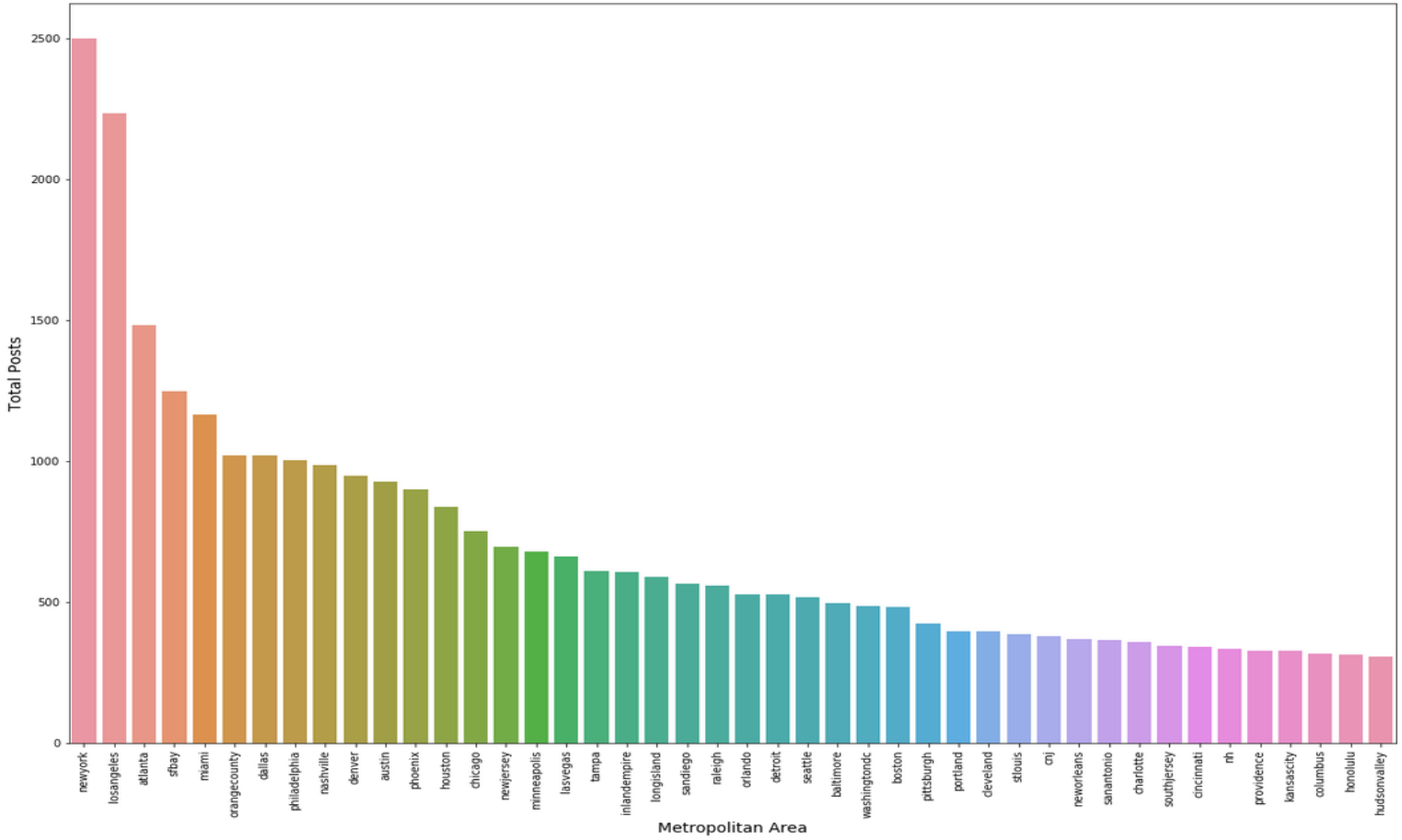
Conclusions

- Craigslist musicians posts are fairly segregable just by relying on their text.
- Craigslist musicians is “rock” heavy.
- Posts are not mostly spam.
- Topic Modeling does a decent job at identifying key words, but does not have the ability to understand those key words in context

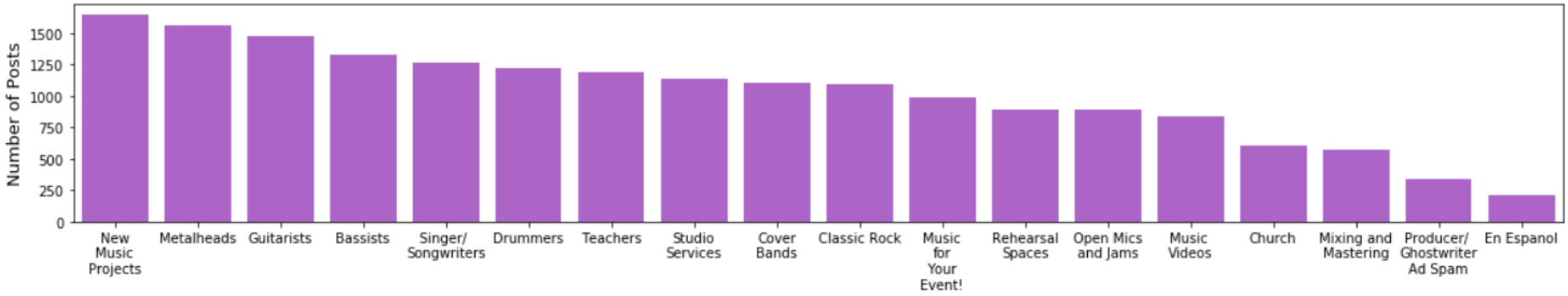
Thanks!

APPENDIX

Total posts by craigslist site



NMF Weights



Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word	NMF	Word
cord		lesson		bass player		drummer		event	1.	guitarist		rehears		de	1.	cover	1	call inform		mix		guitar		rock		church		video		singe
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hr		guitar lesson		need		need		privat	0.	vocalist		practic		lo	0.	must	0	afford		track		guitar bass		countri		prais		video product		see
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