Algospeak on Bluesky

Sara Rosenau
shr144@pitt.edu
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01 Background

The Recommendation Algorithm

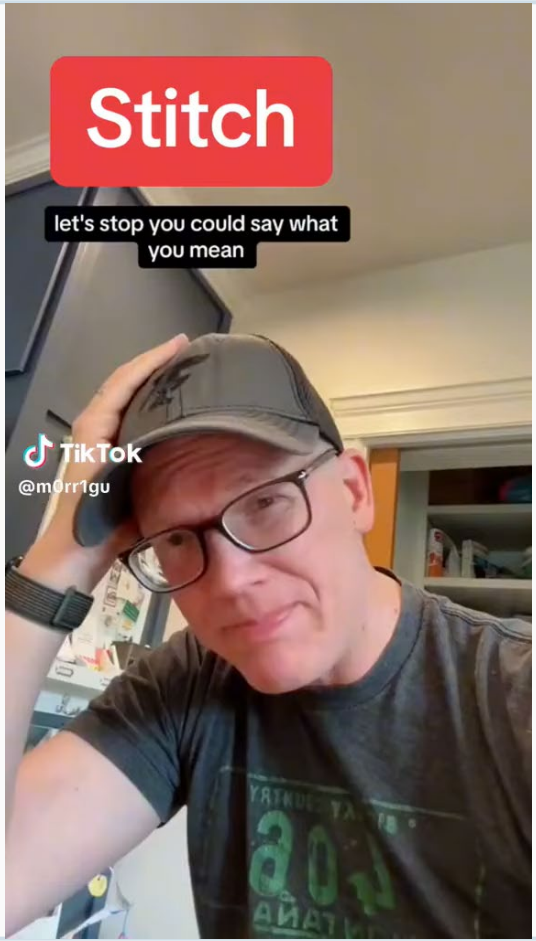
- Social media platforms now rely on feeds of recommended content rather than just feeds of content from accounts a user follows
- These feeds are created using *recommendation algorithms* (Narayanan, 2023) – chunks of code created to sort posts and present them graphically to the user based on:
  - Content the user interacts with
  - Content the user watches
  - Content the user's social connections like
  - Content popular in a geographic location
  - Other sites the user visits

Algorithmic Folk Theories

- Some users suspect that apps like TikTok suppresses content that contains LGBTQ+ content, content about sex, politics, mental health, etc.
    - These are *algorithmic folk theories* - beliefs that users hold about how algorithms operate (DeVito et al., 2017)
- Since details about the algorithm are kept secret, algorithmic folk theories are how social media users learn what content may be promoted or suppressed
- Users can engage in *algorithmic resistance* against algorithmic suppression, such as using algospeak

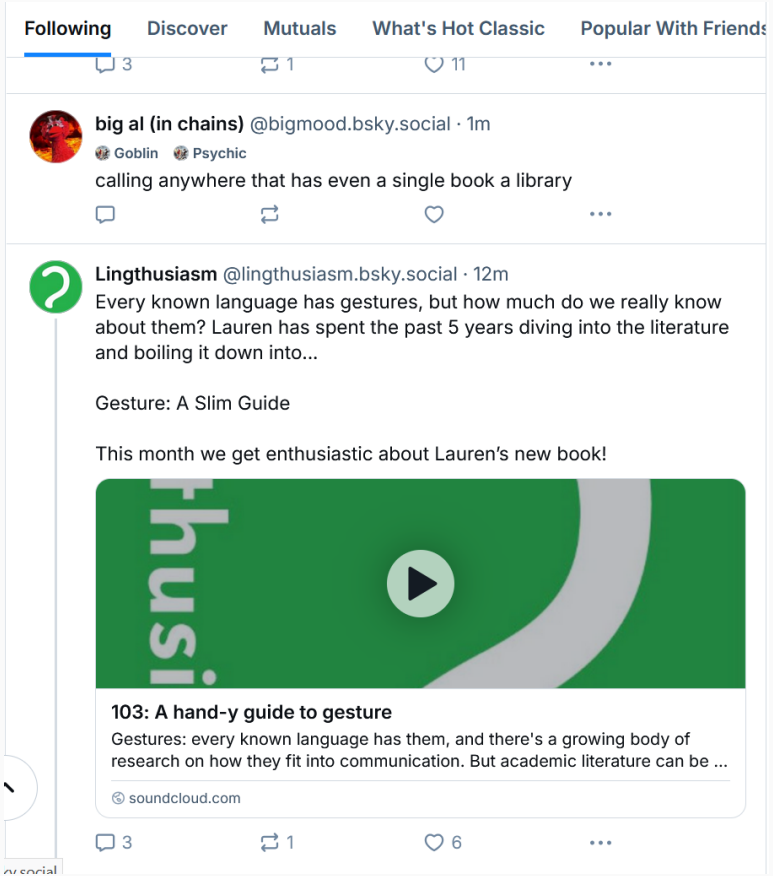
Algospeak

- Algospeak is a strategy of self-censorship by using alternate words, symbols, and signs to avoid using words that are commonly thought to lead to posts being suppressed by the algorithm
    - Coined by journalist Taylor Lorenz (2022)



Bluesky

- Bluesky is a new social media app which first launched in 2023 as a Twitter competitor
  - 35 million registered users
- Intentionally decentralized, open source, and more customizable than other social media platforms
- Has more emphasis on custom feeds which can be algorithmic or not



How do people use algospeak on a new, less algorithmic platform like Bluesky?

02 Methods

The Terms

- Initially set out to use 5 terms which I was researching as part of my greater algospeak research
  - Chosen for perceived prominence on TikTok
- Second set of data focused on *unalive*

Term	Gloss
grape	rape
palm-colored	white
seggs	sex
unalive	kill, suicide
watermelon	Palestine

Bluesky API

- Collected posts by query term using the Bluesky API
- Since Bluesky is still new, there's not that much documentation
  - Resorted to a lot of trial and error
- API returns a json object that can be converted into a dictionary that contains a list of posts
  - Contains a lot of metadata that you can put into a dataframe!
- Initially collected 30 posts for each of the 5 terms
- Then collected 200 posts on just 'unalive'

```
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    'labeler': None,
    'lists': None,
    'starter_packs': None,
    'py_type': 'app.bsky.actor.defs#profileAssociated'},
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   'labels': [],
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    'muted_by_list': None,
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   'py_type': 'app.bsky.actor.defs#profileViewBasic'},
  'cid': 'bafyreidcnzoubgojjvsu3wzoa5ebjwjhswzzubdyyylw4yr5aackieytmm',
  'indexed_at': '2025-04-17T21:52:53.150Z',
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A sample post

Qualitative Coding

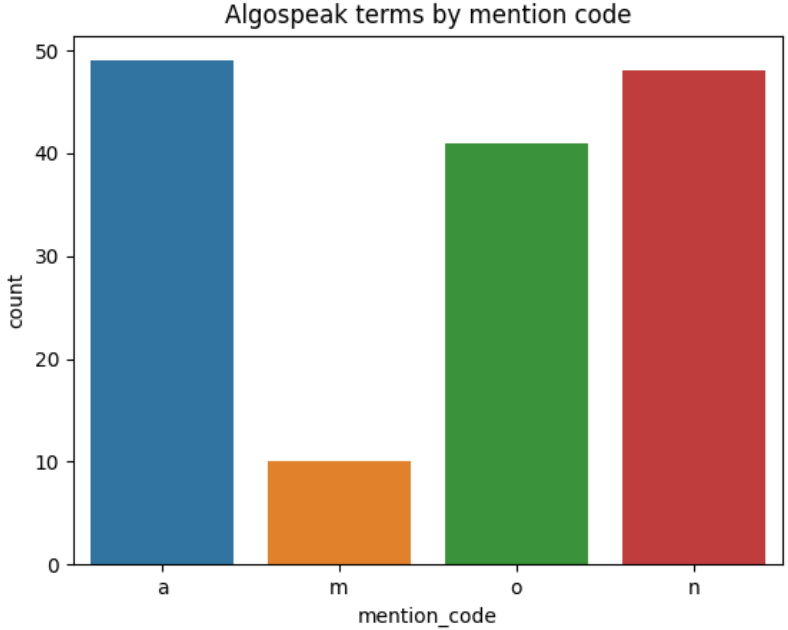
- I wanted to separate out the different uses of the algospeak terms so I created a coding scheme with four codes

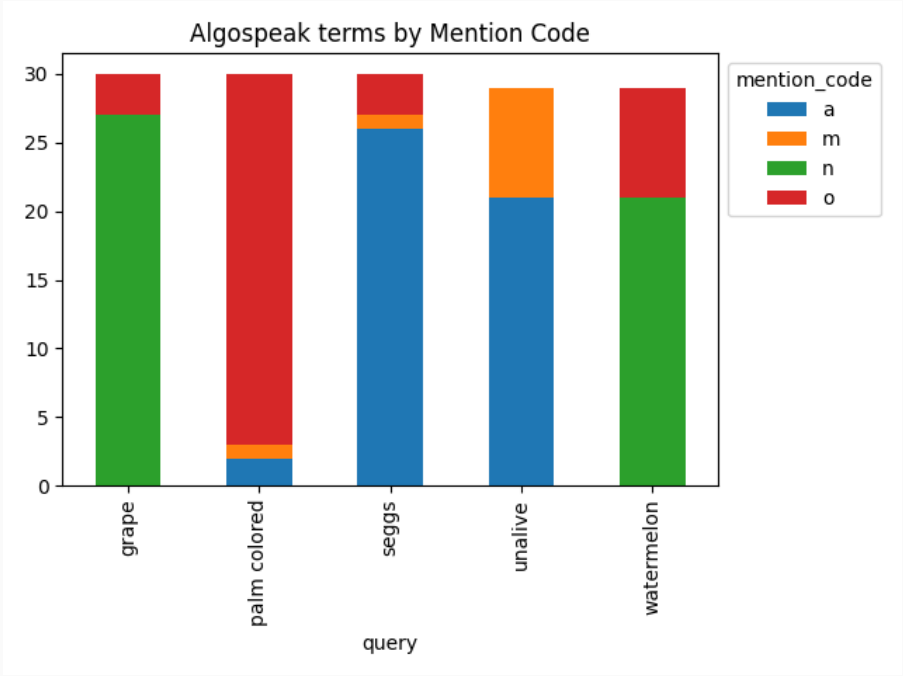
Code	Meaning
a	algospeak - The term is being used to censor another term
m	mention - The term is being mentioned as an algospeak term but not used to censor anything. Can also stand for "meta"
n	not algospeak - The term is not being used as an algospeak term
o	other - Term is not present or something else

- Coded them in a column using Excel

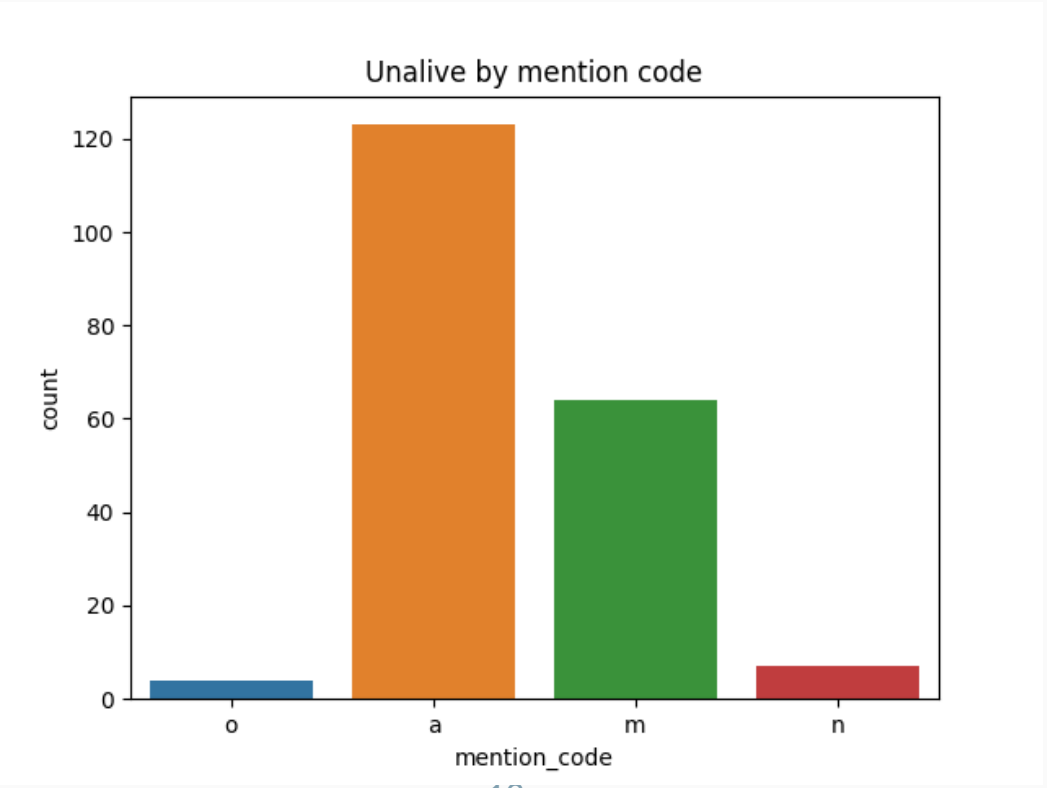
03 Data

5 Term Data

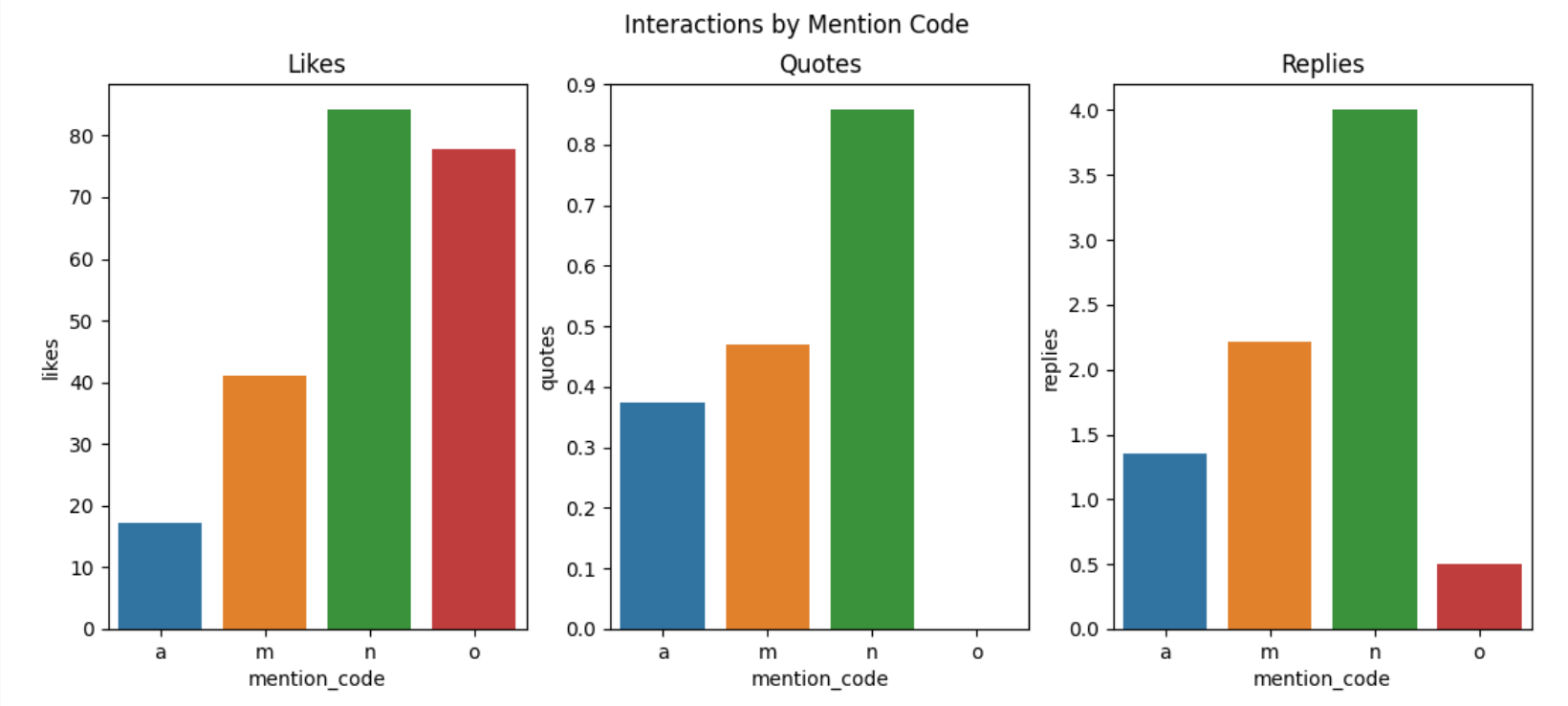

Algospeak terms by mention code
count
mention_code
a
m
o
n
0
10
20
30
40
50


Algospeak terms by Mention Code
mention_code
a
m
n
o
query
grape
palm colored
seggs
unalive
watermelon
0
5
10
15
20
25
30

Unalive Data



Unalive Data



04 Analysis

Topic modeling

- Good for getting at what people are talking about when they use algospeak terms
  - Isolating context
- In this project, I want to see if I can use topic modeling to aid in sociolinguistic analysis
  - How can we do sociolinguistic analysis on bigger data?
  - Can topic modeling help isolate potential areas of interest?

Topic Modeling on the Unalive Data

```
Topic 0:
people think tell way allowed trans money twisted using just
Topic 1:
character chungus named general said movie minecraft word say tells
Topic 2:
don time wish want care reason government just salvador el
Topic 3:
gonna sweaty unaliving minecraft pew say straight movie doesn hear
Topic 4:
going somebody make hard let life ups constant pop regret
Topic 5:
like say things shit kill old saying seggs need self
Topic 6:
really know concerned sorry live actually pretty stuff sure happened
Topic 7:
ll hope wrong wildlife tourists picking critter shit shits tries
Topic 8:
use tiktok words content creators video fuck youtube hitler fucker
Topic 9:
hate fucking slide sewer sounds childish forever term completely trying
```

Just on ‘a’ mention codes

```
Topic 0:
people think trying like allowed tell hate trans fucking legally
Topic 1:
going somebody let reason trump life good hard make nootz
Topic 2:
hope ll literally book deserves hounded throw social love life
Topic 3:
fucker fuck right thing fat wants try fact bring court
Topic 4:
really concerned know sorry stuff moment actually deflect obstruct course
Topic 5:
wish don want care happens come just time government reason
Topic 6:
gonna unaliving sweaty highkey doesn minecraft believing hear blooded hot
```

Just on ‘m’ mention codes

```
Topic 0:
chungus character named general said say tells called word instead
Topic 1:
like say shit things pew murder kill people old self
Topic 2:
minecraft movie saying unironically features character sure movies gonna im
Topic 3:
use words content people creators tiktok youtube video suicide fucking
Topic 4:
hate slide sewer sounds childish forever fucking term im straight
Topic 5:
just word bikini saw said new dropped kill euphemism ass
Topic 6:
don live know telling omg keeps dude write censored til
```

Just on ‘m’ mention codes

```
Topic 0:
chungus character named general said say tells called word instead
Topic 1:
like say shit things pew murder kill people old self
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hate slide sewer sounds childish forever fucking term im straight
Topic 5:
just word bikini saw said new dropped kill euphemism ass
Topic 6:
don live know telling omg keeps dude write censored til
```

‘>the minecraft movie features a character unironically saying "unalive“”

“I will FOREVER hate the term ‘unalive’ It sounds SO fucking childish!”

“Just saw the band Bikini Kill referred to as Bikini Unalive on TikTok”

Some preliminary conclusions

- More genuine use of *unalive* than expected
  - Bluesky not known for algorithmic suppression
- Uptake of metadiscourse is higher though
- Data probably too small to make good use of topic modeling still
  - The ‘m’ set was 68 posts
  - It was isolating single posts with some terms
- Topic modeling did find some topics that I found in my other analysis!

Future steps

- Optimize the topic modeling more
  - K-means clustering?
- Compare topic modeling with a more grounded theory approach
  - Hand coding by topic as well as mention status
- A more thorough sociolinguistic analysis
- Training a classifier?
  - Possible if I get more data
  - Might aid people with bad intentions

Thank you!

If you have any later questions, please feel free to contact me at shr144@pitt.edu