Phans, stans and cishets:
Self-presentation effects on content propagation in Tumblr
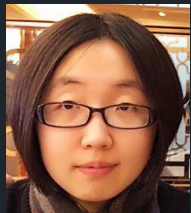
Michael Miller Yoder

10 July 2020

Language Technologies Institute

Carnegie Mellon University

Association for Computing Machinery

Advancing Computing as a Science & Profession
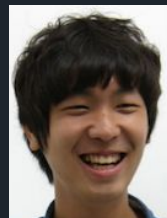
Qinlan Shen
CMU Language Technologies Institute

Alex Coda
CMU Language Technologies Institute

Carolyn P. Rosé
CMU Language Technologies Institute

Yunseok Jang
U Michigan Computer Science & Eng
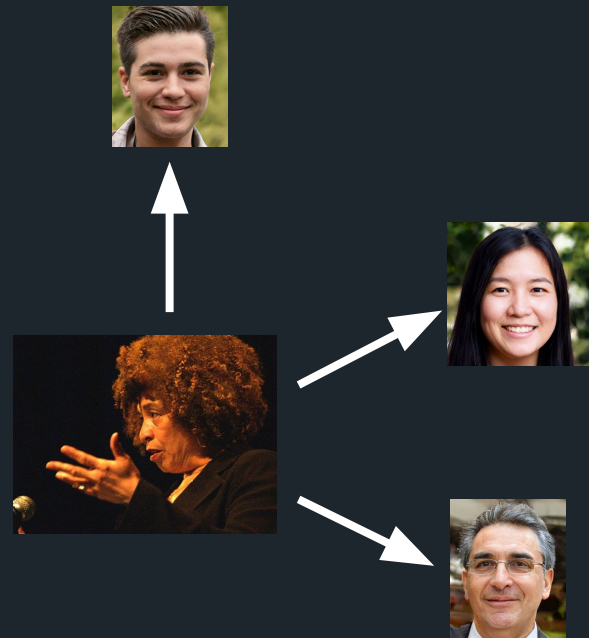
Yale Song
Microsoft Research
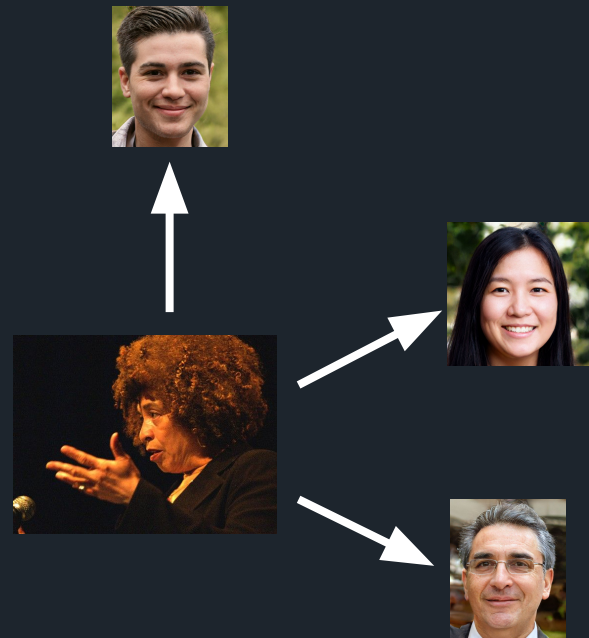
Kapil Thadani
Yahoo Research

Motivation: identity + content propagation

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- Social media as a space for identity construction and social interaction, often content propagation

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- Content and network features predictors of content propagation [Zhang et al. 2014, Xie et al. 2017]

Photo credit: Nick Wiebe, https://en.wikipedia.org/wiki/File:Angela-Davis-Mar-28-2006.2.jpg
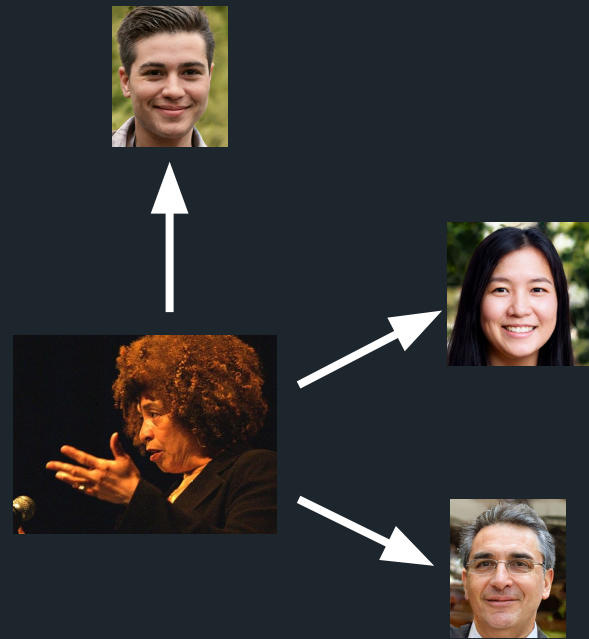
Motivation: identity + content propagation

- Social media as a space for identity construction and social interaction, often content propagation

- Content and network features predictors of content propagation [Zhang et al. 2014, Xie et al. 2017]

- Homophily: users more likely to have links if share attributes [Gong et al. 2018]

Photo credit: Nick Wiebe, https://en.wikipedia.org/wiki/File:Angela-Davis-Mar-28-2006.2.jpg

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What effects of similarities and differences in self-positioning do we see on content propagation on social media?

1. Prediction: is there an association?

2. Interpretation: what is the nature of that association?

tumblr.

- Social media/ microblogging

- Identity talk

- Blogs as personalized artifacts [Hogan 2010]

♡ B Y E ♡

Warning: some nsfw, Lyca / 25 / Uni life, Avid Hinata supporter, aesthetics, personal stuff and a few other things.

these middle schoolers are touring campus and one of them walked by me and said "hey what's college life like" and i told him "it sucks" and he said "well it can't be any worse than middle school." he's right

♡ B Y E ♡

Warning: some nsfw, Lyca / 25 / Uni life, Avid Hinata supporter, aesthetics,

NAVIGATE

X 2 3 -

8

What effects of similarities and differences in **self-positioning** do we see on content propagation in Tumblr?

text self-descriptions,
profile images

What effects of similarities and differences in self-positioning do we see on content propagation in Tumblr?
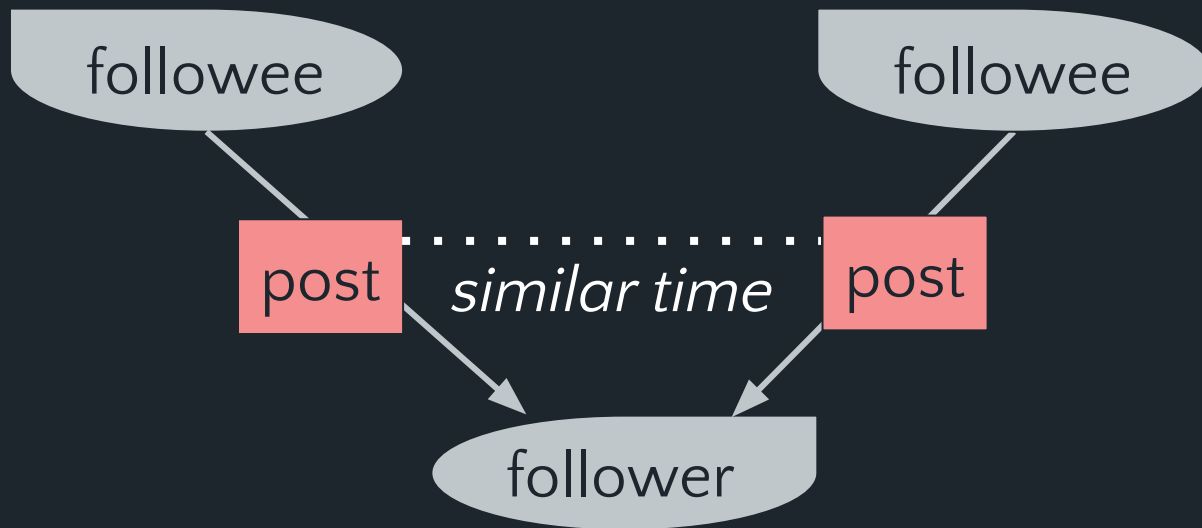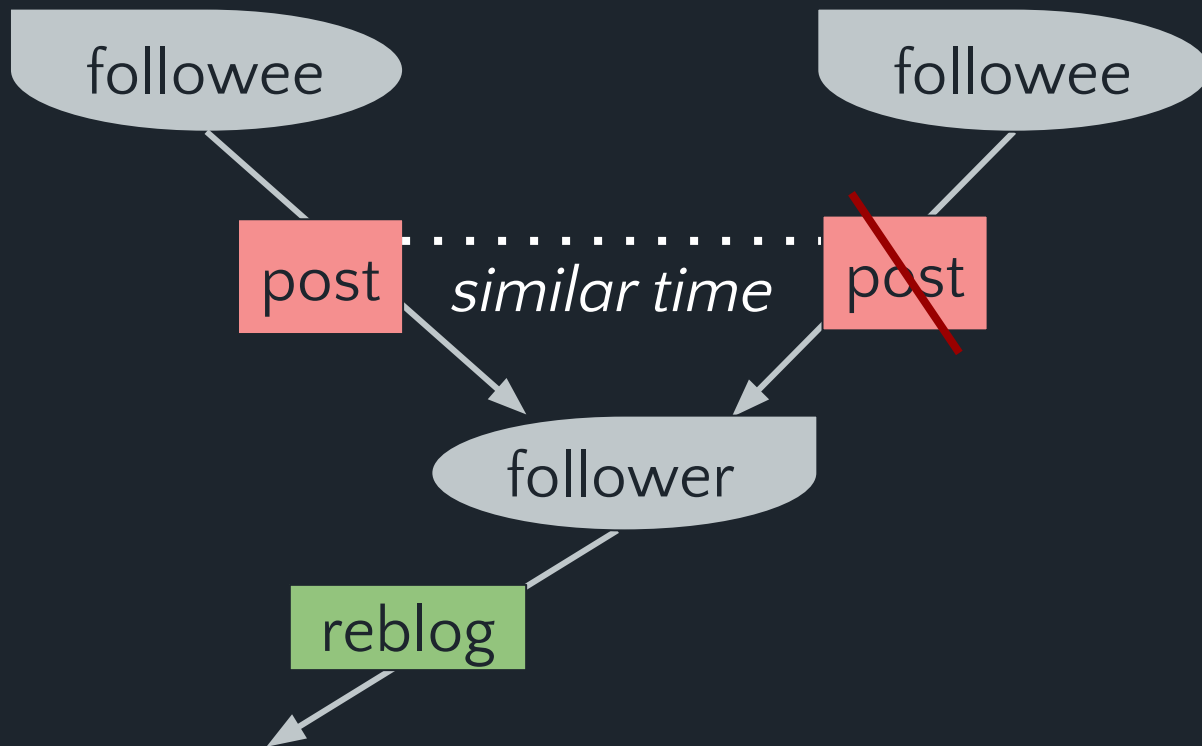
text self-descriptions, profile images

reblogging

Reblog prediction

- Reblog "opportunity"

Reblog prediction

- Reblog "opportunity"

- Learning to rank pairwise formulation

Text self-descriptions on Tumblr

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- Blog descriptions: free-form text bio boxes

- Labeling practices outside gender/sexuality binaries [Oakley 2016]

max | 18yo | she/they | girl with dreams | twerfs don't follow
andre | he/him | 22 | mexican ✨trans | too many fandoms
hey! annie, she/hers, love me, infj

Identity categories

age	personality type
ethnicity/nationality	pronouns
fandoms	relationship status
gender	sexual orientation
interests	zodiac sign
location	

fandoms: *shipping, star wars, lotr, homestuck*

gender: *woman, husband, mtf, nonbinary*

age: *24, xviii, 35yo, nineteen*

Text self-description features
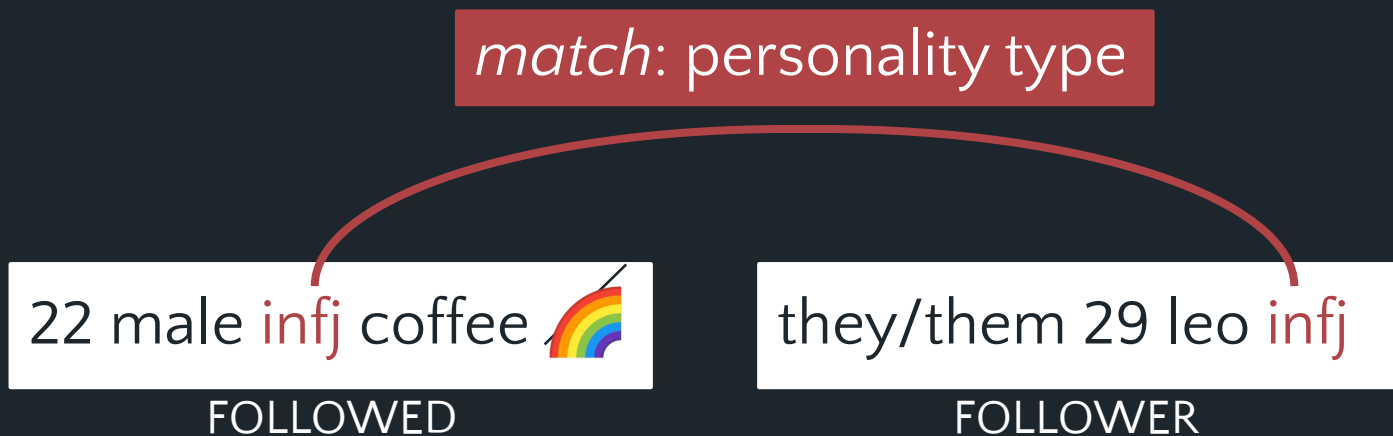
22 male infj coffee 🌈

FOLLOWED

they/them 29 leo infj

FOLLOWER

Text self-description features

match: age

22 male infj coffee 🌈

they/them 29 leo infj

FOLLOWED

FOLLOWER

Text self-description features

—

match: personality type

22 male infj coffee 🌈

FOLLOWED

they/them 29 leo infj

FOLLOWER

Text self-description features

—

mismatch: pronouns

x

22 male infj coffee 🌈

FOLLOWED

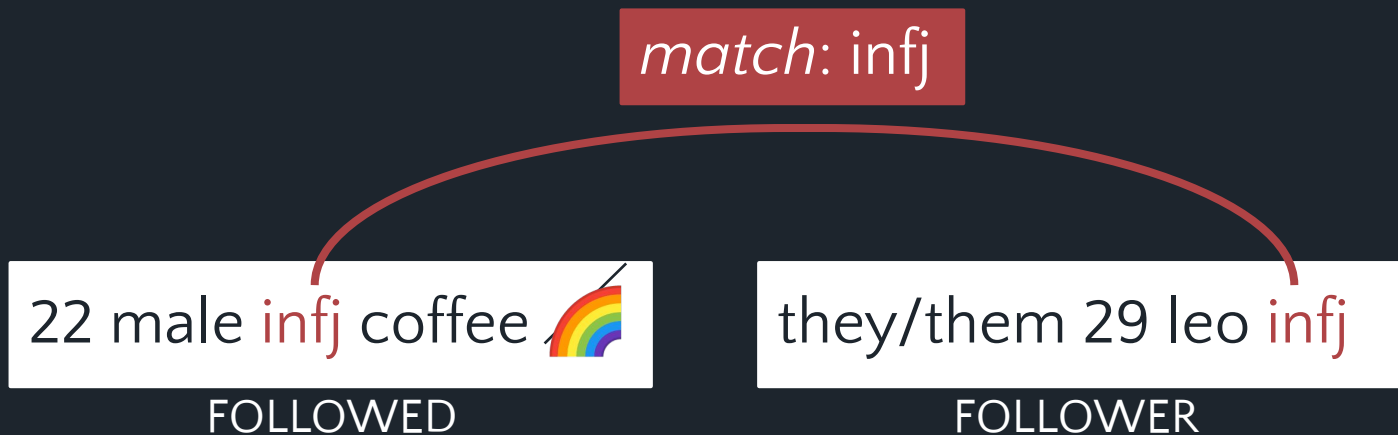they/them 29 leo infj

FOLLOWER

18

Text self-description features

match: infj

22 male infj coffee 🌈

FOLLOWED

they/them 29 leo infj

FOLLOWER

Text self-description features

followed: 22, follower: 29

22 male infj coffee 🌈

FOLLOWED

they/them 29 leo infj

FOLLOWER

Image features: profile images

—

- Only about 30% are images of a person who is likely the user; avatars, objects, other images more common
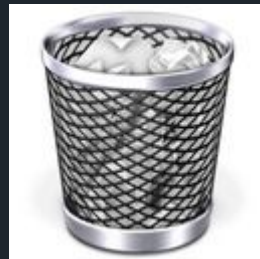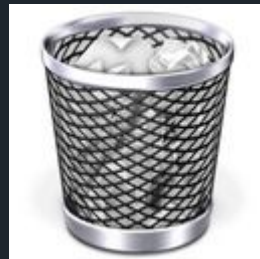
Image features: profile images

—

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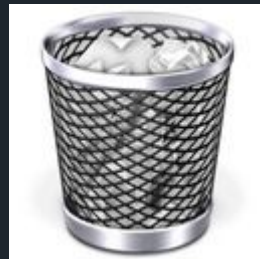- Continuous, dense, 1000–dimension representations from ResNet–152 [He et al. 2016]

Image features: profile images

———

- Only about 30% are images of a person who is likely the user; avatars, objects, other images more common

- Continuous, dense, 1000-dimension representations from ResNet-152 [He et al. 2016]

- Features: **cosine similarity**, **Euclidean similarity, vector difference**

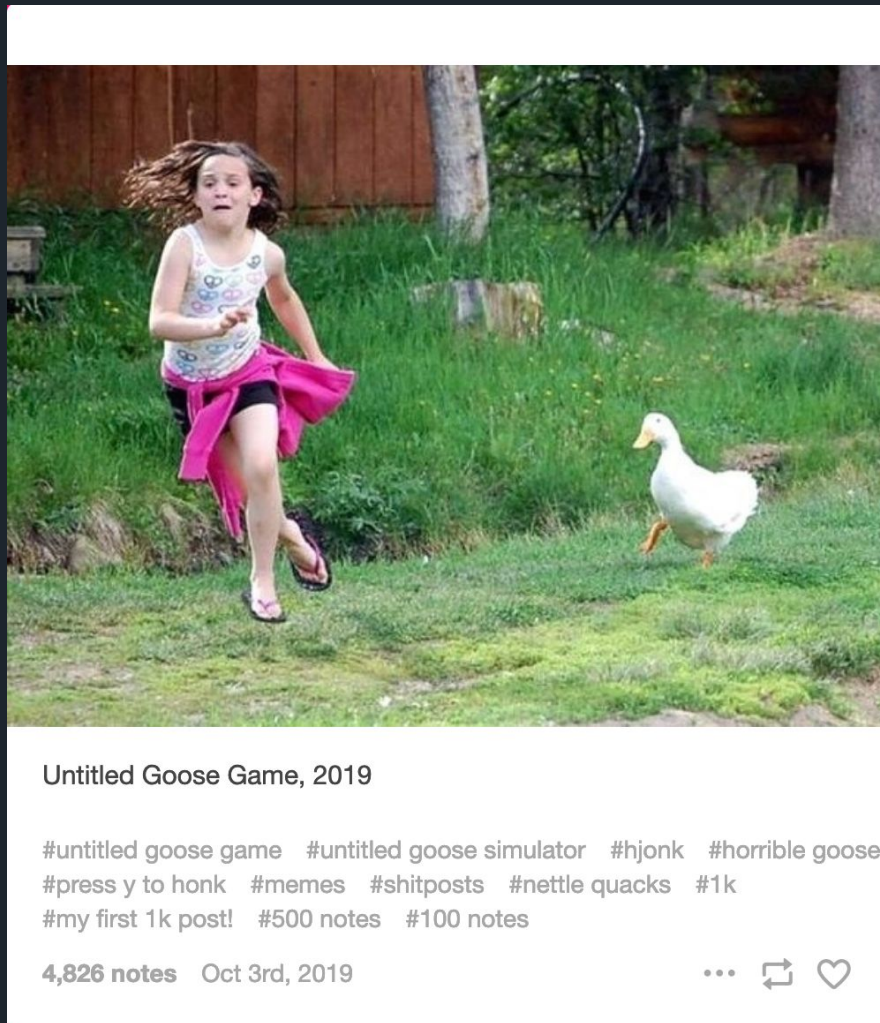| Descriptions*	Reblogged post
Follower: Travel Enthusiast – Photography – Web Design *Followed:* world traveler. | Wanderlust | Landscape | Photography	 Lower Canyon, AZ

* changed for privacy

Control features

___

post type (text, photo, etc) →

Untitled Goose Game, 2019

#untitled goose game   #untitled goose simulator   #hjonk   #horrible goose
#press y to honk   #memes   #shitposts   #nettle quacks   #1k
#my first 1k post!   #500 notes   #100 notes

post hashtags →

number of likes, comments →

4,826 notes   Oct 3rd, 2019

25

Data

—

	Prediction dataset	Interpretation dataset
Identity features	text + image	text
Number of users	14,177	34,801
Reblog prediction instances	228,424	712,670
Timeframe	June – Nov 2018	June – Nov 2018

Is there an effect?
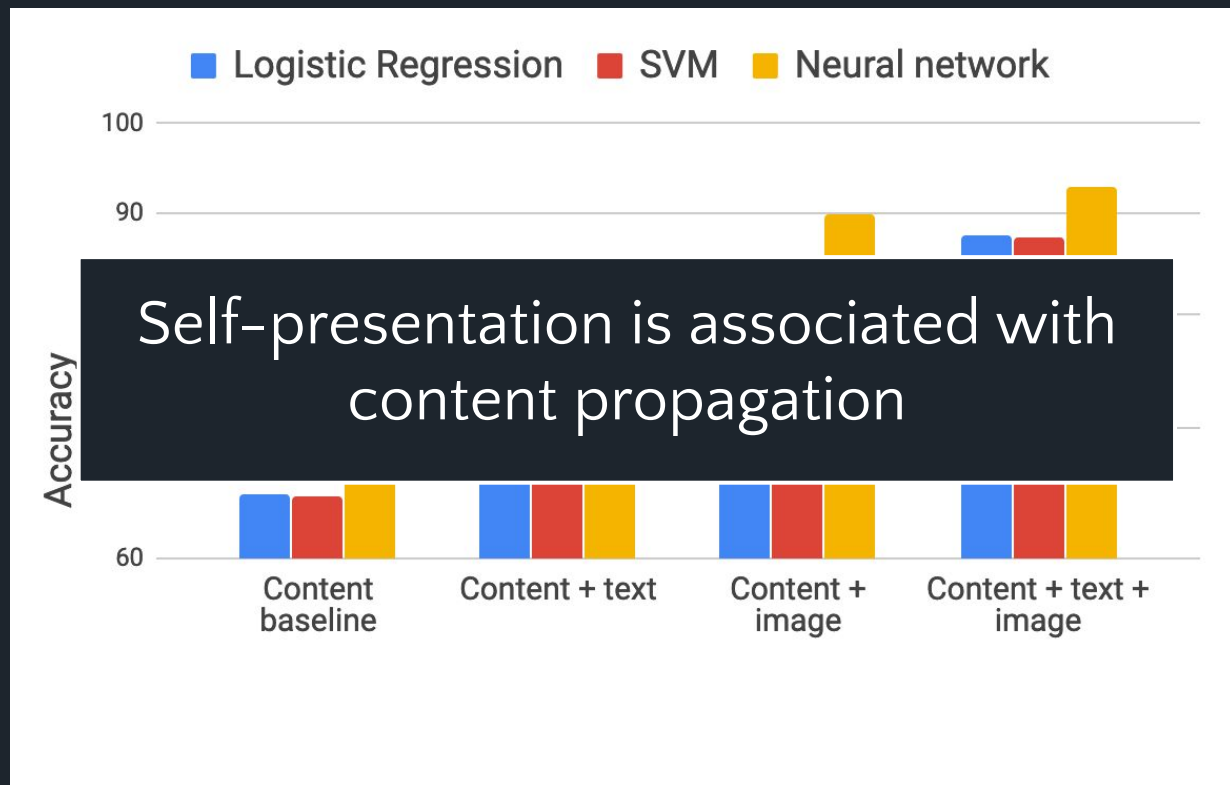
Interpretation: text features

- Establishing solidarity: categories and label matches were positively associated with reblogging

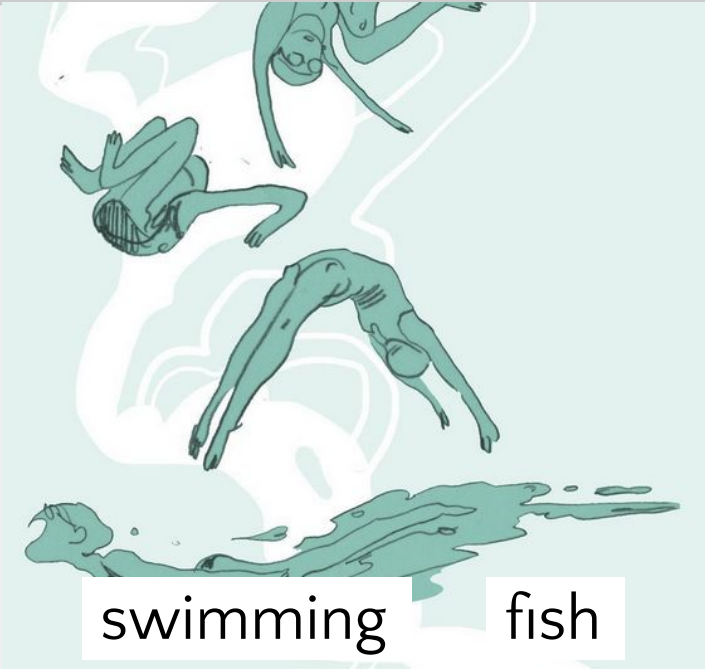| indie | ←→ | indie |
| sappho | ←→ | sappho |
| *any sexual orientation* | ←→ | *any sexual orientation* |

Interpretation

——
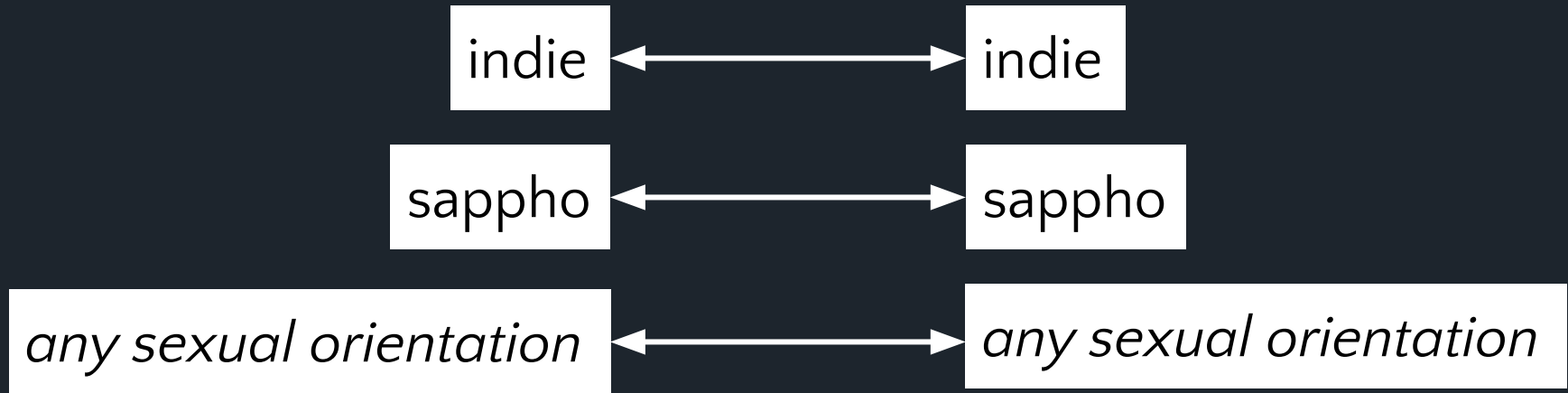
Features	Likelihood of reblogging
Follower: presents pronouns Followed: does not	↓
Both: *cis* or *cishet*	↑
Race/ethnicity label alignment	↑
Nationality label alignment	*none*

Interpretation

—

Features	Likelihood of reblogging
Follower: *gaming* Followed: *manga*	↑
Follower: *memes* Followed: *history*	↓

| Descriptions*	Reblogged post
Follower: Katie · 25 living in the suburbs of Chicago. happy and kind of a mess, super gay *Followed:* devoted to lgbtqia+ positivity, against stigma against us queer folks	

* changed for privacy

Descriptions*	Reblogged post
Follower: wHAT WHY NOW art blog \<url\> *Followed:* animation teacher	 swimming fish

* changed for privacy

Tools

- Framework for identifying community value placed on identity labels

- Allows quantitative investigation of the social value of identity labeling
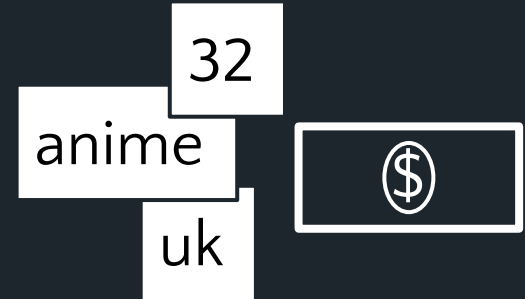
[Bourdieu 1986]

Findings

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- Relevance of self–presentation in predicting content propagation, not just content and network features [Naveed et al. 2011, Vosoughi et al. 2018]

- Labels that indicated conceptualizations of gender, race/ethnicity, and shared values/interests were particularly associated with content propagation in Tumblr