Can Anyone Become an Internet Troll?
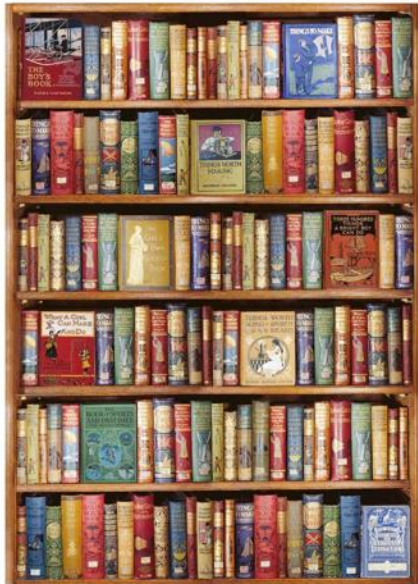
Jure Leskovec (@jure)

Including joint work with **Justin Cheng,**
M. Bernstein, C. Danescu-Niculescu-Mizil

Two Metaphors for the Web

Web as a library   Web as a social place

Web as a Social Place

Crucial for the success of the Web is the ability of users to contribute content and provide feedback

1 2524

We worried that Byrd was gonna get lonely **set up a cat cam, this is what we saw** (imgur.c
(4227|1703) submitted 15 hours ago by norsez
167 comments share save hide report [l+c] pock

2 138

Our new kitten has officially stolen my heart
(138|13) submitted 6 hours ago by brittinea
4 comments share save hide report [l+c] pocket

3 60

Posted about Manfred earlier this week. He s
(69|8) submitted 4 hours ago by allihearts
9 comments share save hide report [l+c] pocket

4 195

Reddit, meet Hercules. This is what he does **bathroom.** (imgur.com)
(218|25) submitted 13 hours ago by Itsnubs
7 comments share save hide report [l+c] pocket

5 322

My Best Little Buddy. :) `Original Content` (i.imgur.cc
(374|48) submitted 16 hours ago by Kell0GGz
4 comments share save hide report [l+c] pocket

Can C++ code be valid in both C++03 and C++11 but

210

Is it possible for C++ code to conform to both the C++03 standard and the C++1
different things depending on under which standard it is being compiled?

c++   c++11   language-lawyer   c++03

69

share | improve this question

edited Apr 17 at 20:02
Angew
39.5k ●5 ●41 ●88

ask

13   I'm pretty sure `auto` could result in a situation like this — OMGtechy Apr 13 at

6   Yes. One example is `>>` when used in a template. You can come up with a situ
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2   Closing this as too broad would be a shame, this is question likely to be asked m
good to have a solid canonical question to point to that is not closed. — Shafik Y

show **14** more comments

7 Answers

act

CNN Tech

SEARCH

POWERED BY Google

Facebook privacy now defaults to friends only

By **Doug Gross**, CNN
updated 3:39 PM EDT, Thu May 22, 2014 | Filed under: Social Media

SHARE THIS

Recommend 235

Print
Email
More sharing

Search for people, places and things   Charlie Home Find Friends

FACEBOOK

Charlie Deets
Edit Profile

Update Status   Add Photos/Video

Jonathon Paul
4 events this we

Welcome
News Feed
Messages
Events
Find Friends

PEOPLE YOU MAY K

Friends ▼   Post

Mike No
12 mutua

FRIENDS

Close Friends

Hi Charlie! Before you post, we wanted to make
sure you're a

On Thursday Facebook bowed to

More from CNN Video:

Serial killer's
daughter recalls
horrors

Widow hugs
husband's killer in
court

35 Comments   CNN   Login ▼

Sort by Best ▼   Share   Favorite ★

Join the discussion...

Tom · 7 hours ago
If you're posting something to facebook, it shouldn't be anything you wouldn't print
and tape to the front door of a local grocery store.

RTV SLO | **MMC**
PRVI INTERAKTIVNI MULTIMEDIJSKI PORTAL

MMC ODŠTEVA

● Rtvslo.si ● Google.si   Išči

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Slovenija | Svet | ZDA 2016 | Begunska kriza | EU | Gospodarstvo | Lokalne novice | Čma kronika | Zdravje

▌Slovenija

✉ POŠLJI   🖨 NATISNI   💬 KOMENTIRAJ (152)

Štirje predsedniki menijo, da je Slovenija na pravi poti

Slovenija mora biti vključujoča družba

19. december 2016 ob 13:45
Ljubljana - MMC RTV SLO/STA

Predsedniki republike, vlade, državnega zbora in državnega sveta, Borut Pahor, Miro Cerar, Milan Brglez in Mitja Bervar, se strinjajo, da je Slovenija na pravi poti in da razlogi za utemeljen optimizem so.

Stabilnost je treba izkoristiti za sprejetje potrebnih reform, krepiti pa je treba tudi zaupanje ljudi v delovanje političnih institucij, so menili na srečanju štirih predsednikov.

Tako so po Pahorjevih besedah danes ugotovili, da Slovenija po letih surove gospodarske in finančne krize okreva, in kar kažejo tudi glavni gospodarski in socialni kazalniki. Politično stabilnost je po njegovih besedah treba izkoristiti za sprejetje reform, ki so potrebne, da bi Slovenija dodatno okrepila svojo gospodarsko in socialno moč ter da bi država postala odpornejša ob morebitni novi zaostritvi razmer v mednarodnem okolju.

Ocena novice: ★★☆☆☆   Vaša ocena: ☆☆☆☆☆
Ocena 1.4 od 94 glasov   Ocenite to novico!

Ker je učinkovitost evropskih institucij v tem trenutku manjša, kot bi si jo želeli, se bo po Pahorjevih besedah morda treba bolj zanesti na lastne presoje in uporabiti zgodovinske izkušnje pri sprejemanju ključnih razvojnih rešitev. Foto: BoBo

▌Oddajte svoj komentar - Število komentarjev: 152

💬 Skrij komentarje   ⚙

● **PRIJAVI** sovražni govor

Razvrsti: Po času ▼   Po oceni ▼

Na stran: « 1 2 3 4 5 6 7 8 »

Two Metaphors for the Web

Web as a library

- One static version
- Everyone's experience is fixed
- No user interactions

Web as a social place

- Complex dynamic feedback effects
- One user's experience is a function of other users' experiences
- User interactions

Challenges

Want users to engage and contribute (good) content (and make others' experiences better)

- How do we keep users engaged?
- How do we promote good behavior?
- How do we ensure health of the community and the content?

Challenges

- We know a lot about overall average user behavior in online communities
- But many times only a few users can have a disproportionate (negative) effect on the entire community

- How do we study and model behavior of such users?
- Have do we use the insights to improve online communities?
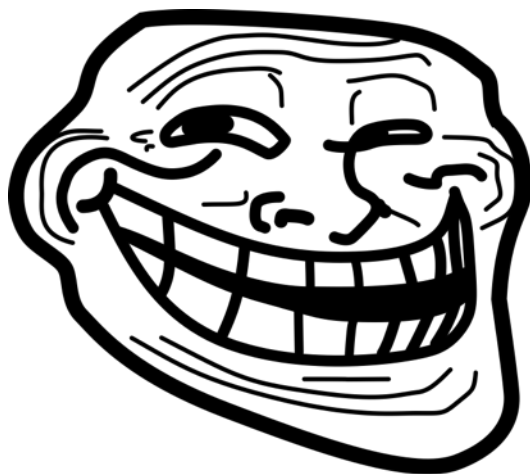
Antisocial Behavior

Internet Troll is a person who sows discord on the Internet

- by starting arguments and upsetting people
- by posting inflammatory, extraneous, or off-topic messages

in an online community

[wikipedia]

Facebook: The encyclopedia of beauty?

By Amanda Enayati, Special to CNN
🕐 Updated 9:13 PM ET, Fri March 16, 2012

Demi Lovato and Miley Cyrus have used social media to send positive messages about body image.

Story highlights

Social networks have young women competing against each other for the best body

Networks influence self-esteem, although experts disagree on whether its for better or worse

Heaviest users of media are the ones who have the most distorted beliefs about society

One day last year, Amanda Coleman decided to quit Facebook.

It wasn't one precipitating event that led her to her decision, but a slow build -- a series of disturbing, sometimes anguished conversations.

Coleman, a college student and the president of her sorority, found herself spending a lot of time counseling young girls, many of them freshman at the university.

Perceptions of Beauty

Dieting companies target men

Men face the issue at the same rate as women, but until recently, ads for weight loss products mostly featured female faces and voices.

Facebook: Encyclopedia of beauty?

Because of social networks, the field of competition has expanded dramatically. Now you're competing with the best pictures and the ebullient status updates of every girl you know.

Fat: New ugly on the playground

Children as young as 3 worry about being fat. An obsession with skinny ideals is trickling down to our youngest generation.

Sex, lies and media

There's a new wave of activists challenging our society's notions of beauty.

Girls are focused on their image way too much. This isn't new. And when they talk about other girls 'fat', 'ugly', and 'b*tch' are recurring words.

It also shows that Islam and Christianity teaching women to dress modest could be right afterall.

It also shows that Islam and Christianity teaching women to dress modest could be right afterall.

Religious nut alert

Clearly that is the only logical conclusion to this article. Now if you'll excuse me, I need to iron my tarp. I have work on Monday, and I want to appear 'modest'.

fail at life. go bomb yourself.

Both of these little skanks are ugly to the bone.

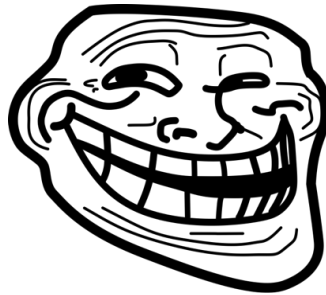Both of these little skanks are ugly to the bone.

Troll

PROBLEM: Trolls disrupt online discussions

Antisocial Behavior in Online Discussion Communities
J. Cheng, C. Danescu-Niculescu-Mizil, J. Leskovec.
AAAI ICWSM, 2015.

We examine posts of users who will be blocked from the community in the future.

What do we learn?

Facebook: The encyclopedia of beauty?

Facebook is for losers with no friends in real life.

Less positive

Soccer star Muamba still 'critical' after on-pitch collapse

Suck a f****ng c@ck u d@uchebag

More profanity

Ex-NBA star returns to inner city, brings hoop dreams

sniff This had me tearing up in the office. Great job Penny! You were always a class act on and off the court. Your Grandmother is applauding you again in heaven!

Fantastic story. Kudos to Penny Hardaway. This is what you call giving back.

Penny, once again you show why you are one of the best of the league. Always a class-act. Always a good example.

Penny, once again you show why you are one of the best of the league. Always a class-act. Always a good example.

I have a question for CNN.......why as a reader do I not see any articles similar to this about white NBA basketball players?......every single touchy feely story is about a black ball player and then all you do is blast Tim Tebow............YOU GUYS MAKE ME SICK AS A READER !

Off-topic: Less similar to previous posts

CNN not ___

How many white NBA players grew up

many stories of charitable efforts by white NBA players, but this isn't a story about a Black NBA player...it's a story about someone who came back to their roots to contribute.

b\c young black men need to see examples from their own race. They

Gets more replies from other users

It allows for mentorship and guidance.

A story about a millionaire helping kids in his poor neighborhood personally, and being a positive role model makes you sick as a reader. Gotta love conservatives.

If you claim you want less government but want to control the bedroom,you're a Republican; If you want to cut Education, you're a Republican; If you want to cut Social Security, you're a Republican; If you want to cut Medicare and Medicaid, you're a Republican If you claim you want less government but want to control the bedroom,you're a Republican; If you want to cut Education, you're a Republican; If you want to cut Social Security, you're a Republican; If you want to cut Medicare and Medicaid, you're a Republican you're a Republican; If you want to cut Social Security, you're a Republican; If you want to cut Medicare and Medicaid, Republican.

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Posts more frequently

Posts more in
the same thread

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Discussion Communities

Complete data over 18 months,
~1.7 million users generated
~40 million posts and
~100 million votes

How Common is Bad Behavior?

	CNN	IGN	BREITBART
Post Deletion Rate	21.4%	2.3%	2.7%
User Ban Rate	3.3%	1.7%	2.2%

This Talk: Trolling

- Large-scale investigation of trolling in online discussion communities

- Common theme: Complementing observational data analysis with human experiments

This Talk: Quesitons

1) Who are trolls?

- Mechanisms behind trolling behaviors: Mood and discussion context

2) Does feedback mitigate trolling?

- Votes lead to cascading of bad behaviors

3) Can we detect trolling early?

- Predicting whether a given user will be blocked from the community

Who are these people?

What makes them troll?
Why is trolling so common?

Anyone Can Become a Troll:Causes of Trolling Behavior in Online Discussions
J. Cheng, M. Bernstein, C. Danescu-Niculescu-Mizil, J. Leskovec. CSCW, 2017
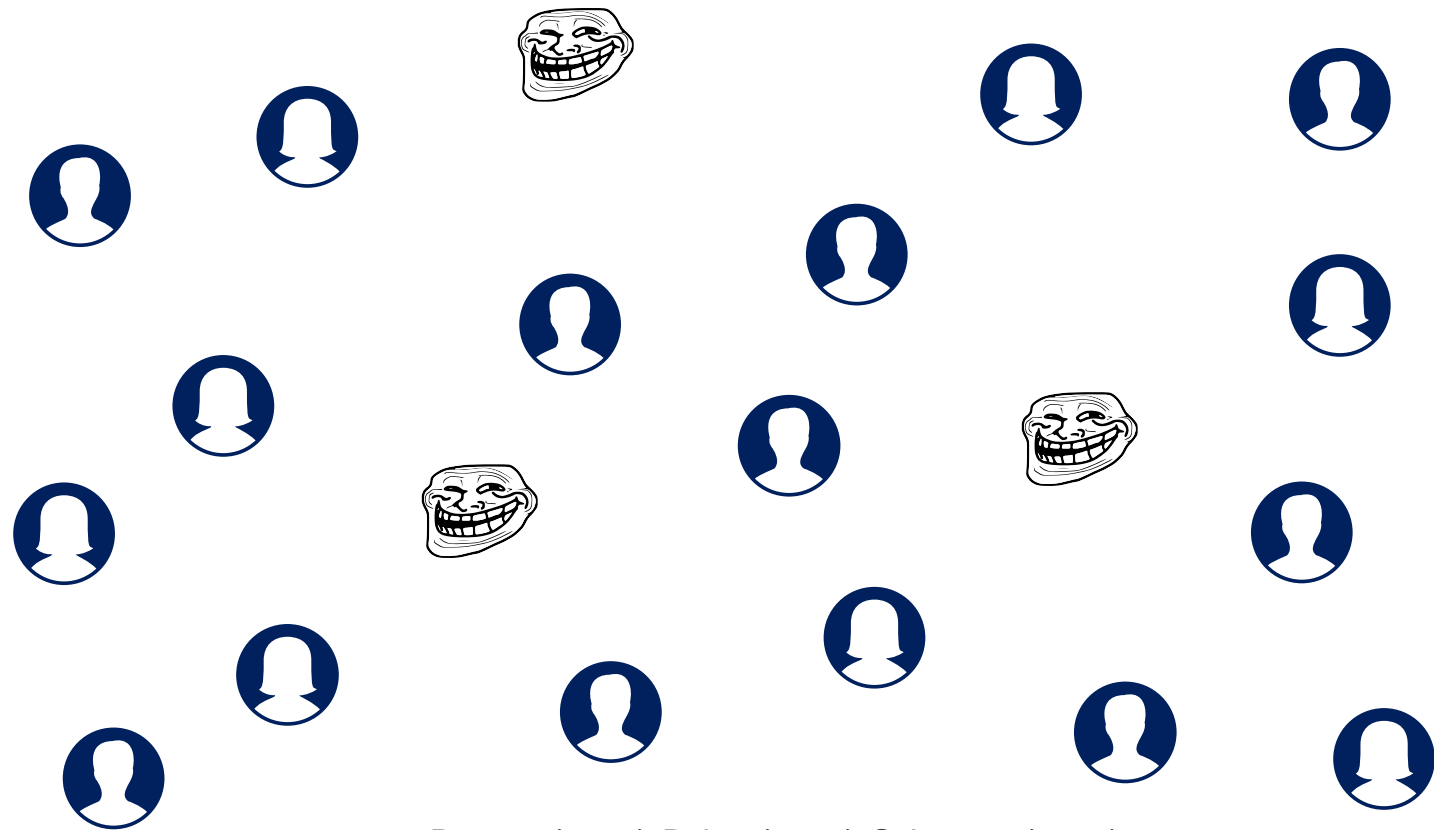
Donate (1999), Baker (2001), Schwartz (2008)

Vox

TWEET (1,542)   SHARE (3,485)

Confessions of a former internet troll

by Emmett Rensin on December 16, 2014

THIS AMERICAN LIFE FROM WBEZ

545: If You Don't Have Anything Nice to Say, SAY IT IN ALL CAPS
JAN 23, 2015

It's safe to say whatever you want on the Internet; nobody will know it's you. But that same anonymity makes it possible for people to say all the awful things that make the Internet such an annoying and sometimes frightening place. This week: what happens when the Internet turns on you? (If you prefer, here's a bleeped version.)

00:00 ————————————————— 00:00

DOWNLOAD   TRANSCRIPT   FAVORITE   HEARD IT   TWEET   LIKE   SHARE   **LAUNCH PLAYER**

Slate   🔍 ≡

CLIMATE DESK   A JOURNALISTIC COLLABORATION ON CLIMATE CHANGE.   FEB. 14 2014 1:23 PM

Internet Trolls Really Are Horrible People

WIRED   SUBSCRIBE

JULIA GREENBERG   05.15.15   7:00 AM

REDDIT WANTS TO EXILE TROLLS. BUT GROWING UP IS HARD

theguardian
Winner of the Pulitzer prize 2014

home › arts › games   books   art & design   stage   classical   movies   tv & radio   ≡ all

Media & Tech Network Media network blog

Behind the online comments: the psychology of internet trolls

Studies on Trolling

Prior research suggests:

- Trolls are born and not made
  [Baker '01; Herring et al. '11; Shachaf-Hara '10]

- Trolls have particular personality
  [Buckels et al. '14; Raine '02]

- Trolls are sociopathic individuals
  [Rensin '14; Schwartz '08]

- Q: Are trolls really special people or can anyone become a troll?

Our Work:

Can Anyone Become a Troll?

Hypotheses: Mood & Context

H1: Negative mood increases a user's likelihood of trolling

H2: The discussion context affects a user's susceptibility to troll.

Designing an Experiment

MTukers only care about being paid.

How do we design an experiment?

Designing an Experiment

Two-by-two experimental design:

- Step 1: Mood – Take a test (5min)
  - Easy test & tell people they did well
  - Hard test & tell people they did poorly
- Step 2: Context – Be in a discussion
  - Neutral context of neutral comments
  - Negative context of negative comments

People do not know the real purpose. They are debriefed at the end.

Controlling Mood: POSMOOD

Qualification Test

Instructions

- Below is a series of simple questions, many of which you should be able to answer correctly.
- You will have **five minutes** to complete all the questions.
- Currently, average performance is **8 or more correct answers**.
- You are allowed to use pen and paper, but not any electronic aids (including the Internet).
- Your performance on this task will not affect your payment on the task.

Unscramble the following letters to form an English word:

"P A P H Y"

Type in your answer.

Subtract three thousand from five thousand. Write your answer in words.

Type in your answer.

How many 'I's are there in these sentences?

266.5 seconds left

Controlling Mood: NEGMOOD

Qualification Test

Instructions

- Below is a series of simple questions, many of which you should be able to answer correctly.
- You will have **five minutes** to complete all the questions.
- Currently, average performance is **8 or more correct answers**.
- You are allowed to use pen and paper, but not any electronic aids (including the Internet).
- Your performance on this task will not affect your payment on the task.

Unscramble the following letters to form an English word:
"D E A N Y O N"

Type in your answer.

Subtract six thousand, seven hundred eighty-three from eight thousand, eleven. Write your answer in words.

Type in your answer.

How many 'I's are there in these sentences?

266.5 seconds left

Context: NEUTRALCONTEXT

News of the Day

I'm Voting for Hillary Because of My Daughter

Back in the 2008 primary season, I supported Hillary Clinton. That choice wasn't easy for me, especially as Barack Obama advanced and became ever more compelling as a candidate. I felt spoiled as the year progressed: two great,

Top Comments Sorted by Best

User1337 · 14 weeks ago
I'm a woman, and i don't think you should vote for a woman just because she is a woman. vote for her because you believe she deserves it.
6 ⌃ | ⌄ · Reply

User9054 · 14 weeks ago
Personally, I'd vote for whoever I think is the best and most qualified candidate, but that's just me.
1 ⌃ | ⌄

Write a comment...

Post Comment

Context: NEGCONTEXT

News of the Day

I'm Voting for Hillary Because of My Daughter

Back in the 2008 primary season, I supported Hillary Clinton. That choice wasn't easy for me, especially as Barack Obama advanced and became ever more compelling as a candidate. I felt spoiled as the year progressed: two great,

Top Comments Sorted by Best

User1337 · 9 weeks ago
Oh yes. By all means, vote for a Wall Street sellout - - a lying, abuse-enabling, soon-to-be felon as our next President. And do it for your daughter. You're quite the role model.
1 ⌃ | ⌄ · Reply

User9054 · 9 weeks ago
Hillary is a ▮▮▮. I am voting with my ▮▮▮ for Putin. /s
0 ⌃ | ⌄

Write a comment...

Post Comment

Mechanical Turk Experiment

667 participants, 40% female, age 34.2,
54% Democrat, 25% Moderate, 21% Republican

Contributed 791 posts (37.8 words/post), 1392 votes

Results: Test Performance

- POSMOOD (easy test):
  11 out of 15 questions correct
  - Outperforming stated avg. score of 8
- NEGMOOD (hard test):
  2 out of 15 questions correct
  - After below stated avg. score of 8

Does the test score affect user's mood?

Results: Does it affect mood?

- **After the test:** 65 questions on how people were feeling
  - Based on the Profile of Mood States

- **People in NEGMOOD felt worse:**
  - Higher anger, confusion, depression, fatigue, and tension scores

- **How good were the comments?**

Comments: MOOD

	Prop. Troll Posts	
	POSMOOD	NEGMOOD
NEUTRALCONTEXT	0.35	0.49
NEGCONTEXT	0.47	0.68

- Users in the negative mood condition are more likely to troll (~80% higher odds, p < 0.05)

Comments: CONTEXT

	Prop. Troll Posts	
	POSMOOD	NEGMOOD
NEUTRALCONTEXT	0.35	0.49
NEGCONTEXT	0.47	0.68

- Users in the negative context condition are more likely to troll (~60% higher odds, $p < 0.05$)

Comments: Negativity

	Negative Affect (LIWC)	
	POSMOOD	NEGMOOD
NEUTRALCONTEXT	0.011	0.014
NEGCONTEXT	0.023	0.029

- Negative mood and context lead to more negative posts

Bad mood and context make people write bad posts.

How do we combat that?

Sites allow users to vote on the content and hopefully bad posts get voted down

reddit

2524

We worried that Byrd was gonna get lonely set up a cat cam, this is what we saw (imgur.c
(4227|1703) submitted 15 hours ago by norsez
167 comments   share   save   hide   report   [l+c]   pock

138

Our new kitten has officially stolen my heart
(138|13) submitted 6 hours ago by brittinea
4 comments   share   save   hide   report   [l+c]   pocket

60

Posted about Manfred earlier this week. He s
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Reddit, meet Hercules. This is what he does bathroom. (imgur.com)
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322
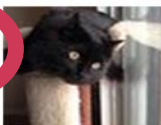
My Best Little Buddy. :) `Original Content` (i.imgur.co
(374|48) submitted 16 hours ago by Kell0GGz
4 comments   share   save   hide   report   [l+c]   pocket

Stack Overflow is a question and answer site for professional and enthusiast programm
registration required.

Can C++ code be valid in both C++03 and C++11 but

Is it possible for C++ code to conform to both the C++03 standard and the C++1
ifferent things depending on under which standard it is being compiled?

210

c++   c++11   language-lawyer   c++03

share | improve this question

edited Apr 17 at 20:02
Angew
39.5k ● 5 ● 41 ● 88

ask

13   I'm pretty sure `auto` could result in a situation like this — OMGtechy Apr 13 at

6   Yes. One example is `>>` when used in a template. You can come up with a situa
for both standards. Another one that I'm sure would be easy to find changes for is
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2   Closing this as too broad would be a shame, this is question likely to be asked m
good to have a solid canonical question to point to that is not closed. — Shafik Y

show **14** more comments

Tom · 7 hours ago
If you're posting something to facebook, it shouldn't be anything you wouldn't print and tape to the front door of a local grocery store.

21 ∧   ∨   Reply · Share ›

> **ccw101** ➤ Tom · 7 hours ago
> I hate Facebook for the fact the only person you have control over is yourself. I have seen full grown adults get angry at their own children and rip them a new one on their Facebook home page!
> If adults can be so ST***id then what do kids do?
> Facebook is scary. And has given people the opportunity to use it to cause home break in's, ruined reputations, fights , suicides etc.
>
> 8 ∧   ∨   Reply · Share ›

>> **IAmNotATroll** ➤ ccw101 · 7 hours ago
>> Come now, I thoroughly enjoy watching my in-laws publicly argue and shred each other to pieces over Facebook.
>>
>> 8 ∧   ∨   Reply · Share ›

>>> **Furby** ➤ IAmNotATroll · 6 hours ago
>>> I had a distant cousin try to blackmail my mom on FB publically. Me and her became real close after that - and not in the way you want to get close to someone. Some people are just plain dumb

When a user evaluates a comment, she is indirectly evaluating the author

Do such evaluations help authors contribute better content?
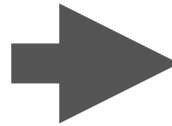
Positive Vote ➡ ?

Negative Vote ➡ ?
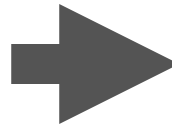
Evaluation of a Post

- A post is positively/negatively evaluated when the proportion of up-votes is higher/lower than a given threshold.

William R. Mosby · a day ago
with the pic of someone texting while driving? lol
9 ∧ | 1 ∨ Reply · Share ›
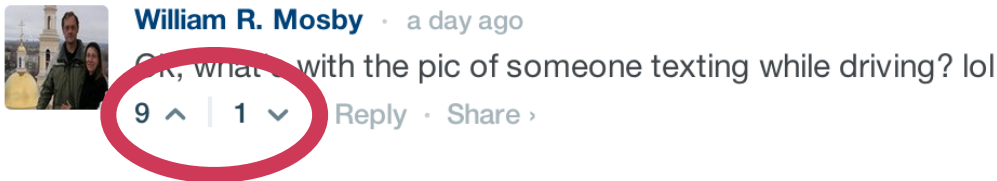
P/(P+N) = 9/(9+1) = 0.9 ≥ High Threshold

defined by the proportion of up-votes

How does positive/negative feedback influence subsequent behavior?

Effects of Evaluations

- Post quality
  - How well you write
- Community bias
  - How people evaluate you
- Posting frequency
  - How regularly you post
- Voting behavior
  - How you vote on others

Do Users Improve?

Operant conditioning predicts that feedback would guide authors towards better behavior:

- up-votes are "reward" stimuli
- down-votes are "punishment" stimuli

Skinner, B. F. (1938). The behavior of organisms: An experimental analysis.

Or Do They Get Worse?

Feedback can have negative effects:

- People given only positive feedback tend to become complacent

- Also, bad impressions are quicker to form and more resistant to disconfirmation

Brinko, K. T. (1993). The practice of giving feedback to improve teaching: what is effective?
Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good.

Matching Similar Users

Compare pairs of users who were evaluated differently on similar content

3 posts before   3 posts after
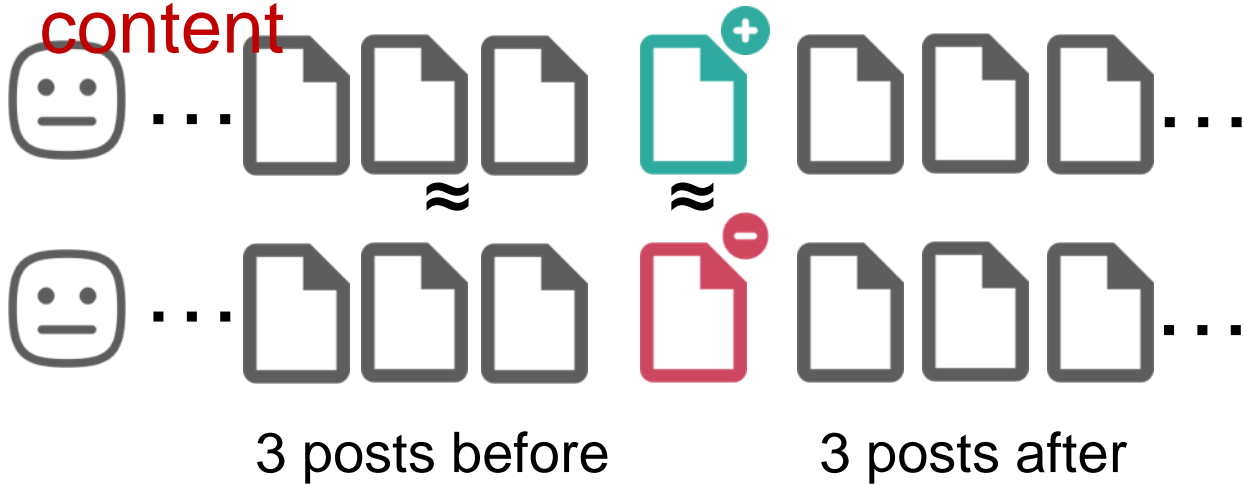
Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects.

Details of Matching

Match pairs of users where one got positive and one got negative evaluation

- Match based on
    - history text quality
    - number of posts
    - post length
    - overall proportion of up-votes

Text quality determined by training a machine learning model using text features, validated using crowd workers.

Results: Neg-Votes Increase

Before ... After

Proportion of up-votes

0,85
0,75
0,65
0,55
0,45

Positive evaluation

*

Negative evaluation

63
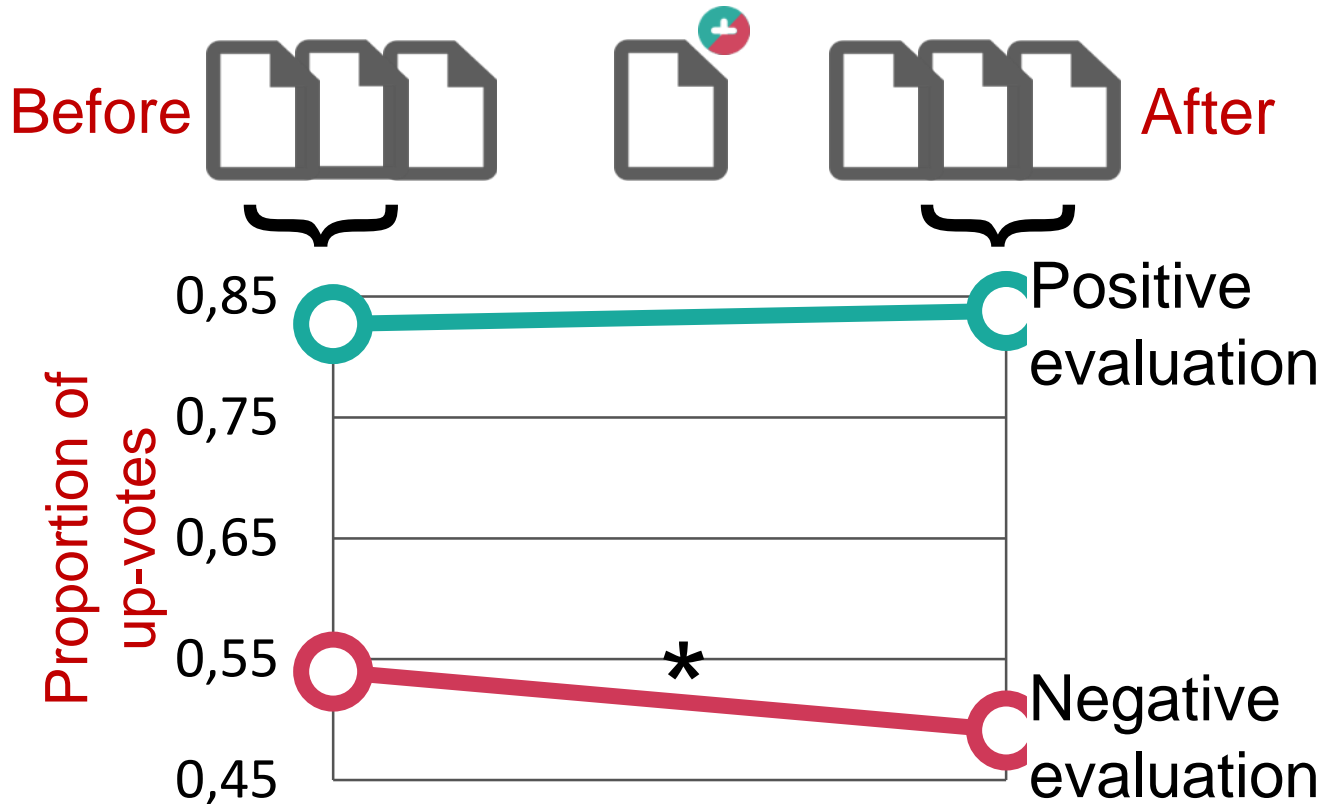
Content vs. Community

Can valuations be explained by textual or community effects?
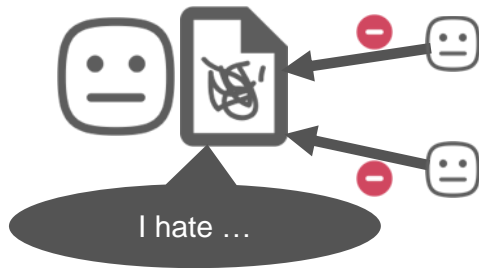
Down-voting because of post content
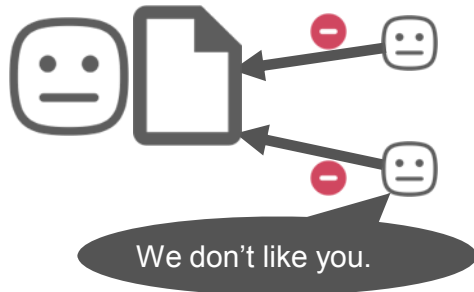
Down-voting because the community dislikes the author

Results: Negativity Bias

- Text quality drops significantly after a negative evaluation

  but does not change after a positive evaluation

p < 0.05 in all communities

To learn more about these types of effects, see Kanouse, D. E., & Hanson Jr, L. R. (1987). Negativity in evaluations.

Evaluations can Affect…

…Community Bias

(How people perceive you)

- How does community perception of a user change after an evaluation?

Up-votes — 📄 — Text Quality

Down-votes — 📄 — Community Bias?
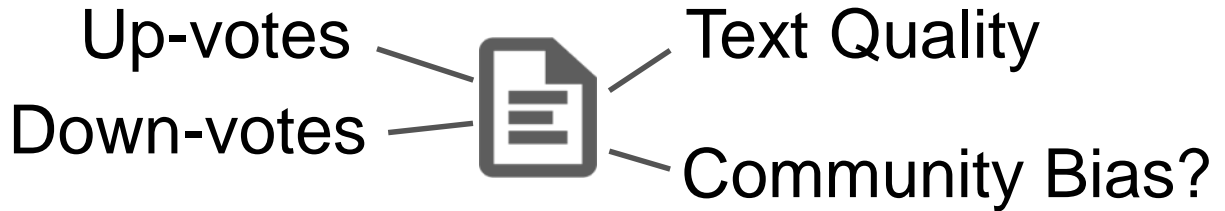
Actual Evaluation P/(P+N)	0.9
Text Quality	0.8
Community Bias	0.9-0.8 = +0.1

User A

...

≈ ≈

...

User B
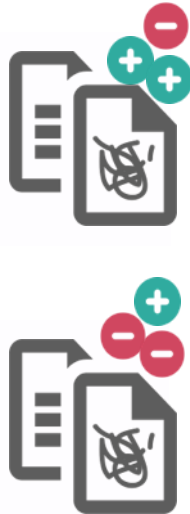
Compare
community bias
before and after
the evaluation

Communities Discriminate

Posts made after a negative evaluation were perceived worse than those made after a positive evaluation

- On CNN, on average, your posts are being evaluated 48% worse than would be predicted by text quality

$p < 0.05$ in all communities

Summary of Effects
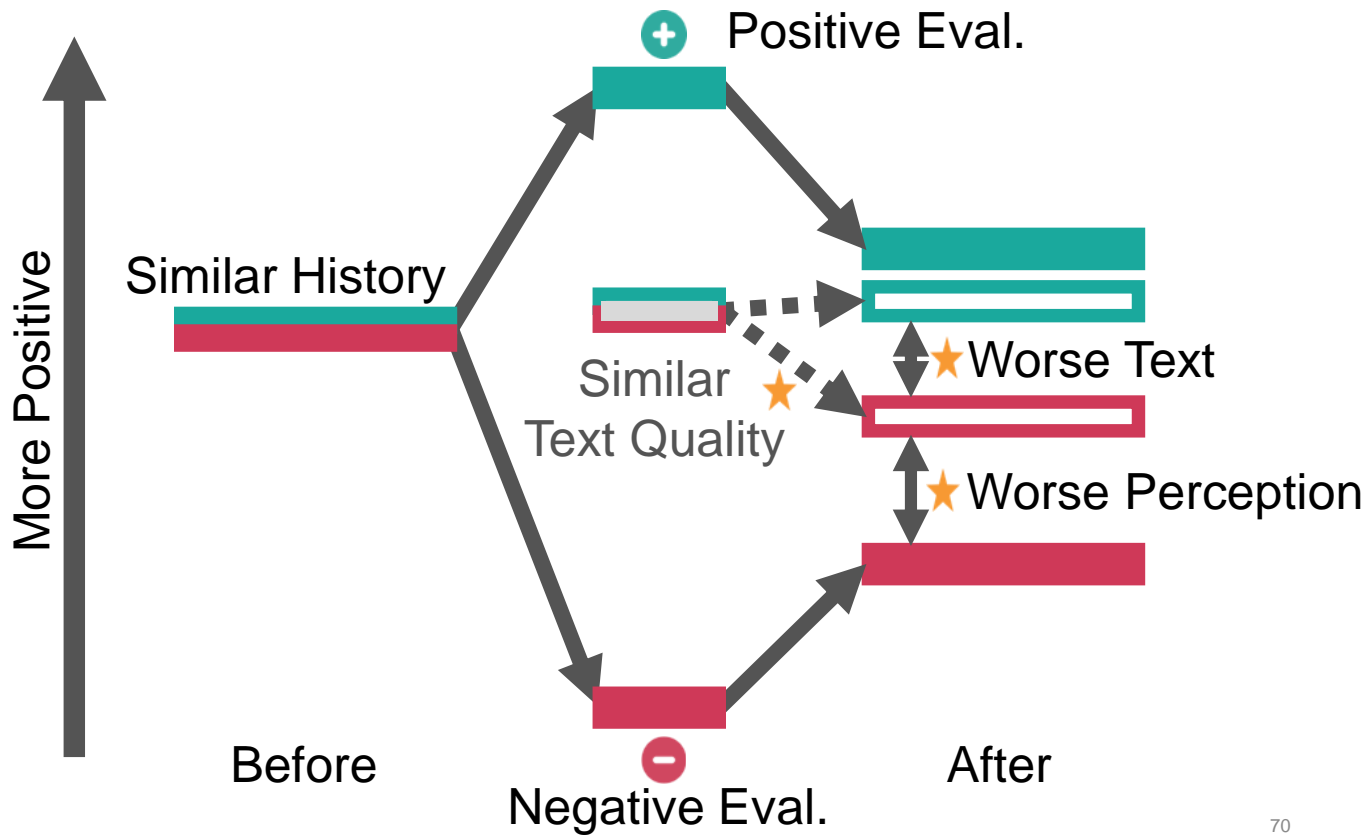
Evaluations can Affect…

…Posting Frequency
(How often you post)

- Does feedback regulate posting quantity?

Feedback and Posting Activity

- Do users post more after a positive/negative evaluation?

Before

After

Time
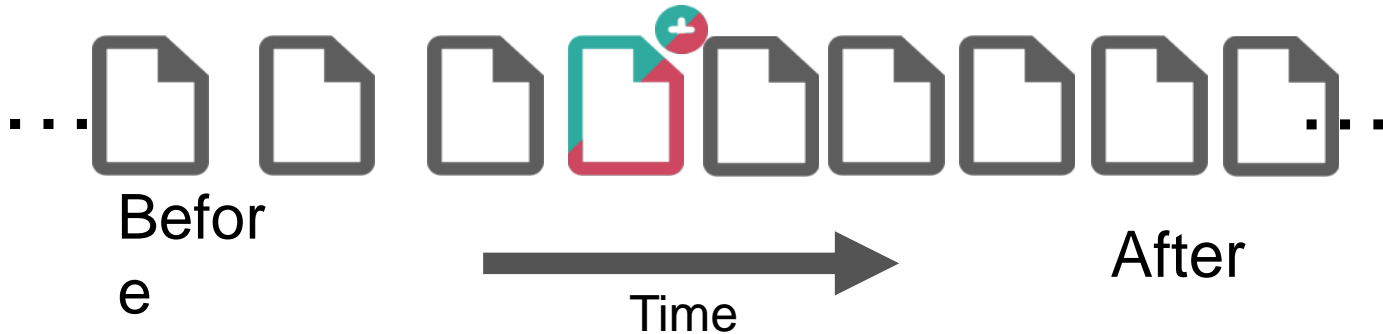
Negativity Increases Activity
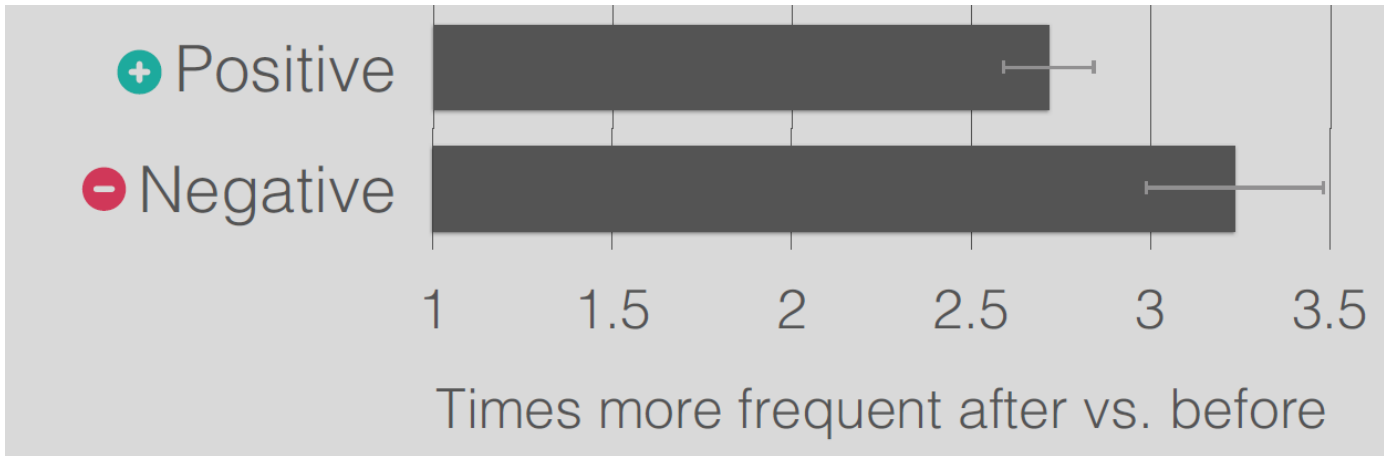
Users who receive negative feedback post more frequently

Evaluations can Affect…

…Voting Behavior
(How you vote on others)

- Does feedback result in subsequent backlash of negative behavior?

More Down-Votes Given
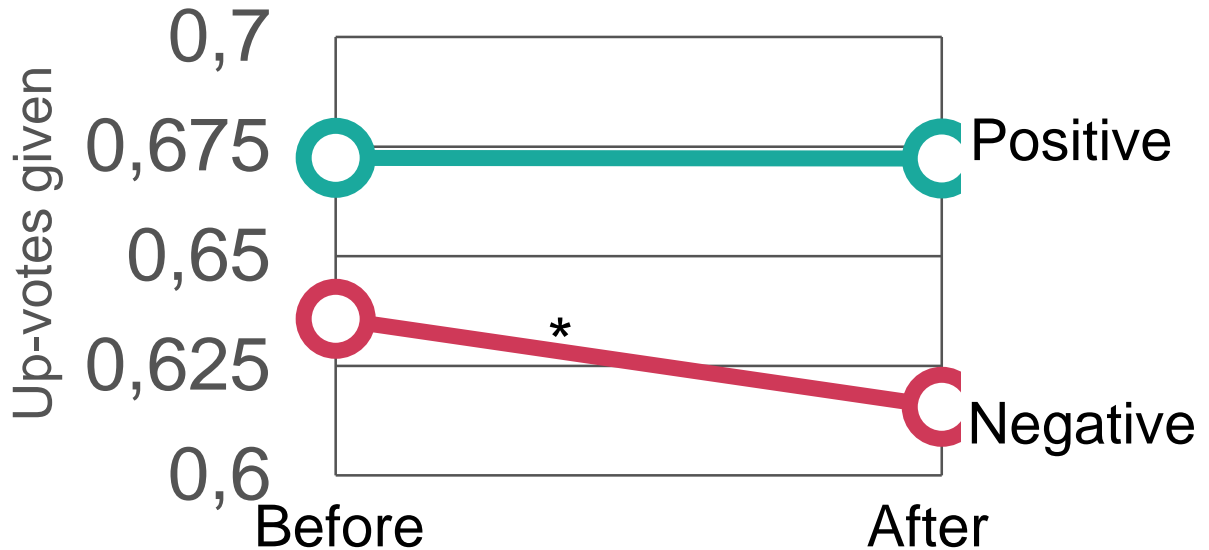
Users who receive negative feedback are more likely to down-vote others

Summary so far…

- **Negatively-evaluated users**
  - Write worse (and more!),
  - Are evaluated worse by the community
  - And evaluate others worse

- **Positively-evaluated users** don't do any better

Is there a downward spiral in communities?
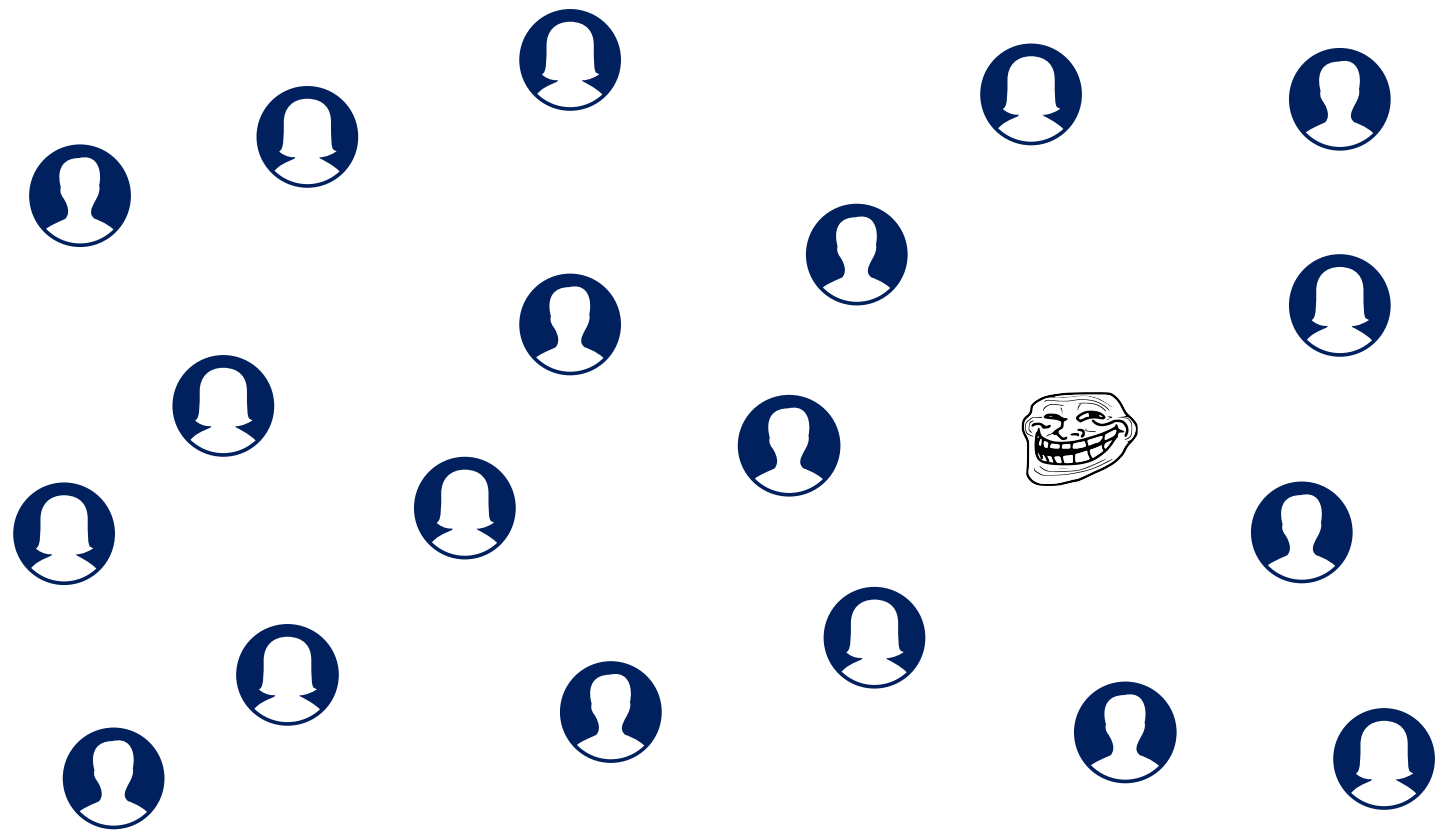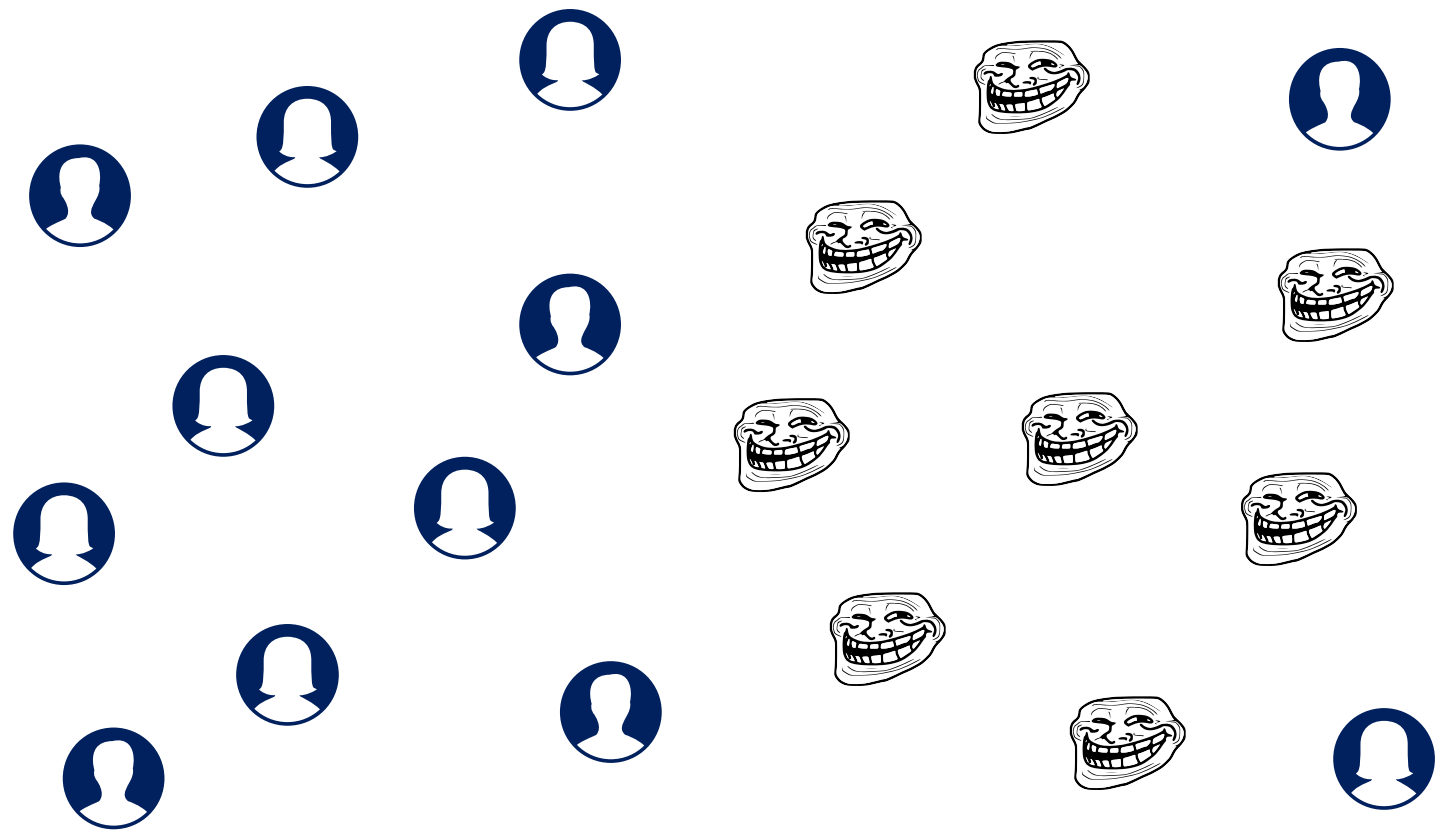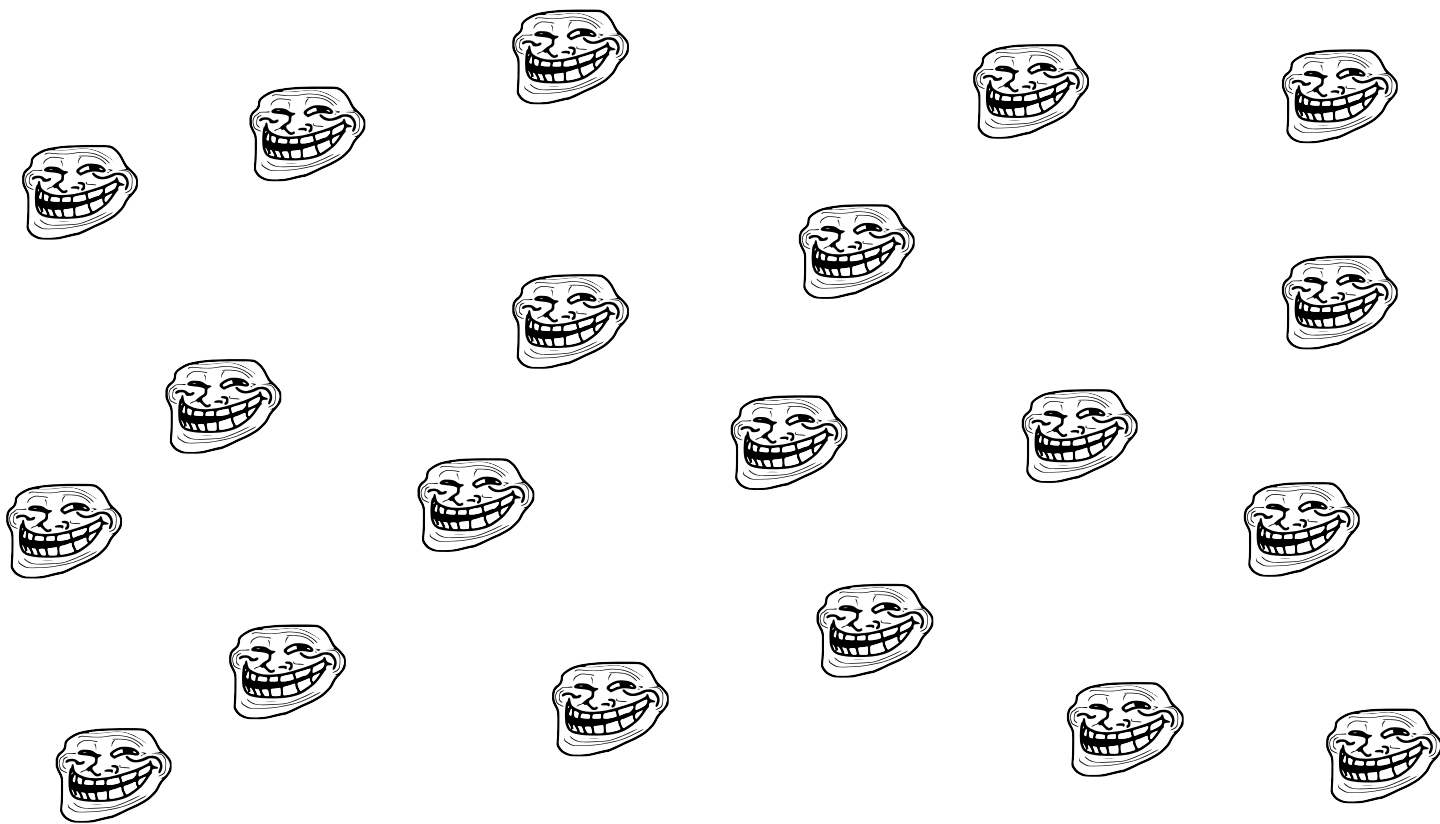
Downward Spiral in CNN
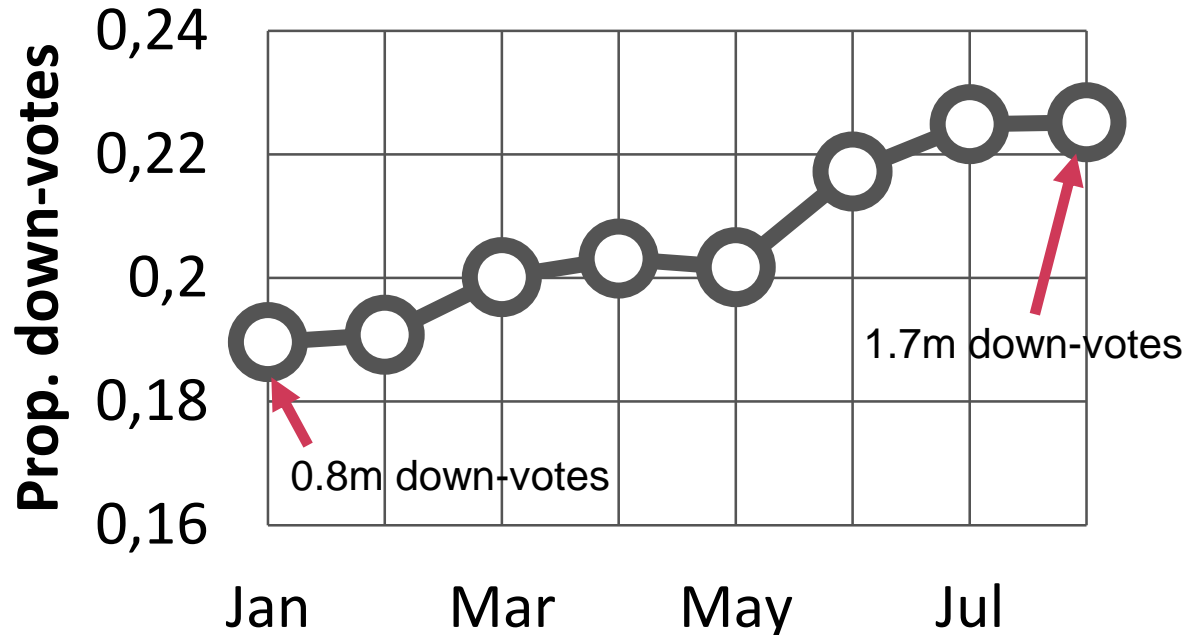
Proportion of down-votes is increasing over time

CNN

0,23

0,18

Jan   Mar   May   Jul

IGN

0,20

0,10

Jan   Mar   May   Jul

Breitbart

0,12

0

Jan   Mar   May   Jul

allkpop

0,11

0,05

Nov   Jan   Mar   May
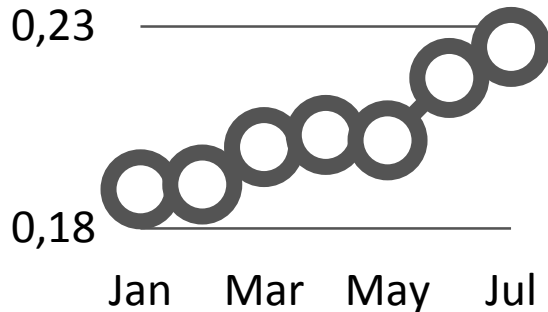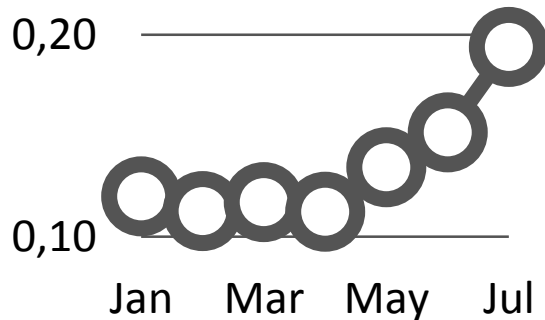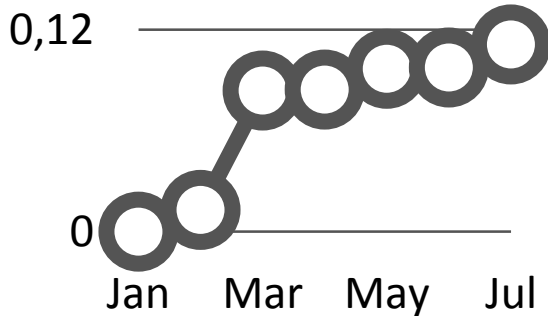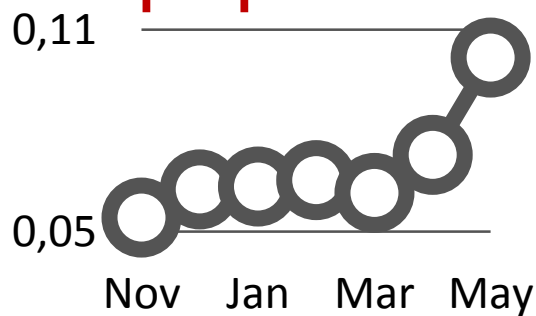
Can we identify antisocial behavior quickly and prevent downward spirals?

Antisocial Behavior in Online Discussion Communities
J. Cheng, C. Danescu-Niculescu-Mizil, J. Leskovec.
AAAI ICWSM, 2015.

Prediction Task

- **Task:** Detect which users will be banned in the future

Post	Activity	Community	Moderator
# of words	posts/day	% upvoted	deletions
...	...	...	...

- ~19k users CNN, balanced dataset, first 10 posts

Prediction Results

ROC AUC

Bag of Words: 0,70

Deletion Rate: 0,74

0,5 0,6 0,7 0,8 0,9

Prediction Results

ROC AUC

Bag of Words	0,70
Deletion Rate	0,74
Post	0,62

0,5   0,6   0,7   0,8   0,9

Prediction Results

Bar chart titled "ROC AUC":

Feature	ROC AUC
Bag of Words	0,70
Deletion Rate	0,74
Post	0,62
+ Activity	0,73
+ Community	0,83
+ Moderator	0,84

Axis: 0,5 0,6 0,7 0,8 0,9
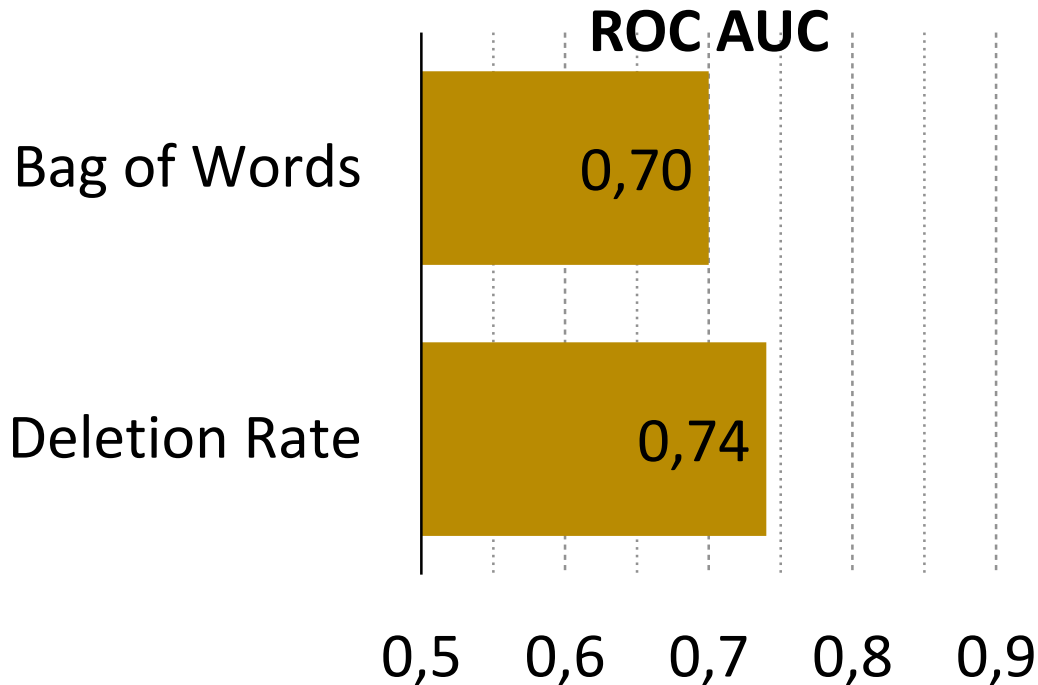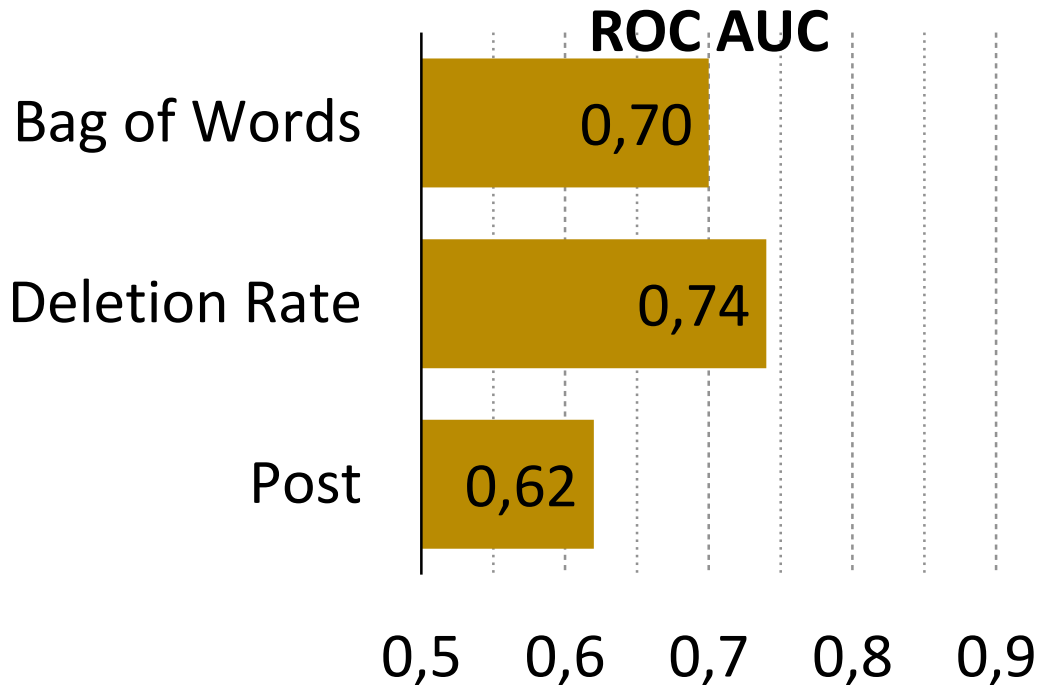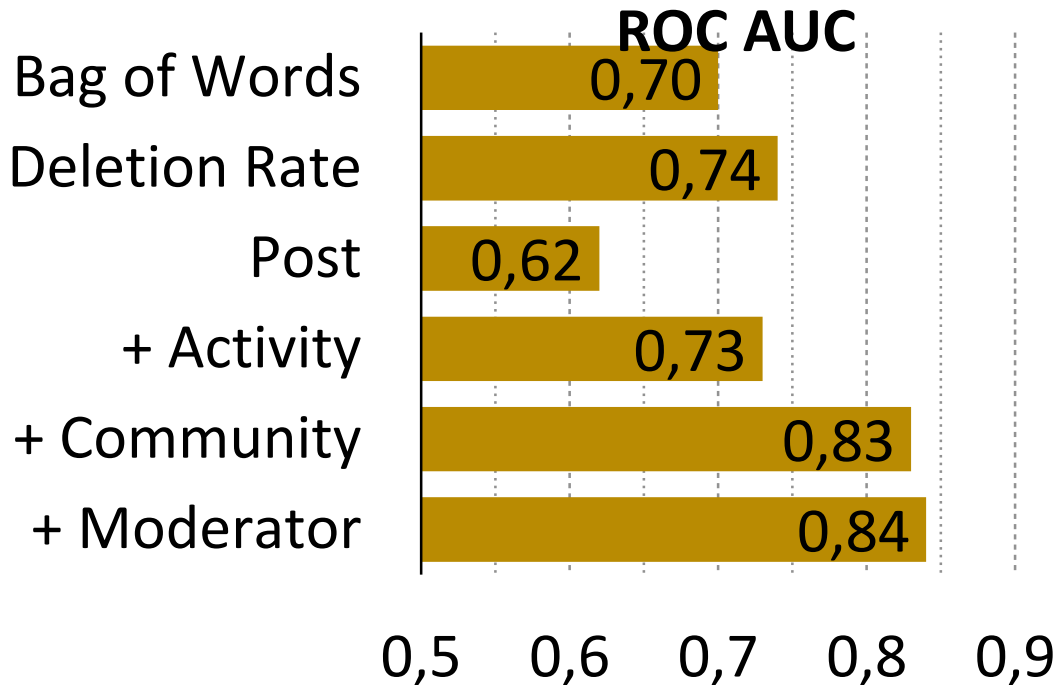
Time to Detection

User lifetime: ▬ >= N ▬ 10–20 ▬ 40–80
▬ 5–10 ▬ 20–40 ▬ 80+
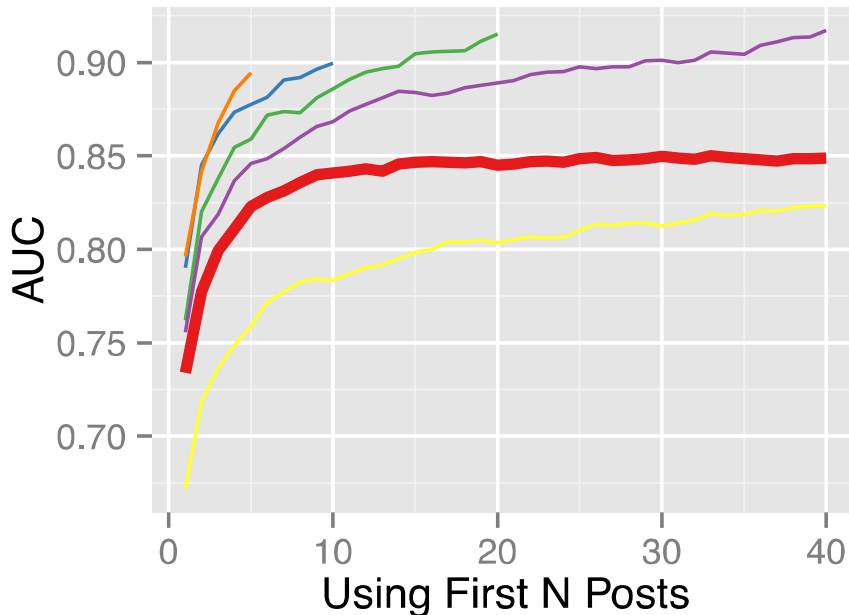
Results: Cross-Domain

	Trained on		
ROC AUC	CNN	IGN	BREITBART B
CNN	0.84	0.74	0.76
IGN	0.69	0.83	0.74
BREITBART B	0.74	0.75	0.78

Tested on

Conclusion

- Web is a social place!
  But people are less inhibited online

- Important to understand interaction mechanisms and behavioral patterns

- Towards healthier and more welcoming online communities

Summary

Large-scale longitudinal analysis of antisocial behavior in discussion forums

Combination of data analysis and human experiments

Trolls are not "special" people

- Mood and discussion context increase the probability of trolling

Summary

Bad behavior can spread

- The effects of negative feedback are more pronounced

  - Write worse and more

  - Are evaluated worse by others

  - Evaluate others worse

- Positively-evaluated users, on the other hand, don't do any better

Summary

- **Prediction task:** Predicting whether a user will be banned in the future

- After observing just 10 posts, we can accurately predict whether the user will be banned in the future

- Generalization performance across communities

Further Questions

- **Social feedback loops:** Are trolls socially created by harsh feedback?
- **Reputation:** Effects of user reputation
- **Role of moderators:** Are moderators effectively helping and moderating
- **Linguistic norms:** Linguistic analysis
- **Feedback mechanism:** Communities

References

- [How Community Feedback Shapes User Behavior](#) J. Cheng, C. Danescu-Niculescu-Mizil, J. Leskovec. *AAAI International Conference on Weblogs and Social Media (ICWSM)*, 2014.

- [Antisocial Behavior in Online Discussion Communities](#) by J. Cheng, C. Danescu-Niculescu-Mizil, J. Leskovec. *AAAI International Conference on Weblogs and Social Media (ICWSM)*, 2015.

- [Anyone Can Become a Troll:Causes of Trolling Behavior in Online Discussions](#) by J. Cheng, M. Bernstein, C. Danescu-Niculescu-Mizil, J. Leskovec. *Computer Supported Collaborative Work (CSCW)*, 2017.