



NYU

POLYTECHNIC SCHOOL  
OF ENGINEERING

AVAYA

# DO I NEED TO FOLLOW YOU?

Investigating the Utility of the Pinterest  
Follow Mechanism

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# What is Pinterest?

- A **social curation** site for collecting and displaying links as images
- Users **pin** images representing web content
  - ▣ Each pin links back to the original page
- Pins are arranged by topic
  - ▣ Pins on the same topic go on the same **board**
- Any pin on the site can be easily **repinned** to your own boards
  - ▣ 80% of all pins are repins (rjmetrics, 2012)

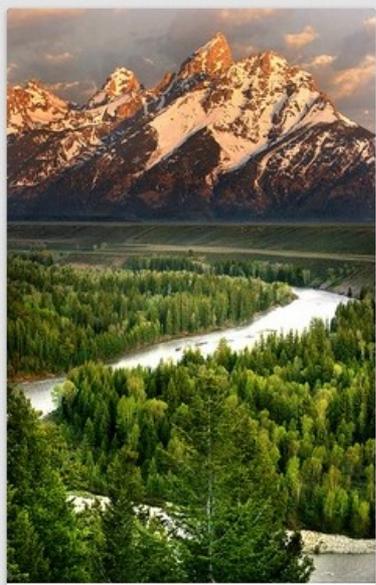
# Pinterest

Join Pinterest Log

Pinterest is an online pinboard. Organize and share the things you love.

#Pinterest  
Be by Cristian Giroto  
28 repins 5 likes

Repinned by Yohanna Peet  
onto Makeup Artist | Passion



Sunrise at Grand Teton National Park

www.pinterest.com/pin/68046644340163396/

Pinned by Jennifer Dougherty  
onto Holiday: Halloween-Fall



Ice and Oil- Preschool Science. Cool! Freezing some colored cubes pronto!  
294 repins 11 likes

Repinned by Ashley Seal  
onto School Ideas: Science



Maggie Phillips  
onto Geeky and funny



Nothing like a little bubbly in your workplace... "The custom bubble chandelier created by Gail & Alison. The goal was to create a design reminiscent of champagne bubbles."  
39 repins 11 likes

Pinned by



complex carbs combos with lean protein  
1,415 repins 218 likes 1 comment

Repinned by Vivian Chen  
onto YUM YUM

Destiny Luna Delicious!



Laundry Room Bucket Drawer! One for each member of the family! I'm too short for this to work for my family, unless... No just don't have enough space.



This is what I felt like last night after my first scuba class.... my inner child was so happy .... check out this kiddlet scuba halloween costume...clever and cool!  
41 repins 11 likes 1 comment

Repinned by DeAnne Montgomery  
onto Scuba Diving

# How Do I Find Pins to Repin?

- Browsing
- Popular and Category Pages
- Search
- ***Social Browsing*** (Lerman and Jones, 2007)
  - ▣ Follow other users and their pins will appear in your ***home feed***

# Following (Tie Formation)

- On most mainstream social networks, most connections are ‘real-life’ connections
  - ▣ Most Facebook friends are real-life friends (Ellison, Steinfeld, & Lampe, 2006, 2007, 2001)
  - ▣ Survey: top reason for friending on Facebook is “knowing [them] in real life” (Nielsen & NM Incite, 2011)
- Pinterest – following based on ***interest homophily***
  - ▣ Role of people is played down; content emphasized (Zarro, Hall, and Forte, 2013; Han et al, 2014)

# Our Question



- How ‘successful’ is this model of following?
  - Following and social browsing (the home feed) are heavily promoted by Pinterest for content discovery
  - But are they useful for that purpose?

# Utility of the Follow Mechanism

- We identified 3 metrics for utility of the follow mechanism for content discovery
  - ▣ Many of each user's followers find interesting content on the user's boards
  - ▣ Users find a significant amount of their content on their followees' boards
  - ▣ When a user finds content they enjoy on the board of a user they *don't* follow, they:
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- How do we know when a user finds content they enjoy?

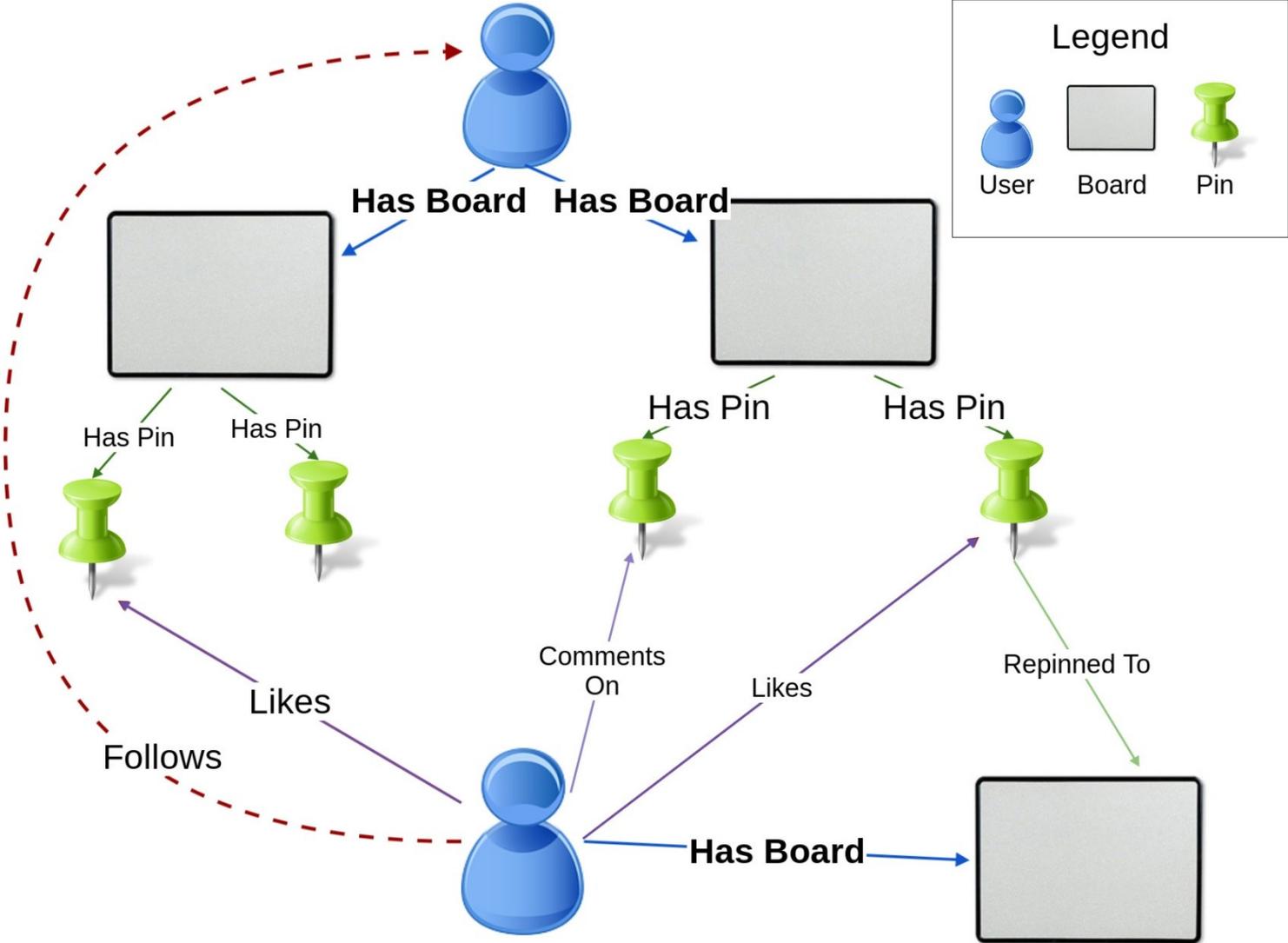
# Content Discovery == Reposting

- Pinterest's ethos encourages people to 'take home' pins they enjoy
- Repin – post a pin from another user onto your own board
- Like – express appreciation/enjoyment for a pin, as well as add it to your likes area
  - ▣ Often used to save uncategorized content
- Comment – very rare
  - ▣ Repins : comments = 150: 1

# Data Collection

- We crawled Pinterest to collect these actions
  - ▣ No API, so we had to scrape
  - ▣ Many difficulties involved
- Multithreaded, robust crawler ran for 5 weeks
  - ▣ December 2013-January 2014
- Due to constraints, sampled from each user
  - ▣ 5 boards per user, randomly chosen

# Data Model

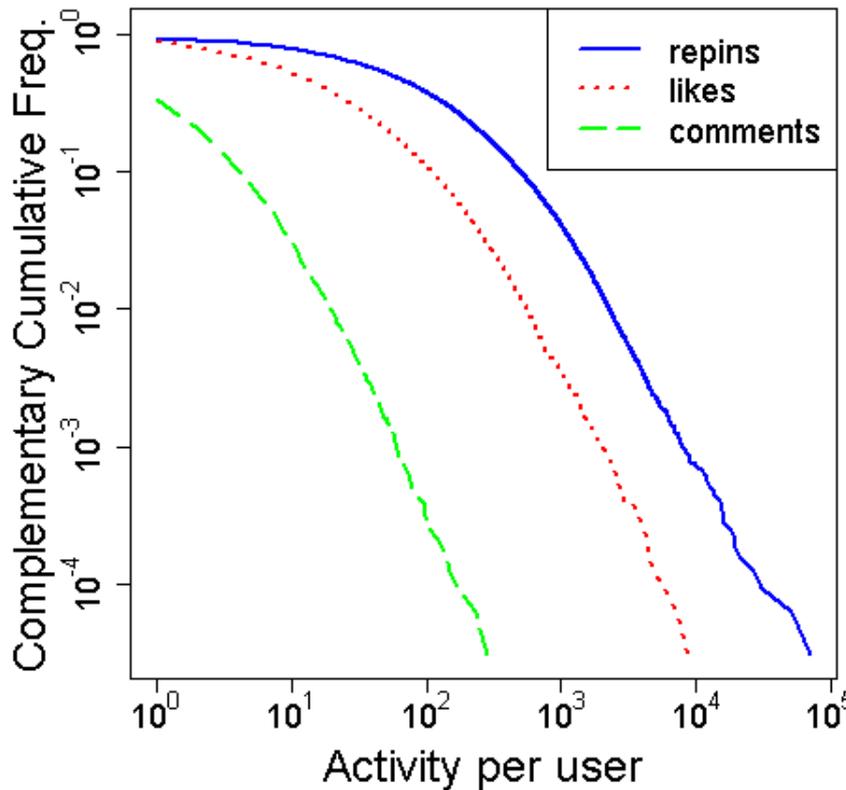


# Dataset

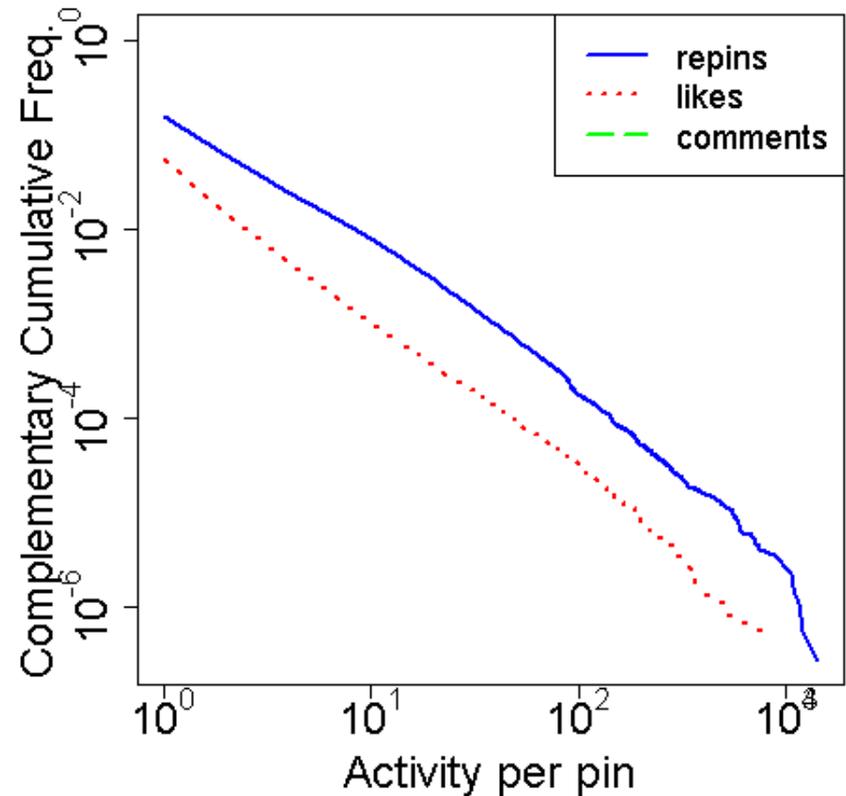
Crawled Users	31,644
Total Users touched	5.4 million
Crawled Boards	163,300
Total Boards Touched	5.1 million
Total Pins Crawled	14 million
Total Repins	7 million
Total Likes	1.56 million
Total Comments	47,557

# Activity Distributions

## Per user



## Per Pin



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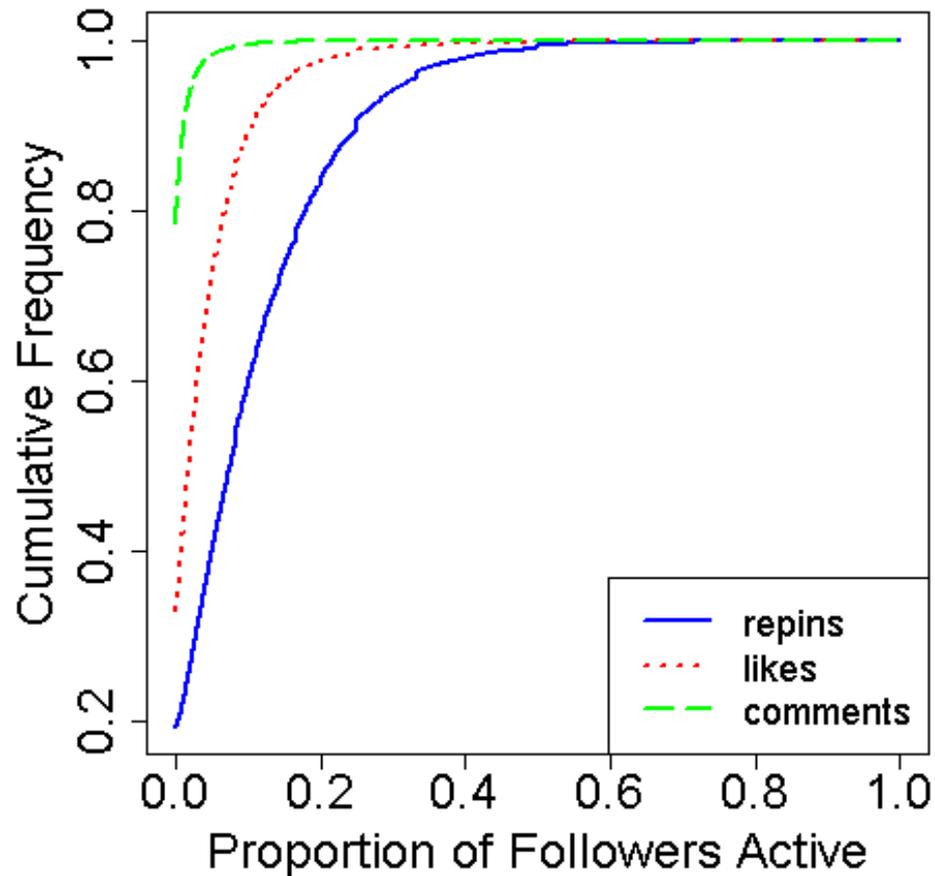
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# Followers and Interaction

- On most OSNs, the majority of links are weak ones
  - ▣ They exist, but little interaction
  - ▣ E.g. Facebook (Marlow et al, 2009); Twitter (Huberman et. al, 2008)
- But on Pinterest, following *and* interacting are both supposed to be based on interests, not relationships
  - ▣ You follow someone because you're interested in their content
  - ▣ You repin/like/comment-on their content because you're interested in it
- So we should see a large % of followers interacting with content

# But... We Don't

Proportion of each user's followers who have ever interacted with *any* of their crawled pins.



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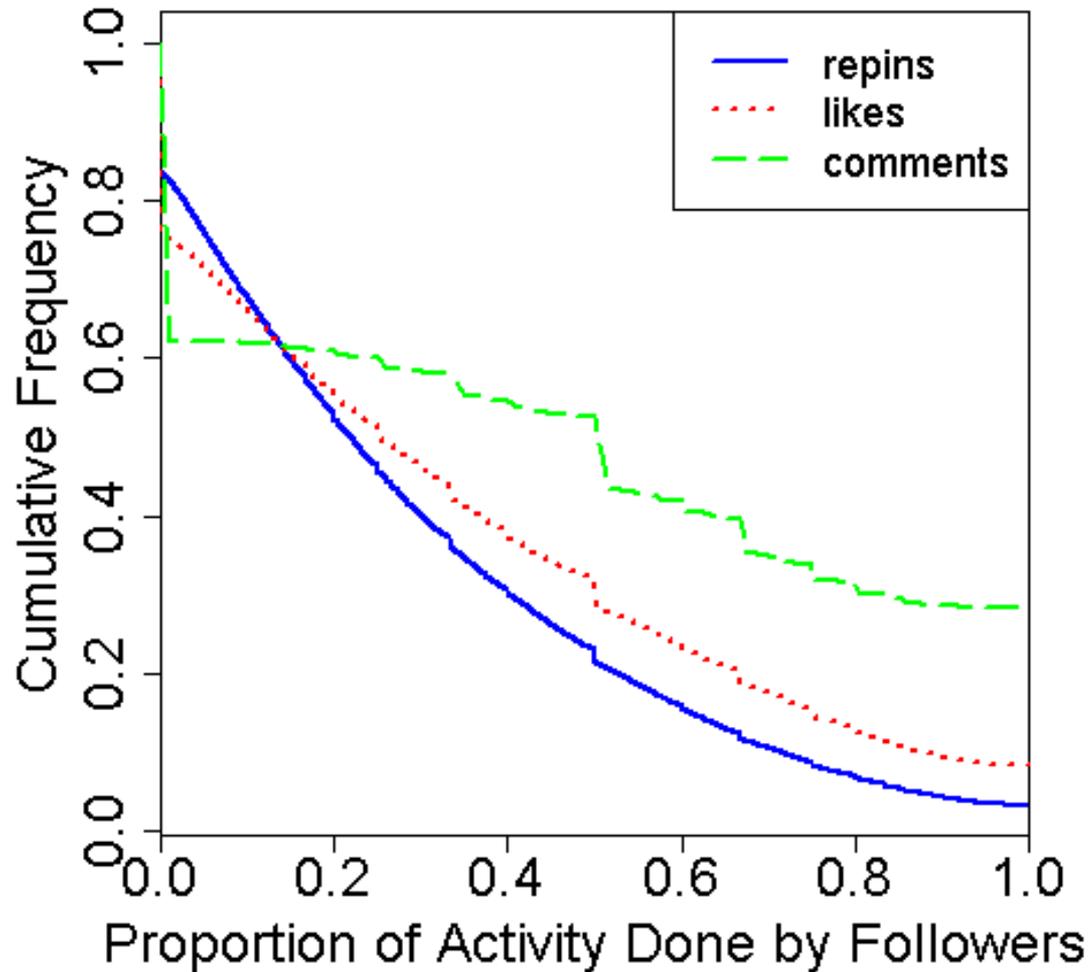
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# Where is the Activity Coming From?

- On average (median) **76%** of activity comes from non-followers
  - Contrast with Flickr: **29%** of activity is from non-followers (for non-featured photos) (Lerman and Jones, 2007)
- Maybe it's just a few prolific non-followers skewing the percentages?
  - Median # of non-followers who interacted: **34**
  - Average # of interactions per non follower: **1.4**
  - Median % of all unique interacters who are not followers: **88%**

# Activity Done by Followers



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# Followers vs. Non-Followers

- The average follower who interacts with a user's content does 3.4 actions
- Average non-follower does 1.4
- It seems that non-followers find one pin and 'take it home'; don't pay attention to the rest of the pins on the board
- ***Can we test this more empirically?***

# Featured Pins

- ❑ Popular page for pins from all over Pinterest
- ❑ Separate pages for each category
- ❑ Being featured (repinned) on one of these pages is frequently seen as the gateway to acquiring more followers (e.g. Cario, 2012)
- ❑ Clicking on a pin on a featured board takes you straight to the board it was repinned from

# Featured Pins Experiment



- Crawled the Popular page 1,013X and saved a random pin from the first row each time

# Featured Pins - Results

- An average pin on the Popular board got 673 repins, likes, and comments
  - ▣ Min 111; 24% had > 1,000
  - ▣ 224 times more activity (median) than an average pin on the same original board
- ... but 70% of boards whose pin was featured saw no extra activity on their *other* pins
  - ▣ The other 30% got 1 extra action on their other pins for every 146 actions on the featured pin

# Following after Interacting?

- 60% of boards and 56% of users did not gain a single follower
- 80% gained 3 or fewer followers
- Average gain of one new follower for every 450 repins, likes, and comments
  - ▣ ...for those who gained at all.
- 15% added  $\geq 7$  followers
  - ▣ Most already had 6-or-7 digit # of followers

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# Why *Isn't* Following Used Much?

- Pinterest content is:
  - ▣ Not relationship-specific
  - ▣ Not time-bound
  - ▣ ... so the live-stream home feed is not necessary
- And there are so many other options
  - ▣ Search, Popular/Category pages
- If it's all at your fingertips, why wait until it shows up in your home feed in a week?

# In many ways...



- ...Pinterest is more like a miniature visual Web than it is an Online Social Network
- And users seem to understand that, and use it accordingly

# Conclusion



- Pinterest heavily promotes following as a method for content discovery
- We've showed that it's not actually very much used for this purpose
- People seem to be using Pinterest as a mini-Web: searchable, browseable, with no network aspect necessary to find content

# Thank You!



- ... to the anonymous reviewers for their insightful comments that greatly improved the paper

# Questions?



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**Thank you!**