

CS 8803 Social Computing: Social Multimedia

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How Flickr Helps us Make Sense of the World: Context and Content in Community- Contributed Media Collections

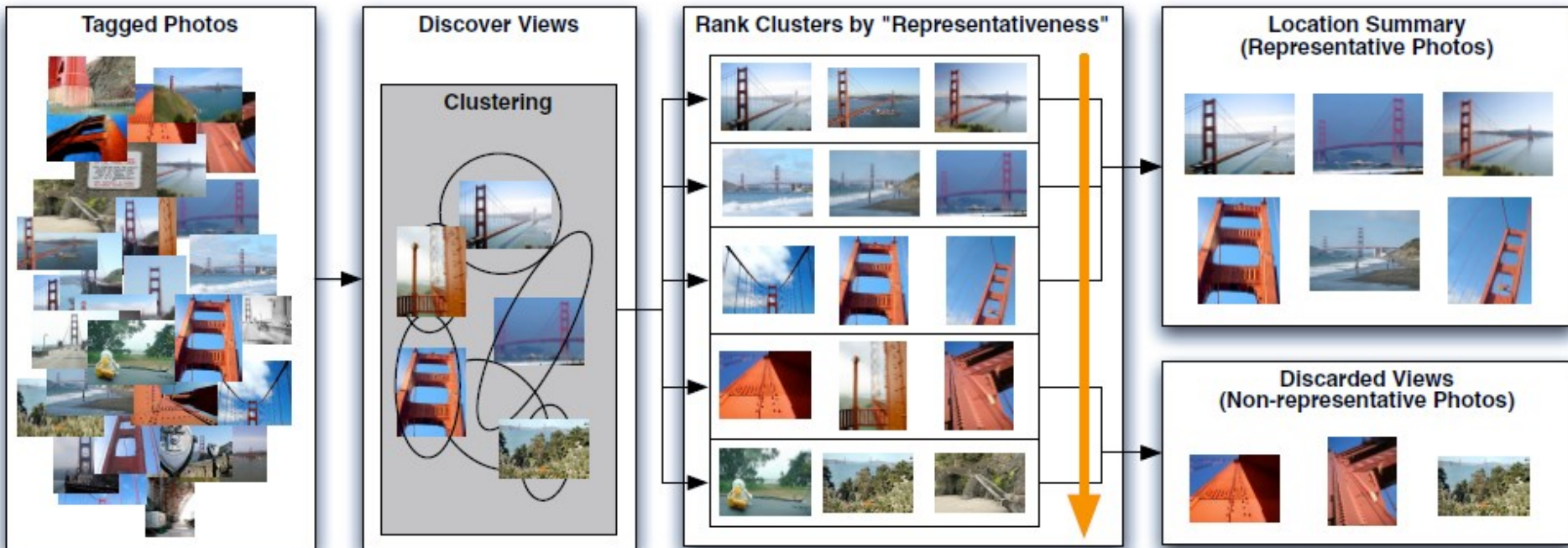
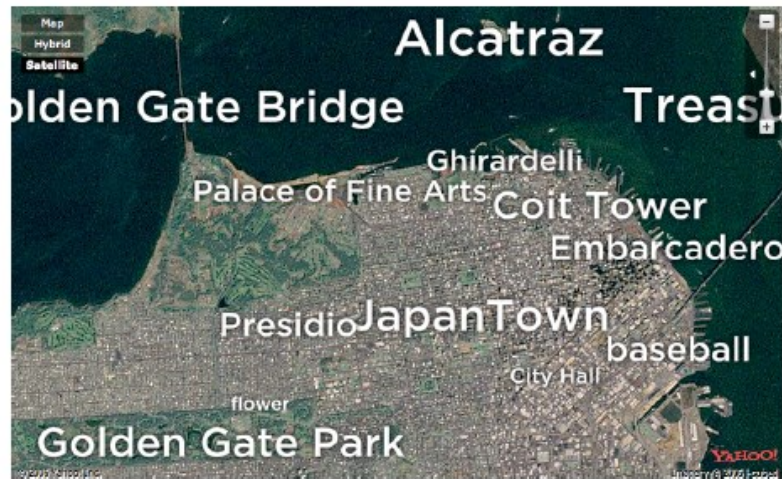
Summary

- Socially shared multimedia is “rich”—i.e., contains many metadata information
- The paper is a study of Flickr (one of the first)
- Flickr images have many crowd-shared/community contributed information associated with them:
 - Media
 - Descriptive text (title, caption, tag)
 - Discussion and comments
 - View and view patterns
 - Associated communities
 - Camera related information
- Metadata information can be useful in browsing and retrieving social multimedia content

Summary

- Contributions:
 - A location-driven approach to generate aggregate knowledge in the form of "representative tags" for arbitrary areas in the world.
 - A tag-driven approach to automatically extract place and event semantics for Flickr tags, based on each tag's metadata patterns
- Research Challenges addressed in the paper:
 - (Visual) content is hard
 - Metadata text is unstructured
 - Noise
 - Scale: (1) long tail implies no supervised learning; (2) computation
 - Bias/feedback/spam
- Authors demonstrate that a location-tag-vision-based approach to retrieve images of geography-related landmarks and features from Flickr can generate summaries of large collections and improve precision when vision algorithms are applied to unconstrained domains.

Summary



Faces Engage Us: Photos with
Faces Attract More Likes and
Comments on Instagram

Summary

- Examine how social engagement relates to visual content—particular focus on faces present in images
- A limitation of the Kennedy et al paper: it does not consider if an image is more “representative” because people differentially like some content over other
 - This paper addresses part of this question
- Early study of Instagram
- Not surprisingly, Instagram photos with faces in them tend to get more community involvement (likes and comments)
- Validates known sociological theories on engagement and faces
- Photos with faces are 38% more likely to receive likes and 32% more comments, controlling for social network reach and activity
- Gender and age have no impact

Original photo



data collection

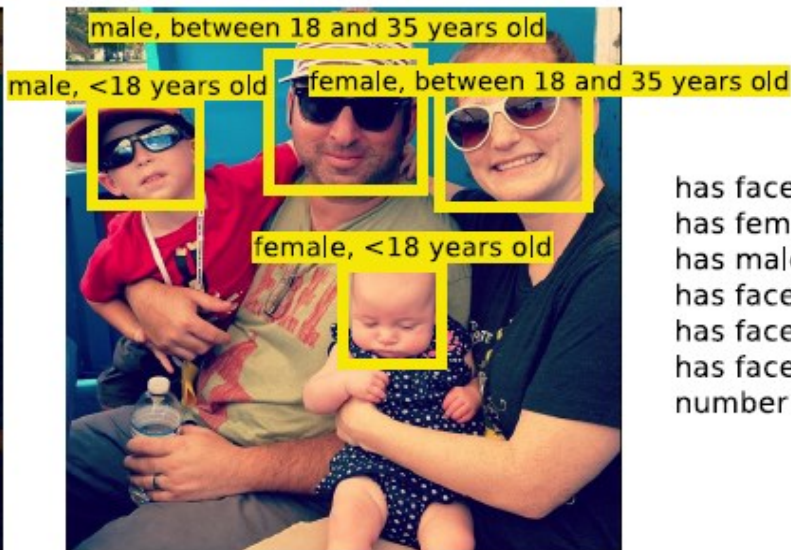
Using Instagram API,
collected 2,000 popular images.

Via snowball sampling,
collected 23M more images.

Randomly sampled to 1M.

Each image augmented with
profile data & analyzed for faces.

Face++ API results



evaluation

Randomly sampled 2,000
images for method evaluation.

For each image, 5 Tusers judged
algorithm's face & age results.

Face, age, gender results validated.

Our constructed variables

has face:	YES
has female:	YES
has male:	YES
has face <18 years old:	YES
has face between 18 and 35 years old:	YES
has face >35 years old:	NO
number of faces:	4

analysis


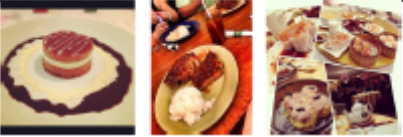

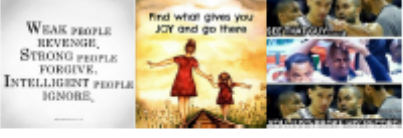
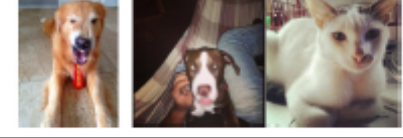



For all 1M images, created binary
features for face, age, gender.

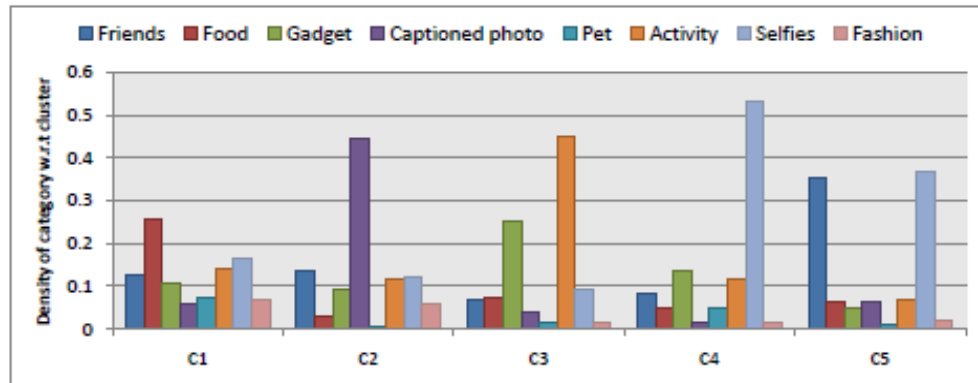
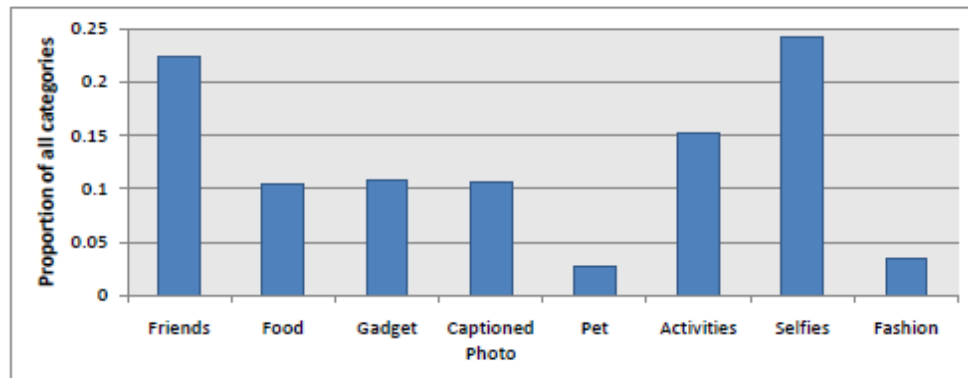
Negative binomial model
assessed effect on engagement.

What We Instagram: A First Analysis of Instagram Photo Content and User Types

Summary

- Characterize Instagram photo types and users
- Photos span eight different categories: *self-portraits, friends, activities, captioned photos (pictures with embedded text), food, gadgets, fashion, and pets*
- There are five different types of uses of Instagram
- Size of social neighborhood i.e., #followers not related to photos uploaded on Instagram
- A big limitation: only 50 users studied

Category	Exemplary Photos
Friends (users posing with others friends; At least two human faces are in the photo)	
Food (food, recipes, cakes, drinks, etc.)	
Gadget (electronic goods, tools, motorbikes, cars, etc.)	
Captioned Photo (pictures with embed text, memes, and so on)	
Pet (animals like cats and dogs which are the main objects in the picture)	
Activity (both outdoor & indoor activities, places where activities happen, e.g., concert, landmarks)	
Selfie (self-portraits; only one human face is present in the photo)	
Fashion (shoes, costumes, makeup, personal belongings, etc.)	



Tell me some limitations of the Kennedy et al paper... [Hint: comments are metadata unused here]

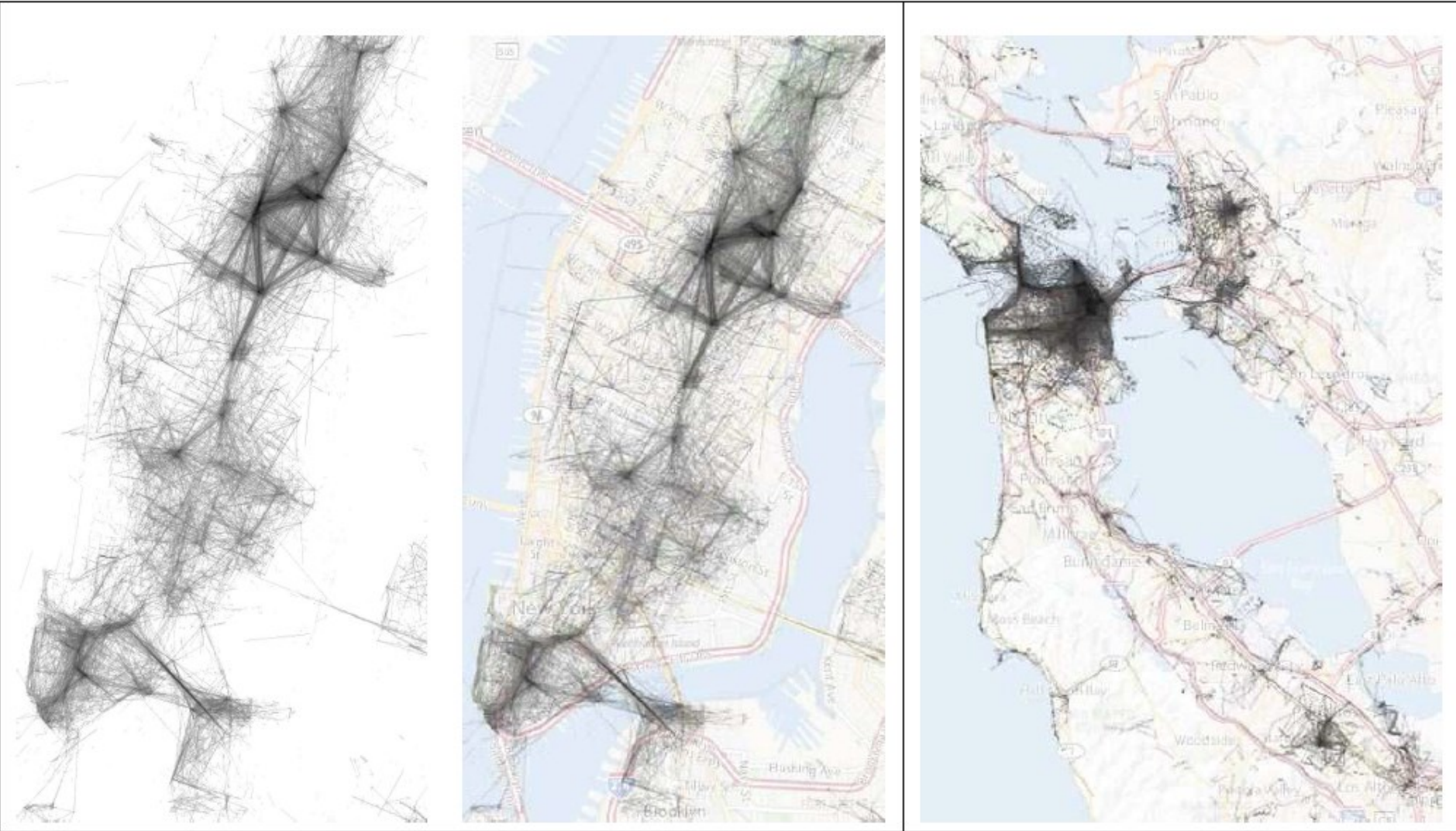
The Kennedy et al paper does not take into account whether tags associated with an image of a landmark are actually of the landmark. How would you fix that?

The Kennedy et al paper does not provide any personalization of the visual summaries generated. Tell me some ways to incorporate that if you were to do it.

How is the landmark image retrieval task in the Kennedy et al paper different from what search engines (probably) do today?

No real way to browse images on Facebook today, except from Timelines or Albums. What would be appropriate “visual summaries” of images on your Facebook feed?

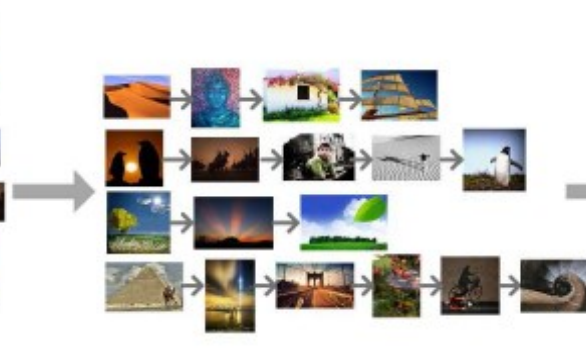
Some applications of the Kennedy et al. paper, beyond landmark image summarization and search?



[David Crandall, Lars Backstrom, Daniel Huttenlocher and Jon Kleinberg, 2009]
Visualization of photographer movement in Manhattan and the San Francisco Bay area



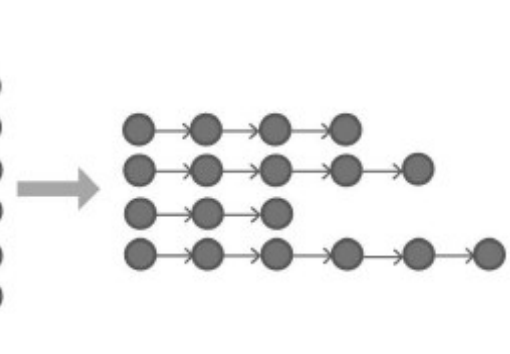
Photoset



User Photo Streams



Photo-POI Mapping



Timed Paths

Time **09:00** : Start from **ground zero**
 Time **09:00** : Spend 27 minutes at **ground zero**.
 Time **09:27** : Transit to **empire state building** (estimated travel time: 52 minutes)
 Time **10:19** : Spend 1 hour and 13 minutes at **empire state building**.
 Time **11:32** : Transit to **new york public library** (estimated travel time: 15 minutes)
 Time **11:47** : Spend 29 minutes at **new york public library**.
 Time **12:16** : Transit to **radio city music hall** (estimated travel time: 24 minutes)
 Time **12:43** : Spend 51 minutes at **radio city music hall**.
 Time **13:34** : Transit to **central park** (estimated travel time: 23 minutes)
 Time **13:57** : Spend 40 minutes at **central park**.
 Time **14:37** : Transit to **rockefeller center** (estimated travel time: 33 minutes)
 Time **15:10** : Spend 37 minutes at **rockefeller center**.
 Time **15:47** : Transit to **grand central terminal** (estimated travel time: 22 minutes)
 Time **16:09** : Spend 27 minutes at **grand central terminal**.
 Time **16:36** : Transit to **chrysler building** (estimated travel time: 6 minutes)
 Time **16:42** : Spend 31 minutes at **chrysler building**.
 Time **17:13** : Transit to **brooklyn bridge** (estimated travel time: 32 minutes)
 Time **17:45** : Spend 36 minutes at **brooklyn bridge**.
 Time **18:21** : Transit to **statue of liberty** (estimated travel time: 21 minutes)
 Time **18:42** : Spend 42 minutes at **statue of liberty**.
 Time **19:24** : Transit to **little korea** (estimated travel time: 26 minutes)
 Time **19:50** : Spend 31 minutes at **little korea**.
 Time **20:21** : Transit to **ground zero** (estimated travel time: 38 minutes)

DAY 1
 Time **09:00** : Start from **Ground Zero**
 Time **09:00** : Transit to **Metropolitan Museum of Art** (estimated travel time: 1 hour and 43 minutes)
 Time **10:43** : Spend 2 hours and 9 minutes at **Metropolitan Museum of Art**.
 Time **12:52** : Transit to **Empire State Building** (estimated travel time: 1 hour and 30 minutes)
 Time **14:22** : Spend 1 hour and 16 minutes at **Empire State Building**.
 Time **15:38** : Transit to **New York University** (estimated travel time: 1 hour and 23 minutes)
 Time **17:01** : Spend 18 minutes at **New York University**.
 Time **17:19** : Transit to **Staten Island Ferry** (estimated travel time: 1 hour and 7 minutes)
 Time **18:26** : Spend 1 hour and 10 minutes at **Staten Island Ferry**.
 Time **19:36** : Transit to **Ground Zero** (estimated travel time: 56 minutes)
 Time **20:32** : Reach **Ground Zero**

DAY 2
 Time **09:00** : Start from **Ground Zero**
 Time **09:00** : Transit to **American Museum of Natural History** (estimated travel time: 1 hour and 46 minutes)
 Time **10:46** : Spend 2 hours and 25 minutes at **American Museum of Natural History**.
 Time **13:11** : Transit to **Wollman Skating Rink** (estimated travel time: 1 hour and 2 minutes)
 Time **14:13** : Spend 22 minutes at **Wollman Skating Rink**.
 Time **14:35** : Transit to **Rockefeller Center** (estimated travel time: 1 hour and 2 minutes)
 Time **15:37** : Spend 39 minutes at **Rockefeller Center**.
 Time **16:16** : Transit to **Radio City Music Hall** (estimated travel time: 6 minutes)
 Time **16:22** : Spend 30 minutes at **Radio City Music Hall**.
 Time **16:52** : Transit to **Chelsea Art Museum** (estimated travel time: 34 minutes)
 Time **17:26** : Spend 2 hours and 2 minutes at **Chelsea Art Museum**.
 Time **19:28** : Transit to **Grand Central Terminal** (estimated travel time: 5 minutes)
 Time **19:35** : Spend 17 minutes at **Grand Central Terminal**.
 Time **19:52** : Transit to **St Paul's Chapel** (estimated travel time: 34 minutes)
 Time **20:26** : Spend 26 minutes at **St Paul's Chapel**.
 Time **20:52** : Transit to **Ground Zero** (estimated travel time: 4 minutes)
 Time **20:56** : Reach **Ground Zero**

The Bakshi et al paper studies Instagram in particular; is it possible that the findings are an attribute of the selfie popular culture and how Instagram is used?

Overly high feedback on baby pictures on Facebook; would the findings of the Instagram paper hold true on Facebook then?

Instagram is a social platform after all, so would social norms impact how people engage with content having faces in them?

Remember Paul Ekman's "six faces" picture we saw last week. Could emotion have a role to play in how images with faces are perceived?

How would other kinds of community engagement be associated with images with faces in them? [Hint: persuasiveness of an image/diffusion of an image]

Size of social neighborhood i.e., #followers
not related to photos uploaded on
Instagram---what does it say about social
performance and social media activity?

In the light of the photo categories proposed in Hu et al., discuss the findings of Bakshi et al.

In Hu et al, no metadata of the Instagram photos considered, e.g., in the light of the Kennedy et al paper. How can including Instagram user's bio, hashtags, comments, and social network impact the findings?

Next class

- Wednesday 10/1
- Topic: Networks (Ties)
- **There are assigned readings, due on Tuesday 11:59pm on Piazza.**