

Social Media and Political Participation

Lab 4

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Today

- Facebook: what is it? Main features.
- Introduction to the Facebook API
- Capturing and analyzing Facebook data
- Information about weekend assignment: coding tweets
- In-class exercise: collect and analyze your own Facebook data

Facebook

Facebook's numbers

- 1,2+ billion monthly active users
- 10 billion messages are sent everyday
- 1.3 trillion “like” activities since 2009
- 71% of online U.S. adults use Facebook
- 84% of young adults in US (18-29) report using Facebook actively
- 47% of Facebook users get news through this platform
- 99% of Members of U.S. Congress have a Facebook account



Facebook's main features

The screenshot displays the Facebook profile of Barack Obama. At the top, the navigation bar includes the Facebook logo, a search bar, and links for Home, Find Friends, and Pablo. The profile header features a cover photo with a teal banner that says 'THE' and buttons for 'APPLY', 'SHOP', and 'BUY'. The profile picture shows Barack Obama smiling. Below the name 'Barack Obama' (with a verified badge), it states '38,288,688 likes · 605,684 talking about this'. Action buttons for 'Like', 'Follow', and a dropdown menu are present. A bio section mentions 'This page is run by Organizing for Action. To visit the White House Facebook page, go to facebook.com/WhiteHouse.' Below this are tabs for 'About', 'Suggest an Edit', 'Photos', 'Likes', 'Events', and '#MLKDream50'. The timeline shows two posts: one from 42 minutes ago with a link to a 'ThrowbackThursday' post about the Affordable Care Act, and another from 5 hours ago sharing a link about affordable health care. The second post includes a photo of a crowd celebrating. On the right, a 'Create Page' button and a year-based navigation menu are visible.

Barack Obama's Facebook Timeline

Facebook's main features

The screenshot shows a Facebook News Feed for user Ethan Smith. The interface includes a top navigation bar with the Facebook logo, a search bar, and links to 'Find Friends' and 'Home'. The left sidebar contains navigation options: 'FAVORITES' (News Feed, Messages, Events, Find Friends), 'GROUPS' (Former Friends of Diddy, Friends, Create Group...), 'APPS' (Washington Post Social Rea..., Apps and Games, Calendar, Causes), 'PAGES' (Chicken Wings are Y..., Chocolate is Yummy, Vegan Recipe Box o...), and 'MORE+'. The main feed area shows a status update from Danny Sullivan, followed by a post from Kevin Durant about 'VOTE DURING'. A 'Banana Bread Recipe' post from Nana Fengla Wu is highlighted with a callout box showing the recipe details. The right sidebar features a 'Create Event' section, a 'Sponsored' section for Slingshot SEO, and a list of recent activity including updates from Ethan Smith, David Guetta, and VentureBeat.

facebook Search

Ethan Smith Find Friends Home

Update Status Add Photo / Video Ask Question

What's on your mind?

FAVORITES

- News Feed
- Messages
- Events
- Find Friends

GROUPS

- Former Friends of Diddy
- Friends
- Create Group...

APPS

- Washington Post Social Rea...
- Apps and Games
- Calendar
- Causes

PAGES

- Chicken Wings are Y...
- Chocolate is Yummy
- Vegan Recipe Box o...

MORE+

Friends on Chat

Danny Sullivan

My phone keeps buzzing to remind me of all the meetings I had to cancel today. It's like their reaching out to be from the place that canceled meetings go to when they die.

Like · Comment · Share · about a minute ago

Kevin Durant

Wrote a book about the 2012 election. [Vote During](#)

Like · Comment

Nana Fengla Wu yummied a recipe on Yummly.

Banana Bread Recipe

Recipe from Leite's Culinaria with all-purpose f...

Like · Comment · about an hour ago via Yummly

Write a comment...

Lauren Moss

Go Tell Fire To The Mountain on Spotify

WU LYF

Play All

Show 7 Songs

Like · Comment · Share · 4 minutes ago via Spotify

Nana Fengla Wu is cooking a recipe on Yummly

Banana Bread Recipe

www.yummly.com

Banana Bread Recipe recipe Desserts with all-purpose flour, walnut, sugar, baking soda, salt, mashed bananas, plain yogurt, large eggs, unsalted butter, vanilla extract

Like · Comment · 19 minutes ago via Yummly

Ethan Smith cooked Bacon Cheese Fries using Yummly.

David Guetta shared a page: David Guetta | Without You Contest.

VentureBeat Facebook is likely to go public this year, find out what that means for you.

Everything you need to kn...

Nana Fengla Wu yummied Banana Bread Recipe on Yum

Cory Taylor This song is ridiculously good.

Etienne de Crecy · Scratched

Andrew Eichenbaum and Erica Lee are now friends.

Epicurious added a new photo.

Theresa Rose Goldstein and Rifka Jesmer Sack are now friends.

Create Event

Sponsored

Slingshot SEO

Enterprise search media production and SEO consultancy. Recommended by SEMmoz, Inc 800 & Techpoint IT Company of the Year 2011

2,054 people like Slingshot SEO.

A random user's News Feed

Facebook's main features

Three main features

- 1 Timeline: profile with photos, lists of interests, contact information, personal background, etc.
- 2 News Feed: shows status updates by users and profile changes, which can be “liked”, “shared” or “commented”
- 3 Private messages: allows users to communicate privately

Other features:

pages Public Facebook profiles for political figures, companies, celebrities...

like Positive feedback on a post, page, or link

share Re-publication of another user's content

The offline effects of Facebook

Three defining characteristics of Facebook

- ① Most content is private
- ② “Friends” are usually actual friends
- ③ Social metrics for every post

Consequences:

- Facilitates organization of collective action
 - “Social Media and the Decision to Participate in Political Protest: Observations From Tahrir Square”, by Tufekci and Wilson, *Journal of Communication* (2012)
- Channels social influence on political behavior
 - “A 61-million-person experiment in social influence and political mobilization”, by Bond et al, *Nature* (2012).
- Bandwagon effects on popular content
 - “Social Influence Bias: A Randomized Experiment”, by Muchnik, Aral, and Taylor, *Science* (2013).

Learning from Facebook networks

“Private traits and attributes are predictable from digital records of human behavior”, by Kosinski, Stillwell, and Graepel, *PNAS* (2013)

ABSTRACT: We show that easily accessible digital records of behavior, Facebook Likes, can be used to automatically and accurately predict a range of highly sensitive personal attributes including: sexual orientation, ethnicity, religious and political views, personality traits, intelligence, happiness, use of addictive substances, parental separation, age, and gender.

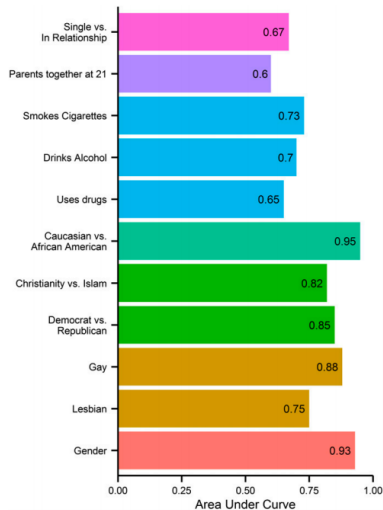
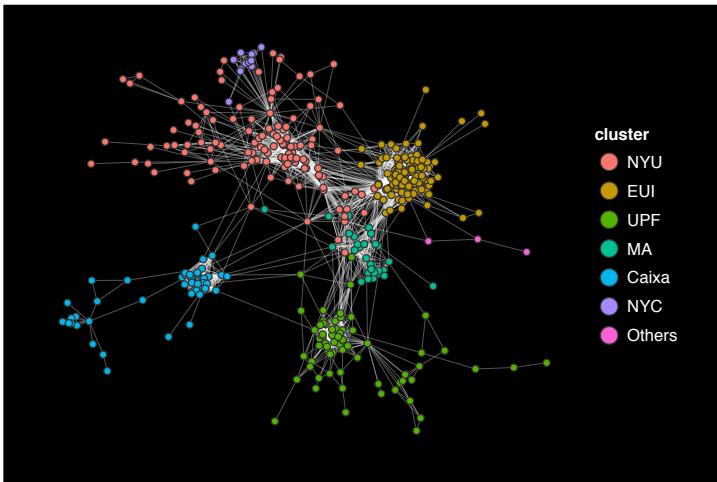


Fig. 2. Prediction accuracy of classification for dichotomous/dichotomized attributes expressed by the AUC.

Learning from Facebook networks



Personal Facebook networks overlap with offline communities

Facebook API

Facebook API

API = *Application Programming Interface*

Facebook gives researchers access to 4 different types of data:

- 1 Stream of all public Facebook posts
- 2 Data from Facebook pages (posts, likes, comments)
- 3 Basic data about all users (name, country, language, gender, picture)
- 4 User's personal data (friendship network, likes...)

Rfacebook package gives access to all 4 with the following functions:

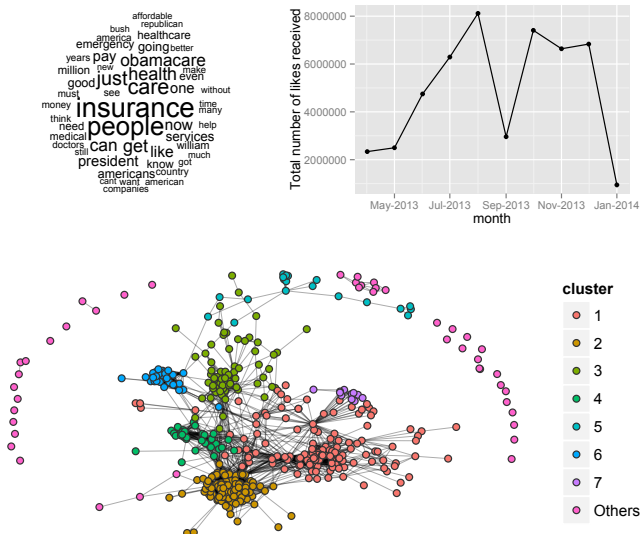
- 1 `searchFacebook`
- 2 `getPage` and `getPost`
- 3 `getUsers`
- 4 `getNetwork`, `getLikes`

Collecting and Analyzing Facebook Data

The R script `lab4_facebook_analysis.R` shows how to:

- Install R package to download Facebook data
- Use OAuth to authenticate
- Search public Facebook posts that mention a keyword
- Capture data from a Facebook page
- Capture data from a sample of Facebook users
- Visualize a friendship network

lab4_facebook_visualization.R generates these plots:



Tweet coding

Weekend assignment: tweet coding

- Your task is to code 100 tweets related to the Occupy Wall Street protests in New York City on May 1st, 2012.
- Read carefully the document
OWS Coding Instructions.docx
- Direct link to the Tweet Coder: [CLICK HERE](#)
- Now we will code a few tweets together.

In-class exercise

In-class exercise: collecting and analyzing Facebook data

Create your own R script (with comments) that:

- ① Downloads the most recent 1000 posts on a Facebook page of a celebrity or politician.
 - ② Runs different commands to answer the following questions:
 - ① Which of these 1000 posts received the most likes, the most comments, and the most shares? Are these three different? If so, try to think why.
 - ② Choose a post and download all the information about the users who liked that post. (If they are too many, choose the first 1000). What is their distribution by gender and country?
- optional Create a plot that shows the evolution in the number of likes on posts over time. What do you learn?

And send it to me via email (pablo.barbera@nyu.edu) before the end of the day