

# Social Media and Political Participation

## Lab 4

*pablo.barbera@nyu.edu*

January 10, 2014

# Today

- Facebook: what is it? Main features.
- Introduction to the Facebook API
- Collecting Facebook data using the API
- Quantitative analysis of Facebook data
- In-class exercise: capture and analyze your own Facebook data

# Facebook

# Facebook's numbers

- 1,3+ 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
- 87% 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. The header includes the Facebook logo, the name 'Barack Obama', a search bar, and navigation links for Home, Find Friends, and Pablo. The profile picture shows Barack Obama smiling. Below the picture, the name 'Barack Obama' is followed by a verified badge and statistics: '38,288,688 likes · 605,684 talking about this'. Action buttons for 'Like', 'Follow', and a dropdown menu are present. A bio states: 'This page is run by Organizing for Action. To visit the White House Facebook page, go to facebook.com/WhiteHouse.' Below the bio are tabs for 'About', 'Suggest an Edit', 'Photos', 'Likes', 'Events', and '#MLKDream50'. The timeline shows two posts. The first post, from 42 minutes ago, is a link to 'Today's #ThrowbackThursday: http://ofa.bo/q5' with a graphic that reads 'BEFORE OBAMACARE JULY 13, 2008'. The second post, from 5 hours ago, is a link titled 'Affordable health care is here—that's a win: http://ofa.bo/aU' with a photo of a crowd celebrating.

## Barack Obama's Facebook Timeline

# Facebook's main features

The screenshot displays a Facebook News Feed for user Ethan Smith. The interface includes a top navigation bar with the Facebook logo, search bar, and user profile. The left sidebar lists 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), and Pages (Chicken Wings are Y..., Chocolate is Yummy, Vegan Recipe Box o...). The main feed area shows a status update from Danny Sullivan, followed by a post from Kevin Durant about 'VOTE DURING', and a highlighted post from Nana Fengla Wu sharing a 'Banana Bread Recipe' from Yummly. The recipe details are shown in a callout box: 'Banana Bread Recipe', 'Recipe from Leite's Culnaria with all-purpose f...', and a 'Play All' button for a video. The right sidebar features sponsored content for Slingshot SEO, an enterprise search media production and SEO consultancy.

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).
- Social cues that affect behavior
  - “Endorsements Trump Partisan Source Affiliation when Selecting News Online”, by Messing and Westwood, *Communication Research* (2014).



# 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.*

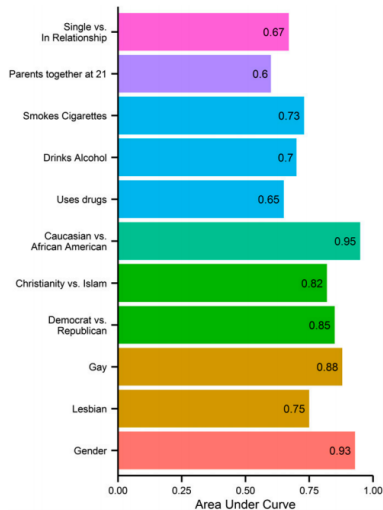


Fig. 2. Prediction accuracy of classification for dichotomous/dichotomized attributes expressed by the AUC.

# Facebook API

# Facebook API

API = *Application Programming Interface*

Facebook gives researchers access to two different types of data:

- ① Data from Facebook pages (posts, likes, comments)
- ② User's personal data (profile, checkins, likes...)

Rfacebook package gives access to both with the following functions:

- ① getPage and getPost
- ② getUsers, getCheckins, getLikes

# Collecting Facebook Data

The R script `lab4_collecting_facebook_data` shows how to:

- Install R package to download Facebook data
- Use OAuth to authenticate
- Display your profile information
- Capture data from a Facebook page

# Collecting Facebook Data

The R script `lab4_analyzing_facebook_data` shows how to:

- Load R package to download Facebook data
- Use OAuth to authenticate
- Analyze metrics of a Facebook page over time
- Prepare a wordcloud that summarizes comments on a page

## In-class exercise

# In-class exercise: collecting and analyzing Facebook data

Create your own R script (with comments) that:

- ❶ Downloads the most recent 1000 posts on a Facebook page of a celebrity or politician.
- ❷ Runs different commands to answer the following questions:
  - ❶ Which of these 1000 posts received the most likes, comments, shares? Are these three different? If so, why?
  - ❷ Create a plot that shows the evolution in the number of likes on posts over time. Is the popularity of this page growing?
  - ❸ Choose a post and download all the likes on that post. (If they are too many, choose the first 500). Then, download the user information and look at the most common first names. What's the gender distribution?
  - ❹ Download also the comments on that post (or the first 1000). Then, do a wordcloud of the most common words. What do you learn?

And send it to me via email ([pablo.barbera@nyu.edu](mailto:pablo.barbera@nyu.edu))