BC COMS 2710: Computational Text Analysis

Lecture 13 – Data Collection
API’s - Twitter
Pre-class Instructions

1. Create a Twitter developer account [https://developer.twitter.com/](https://developer.twitter.com/)
3. Click “Create an app”
4. Fill out the form, and click “Create”
5. A pop up window will appear for reviewing Developer Terms. Click the “Create” button again.

Instructions from [http://socialmedia-class.org/twittertutorial.html](http://socialmedia-class.org/twittertutorial.html)
Announcements – Assignments

- **Readings 04:**
  - link posted to course site later today
  - due Sunday

- **HW 02:**
  - Due Wednesday night

- **Tutorial 4.1:**
  - Releasing tonight
  - Topic Modeling for yesterday’s data

- **Assignments going forward**
Course Feedback - Optional

- Mid-semester anonymous brief survey

- What have you learned so far and how comfortable do you feel with the material?

- What has been going well in the course so far? What are things you are enjoying about the course?

- What has not been going well in the course so far? What are things you are not enjoying about the course?

- What can we (the course staff) be doing better?
Final Project – Deliverables

- **Project ideation – Friday May 28**
  - [https://www.overleaf.com/read/yzpgxcgsgdvp](https://www.overleaf.com/read/yzpgxcgsgdvp)

- roughly 250 word overview of what you are interested in
Yesterday: HTTP
Without API:
An app finds the current weather in London by opening
http://www.weather.com/ and reading the webpage like a human does, interpreting the content.
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With API:
An app finds the current weather in London by sending a message to the weather.com API (in a structured format like JSON). The weather.com API then replies with a structured response.
API

Generally: set of protocols that specify how software programs communicate with each other

Programmatically extract and interact with data

Released by companies for data sharing purposes
Twitter History

- Jack Dorsey’s idea (a NYU undergrad then)
- 1st Tweet on March 21, 2006
- 100m tweets/quarter in 2008
- 50m tweets/day in 2010,
- 400m tweets/day in 2013
Twitter History

- IPO in 2013 (4th quarter)
- Stock overall hasn’t done great but recent resurgence
- CEO Dick Costolo resigned July 2015
- Dorsey permanent CEO since October 2015
Annual revenue of Twitter from 2010 to 2020, by segment (in million U.S. dollars)

Source: Twitter
© Statista 2021

Additional Information:
Worldwide; Twitter; 2010 to 2020
What’s in a Tweet
Since we took office, hunger rates have dropped 43% among adults. They’re at their lowest rates since the start of the pandemic.

That’s the American Rescue Plan at work.

1:30 PM · May 23, 2021 · The White House

8,789 Retweets 756 Quote Tweets 73.2K Likes
This is a small change, but a big move for us. 140 was an arbitrary choice based on the 160 character SMS limit. Proud of how thoughtful the team has been in solving a real problem people have when trying to tweet. And at the same time maintaining our brevity, speed, and essence!

Can’t fit your Tweet into 140 characters? 😕

We’re trying something new with a small group, and increasing the character limit to 280! Excited about the possibilities? Read our blog to find out how it all adds up. 👇
cards.twitter.com/cards/gsby/4ub...
President Biden
@POTUS
United States government official

Since we took office, hunger rates have dropped 43% among adults. They’re at their lowest rates since the start of the pandemic.

That’s the American Rescue Plan at work.

1:30 PM · May 23, 2021 · The White House

8,789 Retweets 756 Quote Tweets 73.2K Likes
Embedding Links

- Shortened for display
- Can provide external information for text processing
Looking for sports? We have them! How about celebrities and athletes battling it out in epic challenges? We have that too! @gameon Coming May 27th on @cbstv @gronk @venuswilliams @bobbyleelive @iankarmel twitter.com/gameon/status/...
Replies/Conversations

On New York basketball. This is a special duo. Episode 55 with @hasanminhaj and @D_Bo20 live now.
On New York basketball. This is a special duo. Episode 55 with @hasanminhaj and @D_Bo20 live now.

Replies:

@celcovington
@celcovington

Replying to @OldManAndThree @hasanminhaj and @D_Bo20

@jj_redick @talter Hello big fan of JJ and the pod here. Is there any reason why this ep is not uploaded to Spotify (just yet)? Thanks!

6:19 AM · Apr 30, 2021 · Twitter for Android
Replies/Conversations

TheOldMan&TheThree @OldManAndThree · Apr 29
On New York basketball. This is a special duo. Episode 55 with @hasanminhaj and @D_Bo20 live now.

celcovington @celcovington · Apr 30
@jj_redick @talter Hello big fan of JJ and the pod here. Is there any reason why this ep is not uploaded to Spotify (just yet)? Thanks!

TheOldMan&TheThree @OldManAndThree
Replying to @celcovington @hasanminhaj and 3 others
I think Spotify has been acting crazy all week
2:41 PM · Apr 30, 2021 · Twitter Web App
Images/Videos

Saturday Night Live - SNL @nbcsnl · May 23

Thank you @anyataylorjoy, @LilNasX, and @chrisrock!

And thank you to everyone who watched Season 46 ❤️ #SNLFinale

1:35 138.1K views

💬 204  🔄 491  ❤️ 4.1K

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Hashtags

Emma Watson @EmmaWatson

Gender equality not only liberates women but also men from prescribed gender stereotypes. #heforshe

4:36 PM · Aug 18, 2014 · Twitter for iPhone

21.9K Retweets  6 Quote Tweets  28.3K Likes
Volkova, Van Durme, Yarowsky, Bachrach
“Tutorial on Social Media Predictive Analytics” NAACL 2015 video slides
One of the most open and powerful developer APIs of any major tech company

Public API released in September 2006
Streaming API

- Sample of public tweets in real time
- only real-time data
- Continuous connection
- No limited
Twitter API

REST API

- Search, trends, author/user, interact
- Historical data up to one week
- One-time request
- Rate limited
Streaming API
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REST API
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Authentication - OAuth

- Way to provide authorized access to API

To start we need:
- A twitter account
- OAuth access tokens from
  https://developer.twitter.com/en
Tweepy

An easy-to-use Python library for accessing the Twitter API.

Code: https://github.com/tweepy/tweepy

Documentation: https://docs.tweepy.org/en/v3.10.0/
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