

twitterapiR Wrapper Function for R

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1. Introduction

The intent of the TwitterapiR is to provide a quick exploratory service of the resources provided by *Twitter*, a popular social media platform. It does so by providing access to the Twitter API via R.

twitterapiR outputs a general dataframe as well as subsetting dataframes for the total number of followers per user as well the total number of friends per user. Both these subsets include the users screen name. The latter subset is capped to a maximum number of 195 friends per user.

2. Authentication

You will need to follow these instructions to continue. We are accessing Twitter programmatically. *twitterapiR* uses the *httr* package under the hood to manage this. The first step is to create a Twitter application for yourself. Go to <https://developer.twitter.com/en/docs/twitter-api/getting-started/getting-access-to-the-twitter-api> and log in. Follow the instruction and fill some basic info. After your project is created, you can generate your consumer API key and Secret. In your R session, you'll want to do the following with the appropriate values from the web page:

```
set_bearer("API key", "API secret")
```

This will authenticate via *httr*, I recommend looking at that package's Token man page for more information regarding how to manage the authentication and caching processes.

3. Getting Started

This document is intended to describe the usage of each function and to show examples of each function. To explore the source code or report some issues, I recommend going to our GitHub. Before exploring our functionality, please make sure you complete the following steps.

```
# install package
remotes::install_github("tangaot/twitterapiR")
```

```
library(twitterapiR)
```

```
set_bearer("API key", "API secret")
```

4. Exploring *twitterapiR*

4.1

The *set_bearer* function will set key and secret key as environment variable. The key and secret key are always required. These are essentially the username and password for Twitter API. You can refer to **Authentication** to generate the key and secret key. If the key and secret key are successfully set, the function will return TRUE, otherwise, it will return FALSE.

```
set_bearer("API key", "API secret")
```

The *get_bearer* function is a helper function that can be used to generate the bearer key by using *API key* and *API secret*. It is embedded in *searchTweets*, *user_friends*, and *followersCount*. The bearer key allows the users to query information from Twitter.

```
get_bearer()
```

The *user_friends* function can be used to get some of the names of the friends of a user. A friend is being understood here as someone where both users follow each other. The *user_friends* function takes two arguments: *screen_name* and *number*.

To get a user's friends, run the command *user_friends*. This will only work correctly with users who have their profiles public, or if you're authenticated and granted access. The *user_friends* returns a dataframe with the name of the user, screen name of the user, and description of the user.

```
user_friends(screen_name = "BarackObama", number = 10)
```

```
##           name      screen_name
## 1 Vice President Kamala Harris    VP
## 2           President Biden      POTUS
## 3                NDRC  DemRedistrict
## 4              Merone      Merone
## 5      Hillary Clinton HillaryClinton
## 6          Eric Holder      EricHolder
## 7   Sauti Kuu Foundation      sauti_kuu
## 8          Auma Obama      AumaObama
## 9      Bruce Springsteen    springsteen
## 10      The Carter Center    CarterCenter
##
## 1                Vice President of the United States. Wife to the fi
## 2                46th President of the United States, husband to @FLOTUS, pr
## 3  Gerrymandering is a threat to our democracy. The National Democratic Redistricting Committee (NDR
## 4                Digital + Communica
## 5      2016 Democratic Nominee, SecState, Senator, hair icon. Mom, Wife, Grandma x3, lawyer, advoca
## 6
## 7                SKF works to enable young people and their communit
## 8                Founder, Director, Sauti Kuu Foundation. Working in Kenya a
## 9                "The Legendary 197
## 10 Founded in 1982 by former U.S. President Jimmy Carter & Rosalynn Carter with @EmoryUniversity, the
```

The *followersCount* function can be used to return the total number of followers of a user. It does so by using a user's screen name as its argument. It returns the user's screen name and the total number of followers of a user in a dataframe. The idea here is to cater to those curious about the number of followers a user of interest has.

To get a user's followers, run the command *followersCount*. This will only work correctly with users who have their profiles public, or if you're authenticated and granted access. The *followersCount* returns a dataframe with the user's screen name of the total number of followers of the user.

```
followersCount(screen_name = "BarackObama")
```

```
##  screen_name followers_count
## 1 BarackObama      130842730
```

4.4 Search Tweets

The `searchTweets` function can be used to search for related tweets that match the specified string. The argument for `searchString` is the string of 100 characters maximum we want to search for in the tweet, it can contain hashtag in order to search some tag in Twitter. The `count` will restricts the maximum number of tweets return. Default is 5. The `resultType` will specifies what type of search results you would prefer to receive. The default is “mixed.” Valid values include:

- mixed: Include both popular and real time results in the response.
- recent: return only the most recent results in the response.
- popular: return only the most popular results in the response.

The function will return a dataframe contains following columns:

- `created_time`: When this tweet was created - `user_name`: The name of the user - `user_screen_name`: The screen name of the user - `user_followers_count`: The number of followers of the user - `text`: The text of this tweet - `truncated`: Whether this tweet was truncated - `favorited`: Whether this tweet has been favorite} - `retweeted`: Whether this tweet has been retweeted - `favorite_count`: The number of times this tweet has been favorited - `retweet_count`: The number of times this tweet has been retweeted

```
library(twitterapiR)
res <- searchTweets("#ubc", resultType = "mixed", count = 15)
tail(res)
```

```
##               created_time      user_name user_screen_name
## 10 Fri Feb 18 23:32:50 +0000 2022   Fabiola Bazo   FabiolaBazo1
## 11 Fri Feb 18 23:30:02 +0000 2022      UBC SPPGA     ubcSPPGA
## 12 Fri Feb 18 23:19:50 +0000 2022   Richard Ajabu   richardajabu
## 13 Fri Feb 18 23:14:52 +0000 2022   Richard Ajabu   richardajabu
## 14 Fri Feb 18 22:17:28 +0000 2022   UBC Psychology   UBCPsych
## 15 Fri Feb 18 21:52:27 +0000 2022      CareMo     caring_mobile
##      user_followers_count
## 10                230
## 11               6066
## 12                 0
## 13                 0
## 14               5367
## 15               6501
##
## 10 RT @ubcSPPGA: Congratulations to #UBC Prof @MaxwellACameron (SPPGA; @UBCPoliSci) for receiving t
## 11 Congratulations to #UBC Prof @MaxwellACameron (SPPGA; @UBCPoliSci) for receiving the 2022 @LASAC
## 12      https://t.co/pGbrLdz4Sp\n#cdnpoli #yow @GovCanHealth #bcd #bcpoli #vanpoli #bchealth @CDCO
## 13      https://t.co/pGbrLdz4Sp\n#cdnpoli #yow #topoli #vanpoli #yyz #bcpoli #ableg #skpoli #mbpoli #
## 14 RT @campusubc: The Food Hub Market is a 9-week pilot market to improve access to low cost grocer
## 15 RT @UBCdigem: Join iCON and #Canada Health Infoway for this# webinar about Canada's #DigitalHealt
##      truncated favorited retweeted favorite_count retweet_count
## 10      FALSE      FALSE      FALSE              0              3
## 11      TRUE       FALSE      FALSE              6              3
## 12      TRUE       FALSE      FALSE              0              0
## 13      TRUE       FALSE      FALSE              0              0
## 14      FALSE      FALSE      FALSE              0              7
## 15      FALSE      FALSE      FALSE              0              1
```