

USE OF TWITTER IN HEALTH DATA ANALYSIS

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Abstract—Twitter, the popular micro blogging platform, has more than five hundred million registered users called “The Tweeters”. Tweets data is available from Individual users, public and private corporate houses, Government Bodies, News Channels, NGOs, Educational Institutes to decimate information. In this paper, the Targeted Resources for Health Tweets extraction are from the timelines of top Hospitals, Ministry of Health & Family Welfare and Healthcare related NGOs, Private Hospitals. These Health Tweets are used to analyze health events real-time for various diseases and medical conditions like Cancer, Heart, Kidney problems, Diabetes. We have used the health tweets data to estimate and track the health conditions in society to answer the following

- ❖ What is the most important Topics in Twitter related to Healthcare?
- ❖ What are the Intensity levels of different Disease occurrences for a period of time?
- ❖ What is the top disease observed for the period of time?

By observing fluctuations in frequent term sets and in turn medically-related articles over a series of time slices of tweets, we detect shifts in public health conditions and concerns over time. An efficient technique is used for classification of Tweets for health is “Hash Tag based Search” which involves two steps i) Identification of top recurring hash tags ii) Hash tag based search through adoption of an incremental tweet collection process. R Computational environment is used for plotting the Observations of the Paper.

Index Terms— Twitter, Tweets, Frequent Term Sets and Healthcare

I.INTRODUCTION

Twitter : The data universe has been on the rise from last few years and the ratio of unstructured data with the universe has increased ominously. Different social media platforms like Facebook, LinkedIn, and Twitter etc are the primary contributors to this unstructured data. Twitter is a very popular social media platform where every second approximately 6000 Tweets are being made and the daily count is around 500 million. Government Bodies, News Channels, NGOs, Educational Institutes ,Individual users, public and private corporate houses, are all using Twitter to decimate information. This presents researchers with a mine of information.

HashTags: Hashtags are used to categorize Tweets by keyword: we use the hashtag symbol (#) before a relevant keyword or phrase in their Tweet to categorize those Tweets and help them show more easily in Twitter search. Clicking or tapping on a hashtagged word in any message shows all the Tweets that include that hashtag. Hashtags are one of the most important and efficient ways of organizing information on Twitter. We can make a hashtag at any time, simply by typing a phrase of the form “#topic” in a tweet.

- For example, if we want to tweet about reading Maxine, you should say "Reading #Maxine article on using #hashtags with #twitter". Then, anyone

searching for #Maxine, #hashtags, or #twitter could see the above tweet.

- Once a hashtag has been created, other Twitter users can use that hashtag in their own tweets to add to the larger conversation about that topic. Hashtags can be as general (#Maxine) or as specific (#HowToUseHashtagsOnTwitter) as desired. They are a completely organic form of organization, created and managed by Twitter users, not Twitter itself.
- Enter #searchterm to search for tweets related to search term
- We can view the hashtags that are currently the most popular throughout Twitter from the trends sidebar on the left. Clicking on the hashtag will take you to a page of search results for the particular hashtag.
- A Twitter hashtag links the dialogues of different users into one stream, which are retrieved based on hashtag in Twitter Search or by using a third-party monitoring tool such as HootSuite.

Health Tweets: People tweet for different reasons like when they are happy ,not happy suffering from any disease or celebrating any festival , want to wish a celebrity etc...particularly health when we consider different users comes into picture public , health associations , health

organizations , hospitals millions of tweets gets generated every day. Among many health related tweets only a particular disease related tweets can be retrieved for analysis. Informatics implies a disciplined approach to information systems design and implementation that will drive improvement in public health practice.

II. METHODOLOGY

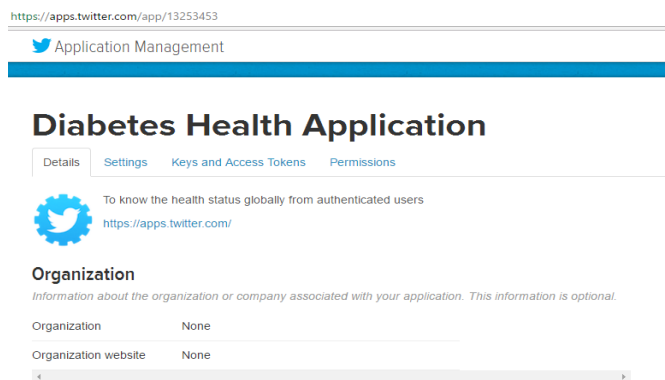
HASH TAG BASED SEARCH

Tweets Retrieval:

The Twitter Search API is part of Twitter’s REST API. It allows queries against the indices of recent or popular Tweets and behaves similarly to, but not exactly like the Search feature available in Twitter mobile or web clients, such as Twitter.com search. The Twitter Search API searches against a sampling of recent Tweets published in the past 7 days.

It’s important to know that the Search API is focused on relevance and not completeness. It means that some Tweets and users may be missing from search results. If you want to match for completeness you should consider using a Streaming API instead.

My Twitter Application for Health Tweets Retrieval is placed below



1) Basic Search

There are many ways to use search on Twitter. You can find Tweets from yourself, friends, local businesses, and everyone from well-known entertainers to global political leaders. By searching for topic keywords or hashtags, you can follow ongoing conversations about breaking news or personal interests.

Relevant Tweets Retrieval:

- Enter your search query into the **search box** at the top of the page.
- Results will show a combination of Tweets, photos, accounts, and more.
- Filtering results is done by clicking Top , Latest ,Accounts ,Photos ,Videos

2) Advanced Search Filtering

Complete Tweets Retrieval:

- Enter your search query into the search box at the top of the page.
- Results will show a combination of Tweets, photos, accounts, and more.
- Filtering results is done by clicking Top, Latest, Accounts, Photos,
- or Videos (located at the top of your search results).

Click More options drop-down to see the above filters as well as News. You can also choose to see results From everyone or From people you follow, and From everywhere or Near you. Embed your search by clicking More options and selecting Embed this search.

3) Sample Health Tweets:



III. TRACKING NO OF TWEETS

Tracking of tweets is observing tweets on a particular aspect for a specified period of time. I have tracked for different diseases information i.e no of tweets generated within 24 hours Jan 18-19.

S.No	Disease	Estimated No of Tweets(Max)
1	Diabetes	285
2	Cancer	1200
3	Heart	325
4	Kidney	55
5	Asthma	75

IV. RESULTS

Disease Specific Visualization: Individual Keyword based analysis period of 24-hours

A. Analysis of TOP Disease as Cancer

HASHTAG : #Disease

