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Blood Donation Via Twitter Application

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Abstract - *Social media-based text mining in healthcare has received special attention in recent times due to the enhanced accessibility of social media sites like Twitter. The increasing trend of spreading important information in distress can help patients reach out to prospective blood donors in a time bound manner. However such manual efforts are mostly inefficient due to the less user. We present an annotated Emergency Blood Donation Request (EBDR) dataset1 to classify tweets referring to the necessary of urgent blood donation requirement. We present an self-acting feature-based k - means unsupervised algorithm that can help selective EBDR tweets reach relevant personals as well as medical authority. Our experiments present a quantitative evidence that linguistic along with handcraft heuristics can act as the most represents the set of signals this task with an accuracy of 97.89%.*

Key Words: twitter api, kmeans, NLP, blood request, twitter tokens.

1. INTRODUCTION

Sufficiency in the availability of blood in emergency situations can dramatically improve the life expectancy and quality of lives of patients in chronic medical conditions. However, many patients still suffer due to the dual challenges of timely availability and shortfall of required whole blood and blood components. In the case of countries with low rates of blood donation record, blood donation is largely dependent on the families and friends of patients, usually through the word of mouth or peer to peer networking. With the increasing accessibility of social handles websites, several instances have emerged where the friends and the family of the patients in need of a blood transfusion have tried to voice their urgent need of blood donation through social media channels. They have reached out to the online community through tweets, Face book posts, and status updates on popular social media platforms. The effect of such tweets in an emergency situation is largely limited to a user's first few degrees of connections. Thus, it fails to reach the desired donor within the critical time.

1.1 Aim

In this paper, The analysis of the blood donation network on twitter observed in this paper, and the identified characteristics of the requests may be used to facilitate future planning, especially for patient-centric healthcare, where the trends is used to understand the behavior of donors to provide the services in a timely manner Existing System

1.2 Purpose

We analyze the requests received on individual twitter accounts in various ways to view different perspectives and to understand trends. We study, for example, statistics on the active accounts, and the time for the information to disseminate, and for a request to be fulfilled. We study the delays involved in the dissemination of requests, and provide statistics for the applications that are used for requests. Our study is useful for:

1. The person appealing for blood donation. By providing, example, an understanding of which individuals on twitter are more active, or which time may be the best for posting a blood donation request.

2. The donors, government, and non-government organizations. By providing, for example, statistics about the request received, the day/month when requests are expected to rise and blood types for which a large number of requests are received.

3. Development of intelligent systems. By identifying areas where automation is possible on twitter, and methods to use for automation.

2. Proposed system

In our proposed system, we introduce the robust feature-based classification system. In this system we refine the texts and the dataset. where as in existing system there are many data regarding the blood donation which are scattered and some of them cannot define weather they relate to the blood or not.

Table -1: Training model Table

	Precision	recall	F1-score	support
0.0	1.0	0.90	0.95	10
1.0	0.98	1.00	0.99	45
accuracy			0.98	55
Macro avg	0.99	0.95	0.97	55
Weighted avg	0.98	0.98	0.98	55

Precision: it is a metric that quantifies the member of correct positive predictions mode so it calculates the accuracy for the minority class.

How it is calculated: as the ratio of correctly predictive positive values divided by the total number of positive examples that were predicted

Recall: it is a measure of success of prediction where classes are imbalanced or

Recall is a measure of how many truly relevant results are returned

F1-score: it's a measure of tests accuracy weights average of precision and recall

F1-score=2*(Recall*precision)/(Recall + precision)

Recall=TP/TP+FN precision=TP/TP+FR

TP=> Outcome where the model correctly predicts the positive class

TN=> Outcome where the model correctly predicts the negative class

FP=> Outcome where the model incorrectly predicts the positive class

FN=> Outcome where the model incorrectly predicts the negative class

WHY TWITTER

Twitter launches initiative for blood donation in India. With an aim to help the blood donation in India, San Francisco based on blogging site, Twitter has launched a social initiative called Blood Matters. The company has partnered with Blood Donors in India which is on Twitter @BloodDonorsIN. Blood Donors is voluntary blood donation helpline on Twitter it has been working for the cause since 2008.

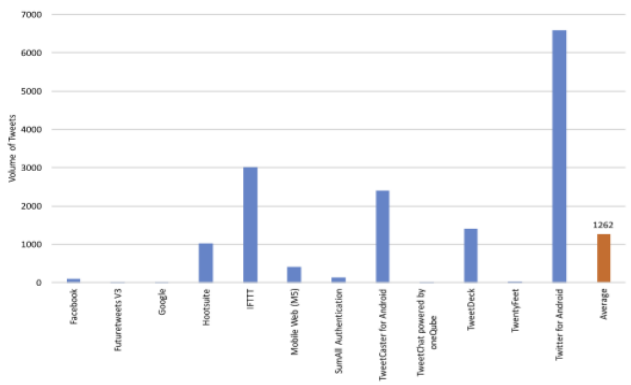

Chart -1: Why Twitter

Twitter will be supporting the implementation of an automated response solutions to scale the operations @BloodDonarindia Twitter, a well-known social network platform, is used for publicly sharing short messages (tweets) of up to 140 characters. Twitter was originally introduced in 2006, and has grown from around 5500 tweets being sent per day in 2007 to about 550 million tweets in 2013 (internetlivestats.com, 2013). With the number of active users averaging 310 million in 2015 (statista.com, 2016), twitter offers the opportunity to access a large number of audience in a very short time. Not only does a tweet from a user reach all those users who follow him (followers), the retweet option allows a tweet that is resent by followers, thus spreading the message beyond the recipients of the original tweet.

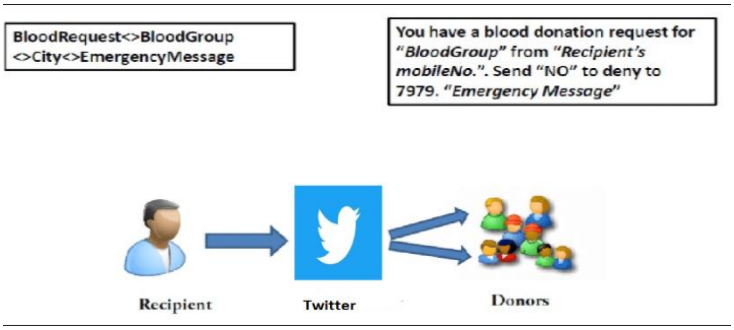

Fig -1: Recipients request blood donors using twitter

Firstly we have requested for the API keys from twitter.

After approval of the requested API. Read the tweet from the Users account. Sort the list of the donors based on k-means clustering. NLP model predict the tweet 1 OR 0 (blood request and not a blood request) Retweet it to the user along with the donor contact information.

3. CONCLUSIONS

The identification of emergency blood donation request on twitter (EBDR) can be made as model or application. We are making puts the power to save lives in palm of your hand and less time consuming. The blood request data can be benefit researchers in various aspects but not limited to: Automatic EBDR from the health posts It will be useful for determining the number of percentage of the blood groups for the donation

The identification of emergency blood donation request on Twitter (EBDR) can be made as model or application. We are making puts the power to save lives in palm of your hand and less time consuming. The EBDR data can be benefit researchers in various aspects including but not limited to:

1. Automatic EBDR from the health posts.
2. It will be useful for determining the number of percentage of the blood groups for the donation

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