"RULING OF AI BURDEN FINDING SORTING FOR S/W VIBRANT RELATIONSHIP"

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Abstract

These networks help the people/users to communicate and transfer information freely irrespective of geographical locations.

Many techniques ware applied to find the veracity of information in social networks. In this paper we propose a novel model called RD System to find the rumor content in social networks. This model uses a set of pre-defined rules and Nave Bayes algorithm to find the posted information veracity. Our proposed system achieved substantial good results when compared with ICDM model.

Keywords: Rumor Detection, RD System, Social Networks, ICDM model.

Introduction

Nowadays most of the people are connected to each other by different networks like Social network, Internet, Technological network etc. This leads to elevate the amount of information propagation and diffusion rapidly among the networks. Nowadays, anyone, at any place can post information in these networks. Dissemination of information in social networks may be in the form of good information or deceptive information. Deceptive information will have substantial concerns on people status, economy, and politics and even on countries security; because this will create confusion or misunderstanding among the information receivers [1]. Detecting such a deceptive information from social networks has been attracted the interest of majority of researchers and industry professions.

A rumor can be defined as a statement or a story which is consciously false or whose truthfulness is not verified when it is broadcasted in the social networks [2]. Identification of rumors at their early stage of broadcasting can significantly decrease the damage in society [3].

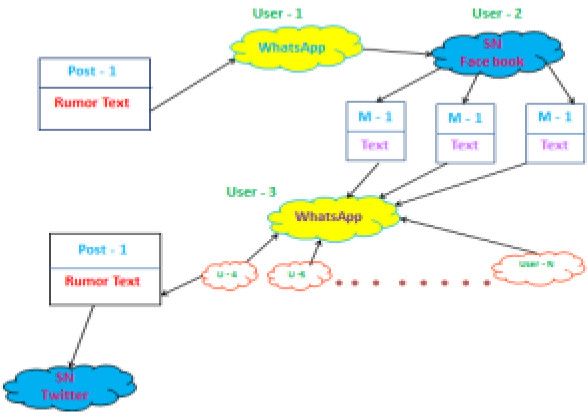
Literature Review

The first method to identify the rumor was proposed by Zhao et al [6] which identifies the "signal tweets" and that are grouped into different clusters. Those clusters are ranked using certain likelihood of post; using the rank of cluster a rumor can be identified. To detect rumor from twitter [26] has considered two features namely, 1) linguistic features to represent writing system and 2) sensational news headlines features. [7] proposed reinforcement model of learning to detect the rumor dynamically depending on responses.

Jing Ma et al [8] proposed a model which categorizes the dissemination as tree to evaluate likeliness among the trees to decide whether the information is rumor or not. Nivetha et al [9] developed two-step process to find the rumor in social networks. In the first step injecting perceiving nodes to report the receipt data and step two to identify rumor post by applying the GSSS algorithm. Ma et al. [10] applied various RNN methods to the repost orders. K. Wu et al [11] applied the hybrid kernel SVM cataloguing to recognize rumor, which joints the CA – LPT and the random walk graph kernel. Yu et al. [12] adopted the CNN model on the repost classification to find the interactions with high features. Ruchansky et al. [13] combines three features: the article script, user reactions on the script, and the source user who was stimulating the post/message.

PROPOSED RUMOR DETECTION SYSTEM FRAMEWORK

Rumor messages in social networksleads to social disaster. Multi lingual rumor are also failed to detect by existing Rumor Detection models. Note: Many of the Rumor Detection models specifically built to surveillance rumor words in a specific situation or context in Social Networking Sites. The propagation of rumor messages in various social networking sites is depicted in the below picture.



Rumor spreading scenario in social networks

The domain the rumor word which it is belongs to can be predicted by the probabilistic learning method OBIE [14]. Different database tables namely SPDB, TPDB, ODB, SPRWDB, RKDB, EDB and Metadata were used in the design of Rumor Detection System (RDS) shown in Fig. In this RDS, the online messages/posts which were communicated among the user/friends (chat mates) are stored in SPDB (Short Posts database). ODB (Ontology Database) is a lexical database that identifies terms, Synonyms, Concepts, Taxonomy (concept hierarchy), relations, Axioms and Rules.

The steps involved in pseudo code algorithm for rumor detection is shown in Fig., are illustrated as follows:

a) This text message is transformed to plain text removing stop-words (such as articles, preposition).

b) Next, we will check social interface to calculate number of comments and like.

IMPLEMENTATION AND EXPERIMENTAL RESULTS

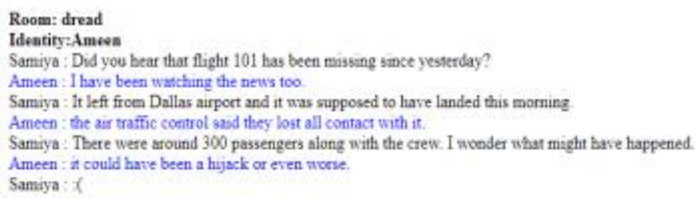
Evaluation method for data sets

The rumor words extracted are based on two factors, the number of actual words available in the pre-defined database i.e. SPRWDB with respect to rumor domain, to that of the number of extracted rumor words from tweet chat session:

$$Precision\ (P) = \text{Correctly Extracted / Total Extracted Correctly}$$

Tested using RDS and ICDM

The real chatting session is intentionally conducted and the experimental results are demonstrated for the conversation happened between the two users, as shown

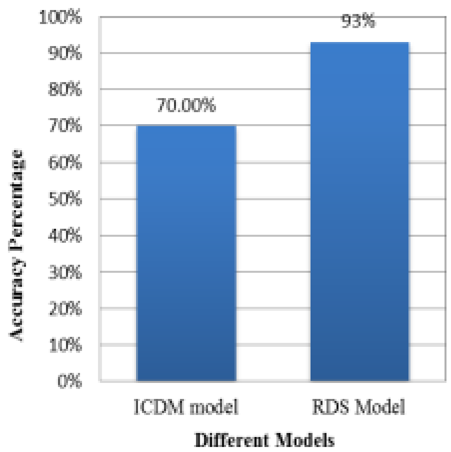


Room: dread
Identity:Ameen
Samiya : Did you hear that flight 101 has been missing since yesterday?
Ameen : I have been watching the news too.
Samiya : It left from Dallas airport and it was supposed to have landed this morning.
Ameen : the air traffic control said they lost all contact with it.
Samiya : There were around 300 passengers along with the crew. I wonder what might have happened.
Ameen : it could have been a hijack or even worse.
Samiya : :(

	profile_name text	room_name text	message text	time_stamp timestamp without time zone	category text	ip_adress text
12	Ameen	test	fierce	2019-08-22 15:52:00.821	Wedge_Rumors	192.168.1.5
13	Ameen	test	vicious	2019-08-22 16:33:26.569	Wedge_Rumors	192.168.1.5
14	Ameen	test	vicious	2019-08-22 17:05:11.649	Wedge_Rumors	192.168.1.5
15	Ameen	test	Test	2019-08-23 10:36:40.142	Anticipatory_Rumors	192.168.1.5
16	Ameen	test	Today	2019-08-23 10:36:45.53	Anticipatory_Rumors	192.168.1.5
17	Ameen	Today	fighting	2019-08-23 10:47:05.729	Wedge_Rumors	192.168.1.5
18	Ameen	Today	visualization	2019-08-23 10:47:26.997	Wish_Rumors	192.168.1.5
19	Ameen	Today	:)	2019-08-23 10:48:44.874	Wish_Rumors	192.168.1.5
20	Ameen	test	great	2019-08-23 11:17:40.888	Wish_Rumors	192.168.1.5
21	Ameen	test	:)	2019-08-23 11:17:46.667	Wish_Rumors	192.168.1.5
22	Ameen	test	hijack	2019-08-23 12:43:57.953	Dread_Rumors	192.168.1.5
23	Samiya	test	Did you hear that flight 101 has been missing since yesterday?	2019-08-23 12:51:51.993	Dread_Rumors	192.168.1.5
24	Samiya	test	It left from Dallas airport and it was supposed to have landed this morning	2019-08-23 12:52:34.553	Dread_Rumors	192.168.1.5
25	Ameen	test	the air traffic control said they lost all contact with it	2019-08-23 12:52:53.665	Dread_Rumors	192.168.1.5
26	Ameen	test	it could have been a hijack or even worse	2019-08-23 12:53:35.411	Dread_Rumors	192.168.1.5
27	Samiya	dread	Did you hear that flight 101 has been missing since yesterday?	2019-08-23 13:18:49.082	Dread_Rumors	192.168.1.5
28	Samiya	dread	It left from Dallas airport and it was supposed to have landed this morning.	2019-08-23 13:19:18.506	Dread_Rumors	192.168.1.5
29	Ameen	dread	the air traffic control said they lost all contact with it.	2019-08-23 13:19:27.635	Dread_Rumors	192.168.1.5
30	Ameen	dread	it could have been a hijack or even worse.	2019-08-23 13:19:54.956	Dread_Rumors	192.168.1.5
31	Samiya	dread	:(	2019-08-23 13:20:45.97	Wish_Rumors	192.168.1.5

Real Tweet, constitutes of Linguistic rumor lexicon words

The accuracy rate obtained by ICDM is 70%, whereas 93% with RDS model as shown



CONCLUSION AND FUTURE WORK

However it is necessary to take into consideration social interaction as popular posts tend to grab more attention quickly. Thus, many researchers are focusing on leveraging social media interactions to improve effectiveness of social media analysis of rumor detection. The proposed strategy is to utilize these social media interactions content to detect rumours by employing a Rumor Detection System (RDS) model. In RDS model an additional feature (social interactions) are added which is not used earlier, except ICDM which has used only one feature of predefined rules that to only textual words are considered. Experimental results show that proposed model can improve the detection performance and achieved 93 percent of accuracy when compared to ICDM model shown.

Parameter / Models	Text	Support for Social Interaction	Pre-defined rules	Report generation for e-crime dept.	Ontology support	Accuracy
ICDM	✓	✗	✓	✗	✗	0.70
RDS model	✓	✓	✓	✓	✓	0.93

Comparison of efficiency & effectiveness using different model

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