

Exploiting Social Network for Forensic Analysis to Predict Civil Unrest

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Abstract

Big Data analytics is new trending research area in IT industry and social media provides tremendous data for Big Data analysis. Social media analysis mostly includes mining people's opinion because mostly people share their views on social media platform (such as Twitter, Facebook, etc.). The opinions can easily flow in the society using Twitter. It is the easiest way to pass the information in the society. Crimes, riots, unrest, public movements and every activity is being planned or shared on Twitter and it is being delivered to individual within a short span of time. The opinions regarding every situation change as the individual change, so the people's reactions are also different. Sometimes the reaction can change hundreds of people to think the same and react on that which can lead towards civil unrest such as strikes, riots, March etc. Tweets can be analysed to understand the behavior of the individual and groups. By predicting civil unrest the investigators will get the help to take certain action to prepare for the situation or to stop certain activities. The prediction can also help to find out the persons responsible for initiating certain activity. In this paper we have presented a system where tweets are processed and analysed to predict up to what rate the civil unrest will happen or not. Firstly, the real time Twitter data is being fetched by using flume service in hadoop. Then the tweets are pre-processed. The pre-processed tweets are filtered by using Content based filtering algorithm to filter out the tweets which are related to civil unrest. The filtered tweets are clustered according to the category to which the tweet belong such terrorism, politics and social using K-means algorithm. Then sentiment analysis is being performed followed with prediction of the civil unrest.

Index terms: Big data, Flume, Hadoop, Prediction, Social Network Analysis, Sentiment Analysis, Twitter

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