Chapter 13
Mining on Social Media

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ABSTRACT

Social media mining is the process of representing, analyzing, and extracting actionable patterns and trends from raw social media data. Social media is favored by many users since it is available to individuals without any limitations to share their opinions, educational learning experiences and concerns via their status. Twitter API, twitter4j, is processed for searching the tweets based on the geo location. Student's posts on social network offers us a stronger concern to take decisions concerning the particular education system's learning method of the system. Evaluating knowledge in social media is sort of a difficult method. Bayes classifier are enforced on deep-mined knowledge for analysis purpose to urge the deeper understanding of the information. It uses multi label classification technique as every label falls into completely different classes. Label based measures are mostly taken to research the results and comparing them with the prevailing sentiment analysis technique.

INTRODUCTION

Social media mining is the process of representing, analyzing, and extracting actionable patterns and trends from raw social media data. Social media is the "group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content|". There are many categories of social media including, but not limited to, social networking (Face book or LinkedIn), micro blogging (Twitter), photo sharing (Flickr, Photo bucket, or Picasa), news aggregation (Google reader, Stumble Upon, or Feed burner), video sharing (YouTube, MetaCafe), livecasting (Ustream or Twitch.tv), virtual worlds (Kaneva), social gaming (World of War-craft), social search (Google, Bing, or Ask.com), and instant messaging (Google Talk, Skype, or Yahoo! messenger) proposed in Jiliang and Tang, (2014). Since social media is for everyone and it became such a massive part of their life. Since it is available all over the world, social media sites had become very much popular now a day's, such as twitter, face book, YouTube, LinkedIn etc. This provides a great platform for

students to express their views, emotions, opinions, joy, struggle and feelings. Everyday student's discuss and share their encounters in formal and informal way on different social media sites. Student's tweets or comments on particular posts provide large amount of implicit knowledge and a whole new perspective for the educational and institutional researchers, users and practitioners to understand the student's behavior outside the controlled classroom environment. This understandings are useful for taking the decision at institutional level in taking the consideration of student's point of view for their success. Even though social media data provides a lots of opportunities to understand student's behavior, but still there are some methodological difficulties in making sense of the social media data for educational purposes (Hu, Xia, Tang and & Huan 2013). There are number of methods used by educational and institutional researchers such as surveys, focus groups, and classroom activities to collect data related to the student's behavior. These methods are usually very time-consuming and not very frequent. Considering these drawbacks of existing system, a new system was proposed. In proposed system a qualitative analysis using classification algorithm instead of the sentiment analysis is performed because sentiment analysis considers the opinion of the user about a system and categorizes it into 3 different levels namely neutral, negative or positive mood but in the proposed system, we searched the information of the student's based on the keywords such as engineer, student, campus, class, professors and labs in the twitter data as per the geo location, keyword and search id (Vorvoreanu & Q. Clark, 2010). One of the hardest task is to search keywords in twitter because of the diversity of the languages and the Internet slang used are different. By exploring more advanced information retrieval methods there are two ways of extracting data. One among them is semantic based information retrieval in which it uses semantic information to understand the documents and queries. The other method is machine learning based method which is used to reorganize Web documents such as classification and clustering. In this paper we mainly discuss on the improvement of information retrieval based on machine learning. So that we use a multi label classification algorithm which is implemented to analyze the content as per the category and the results will be reported to a decision maker which helps the person to get the overview of student's problems and their experience in learning process, so that an institution can make a proper decision making policy to improve the performance of the students as they are the future of society.

EXISTING AND PROPOSED SYSTEMS

Existing System

There are various traditional methods existing to analyze students learning process in educational system, such as surveys, interviews and questionnaires. But the major problem with these methods is they are time consuming and can't be performed more efficiently with higher frequency since the analysis has are to be performed manually. Another important problem is the data which we collect in formal way may not be genuine as the student may not convey what they feel correctly then compared to informal medium like social media (M. Ito, H. Horst, M. Bittanti, C.C 2008). In existing projects sentiment analysis is another kind of approach followed by opinion mining in which it comes under 3 class classification technique, classifies the results as positive, negative and neutral. For better understanding the tweets in deeper way this sentiment analysis is not sufficient. Thus there is a necessitate for analysis of social media data qualitatively by integrating both the workflow and algorithmic approach.

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