Graduate Group # 9

A Method to Overcome Influence Maximization: Identifying Influential Users in Twitter Based on User Ranking
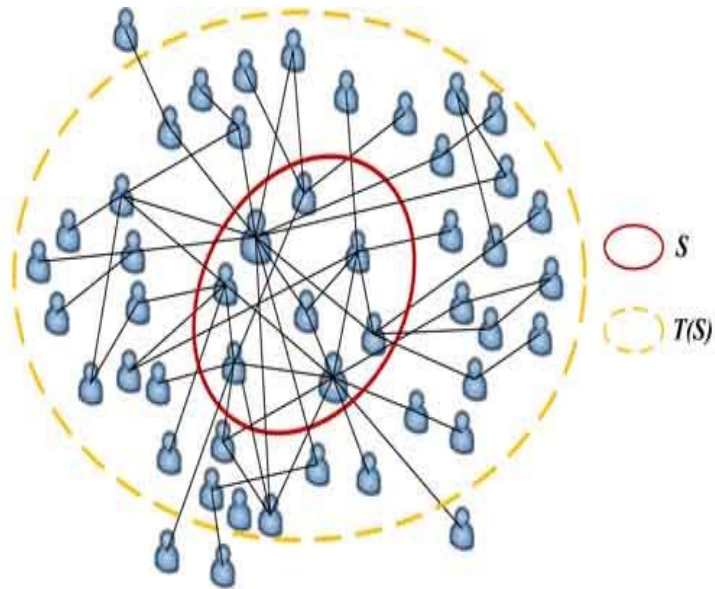
Muhammad Mohzary, JieZheng Meng, Yan Zhang, Snigdha

Agenda

- Introduction
- Objective
- Motiavation
- Application
- Project tools
- Implementation
- Result
- Future Work
- Conclusion

Introduction

- Influence maximization

- User influence rank

- Problem definition

Objective

- Identifying influential users on the basis of tweets as well as their geographic location to understand the reach of a certain product or sentiment

- Understanding consumers and marketing strategies for each place better and in detail

Motiavation

The main motivation of our project is to extend the UIRank algorithm further on the basis of spatio-geographical location.

Application

Viral marketing

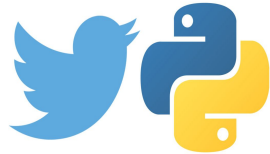Searching engine

Information propagation

Customer handling prioritization

Project Tools

Pycharm

Tweepy

Python

Bottle

Plotly

Implementation

Implementation:

Framework : Flask framework

Details of major techniques : User influence rank algorithm using data mining and analysis. Graph analysis used.

Encoding of data : JSON format is converted into html compatible format.

Techniques : Social Media Content ranking, degree centrality, Business intelligence visualisation and information processing.

Technical Challenges

Challenge

1. cut through the noise and
2. discover interesting conversations which indicate who is influential without having to perform narrow hashtag or boolean logic searches which limit the searches to what is already known beforehand.

Query Processing Algorithm

Pseudocode:

1. Import dataset from twitter using twitter analytics app.
2. Dataset must contain all the products you want to study from marketing purposes.
3. Using graph analysis algorithm, figure out the influence of a user.
4. Categorize users on the basis of geography and retweets and likes received.
5. For every country, users are returned with maximum influence in each category of products.

Result

Future Work

In future we can also return users on the basis of geographical locations and influence not on the basis of influence of the user in question but also the followers/fans of the users in question.

Ex. Consider a situation where even if user A has less number of followers than user B but in case fans/followers of user A have more followers than that of user B. In this case user A Should be returned as more influential than user B.

Conclusion

- Influence maximization is a popular problem in social network aims to have a set of nodes in a given graph, as a result it can lead to the largest number of remaining nodes in the graph.

- There are various applications for influence maximization. Examples of the applications are viral marketing, search expertise, information propagation, and customer handling prioritization.

- The Main objective of this project is identifying influential users on the basis of tweets as well as their geographic location.

- Techniques : Social Media Content ranking, degree centrality, Business intelligence visualisation and information processing using data mining and Graph analysis.

- The Main Challenge is discovering interesting conversations which indicate who is influential without having to perform narrow hashtag or boolean logic searches.

- Our Future goal is to return influential users on the basis of geolocation and influence not on the basis of influence of the user in question but also the fans of the users in question.

Any Questions?