

Friendbook: An Efficient Way to Recommend Friends on Social Networks Through Life-Style

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Abstract: In this paper, we have presented a literature review of the modern Activity based friend recommendation services. Social networking sites imply friend recommendation Systems in contribution to providing better user experiences. Online friend recommendation is a rapid developing topic in web mining. Current social networking servicing recommend friends to users based on their social graphs and mutual friends, which may not be the most appropriate to reflect a user's taste on friend selection in real lifetime. In this paper propose a system that recommends friends based on the daily activities of users. Here a semantic based friend recommendation is done based on the users' life styles. By using text mining, we display a user's everyday life as life archives, from which his/her ways of life are separated by using the Latent Dirichlet Allocation algorithm. At that point we discover a similarity metric to quantify the similarity of life styles between users, and as certain users' effect as far as ways of life with a similarity matching diagram. At last, we incorporate a feedback component to further enhance the proposal precision.

Keywords: Activity Recognition; Social Networks; Text Mining; Data Mining; Pattern Recognition.

I. INTRODUCTION

In your everyday lifestyles, organic meats have a huge selection of pursuits, which in turn kind important sequences of which shape our lifestyles. With this paper, we all utilize phrase exercise to particularly consider the actions taken in this order connected with seconds, for example "sitting", "walking", or "typing", even though we all utilize term way of living to consider higher-level abstractions connected with everyday lifestyles, for example "office work" or "shopping". In particular, this "shopping" way of living mostly consists of this "walking" exercise, however might also secure the "standing" or this "sitting" pursuits. To style everyday lifestyles adequately, we all bring an analogy in between people's everyday lifestyles along with papers. Existing social networking services recommend friends to users based on their social graphs, which may not be the most appropriate to reflect a user's preferences on friend selection in real life. Prompted through this particular, likewise, we can address our everyday lifestyles (or lifestyle documents) seeing that a number of standards of living (or topics), along with every single way of living seeing that a number of pursuits (or words). Monitor herein essence, we all signify everyday lifestyles using "life documents", as their semantic explanations are generally shown by way of their matters, which are standards of living in your research. Much like terms work for the reason that time frame connected with papers, people's pursuits normally work for the reason that Primitive vocab of these lifestyle papers. Social networking sites are used intensively from last decade. According to the current survey, Social Networking sites have the largest data set of users. Each social networking site notes/records each and every activity of user (like: what user likes? what user is doing? what is user's hobby? Etc.). Social Networking site will prove to be largest domain in understanding the user behavior. One of the best examples of social networking is FACEBOOK. According to current news Facebook is

trying to develop algorithm, to understand user behavior. Social Networking sites can help us in getting important information of users, such as age, gender, location, language, actives, likes etc. our model takes into account these parameters of the user to recommend books. Most of the friend suggestions mechanism relies on pre-existing user relationships to pick friend candidates. For example, Facebook relies on asocial link analysis among those who already share common friends and recommends symmetrical users as potential friends. The rules to group people together include:

- 1) Habits or life style
- 2) Attitudes
- 3) Tastes
- 4) Moral Standards
- 5) Economic level; and
- 6) People they already know.

Apparently, rule #3 and rule #6 are the mainstream factors Considered by existing recommendation systems.

II. LITERATURE SURVEY

Recommendation systems can be divided into two areas of focus: object recommendation and link recommendation. Companies such as Amazon and Netflix emphasize object recommendation where products are recommended to users based on past behavioral patterns. Social networking sites such as Facebook and LinkedIn focus on link recommendation where friend recommendations are presented to users. The work we present in this paper focuses on the latter, in which we develop friend recommendations within social networks. The recommendation algorithms employed by sites such as Facebook are proprietary. However, through observation, it is apparent that a friend of friends approach is being used. This approach is useful and efficient due to ease of implementation and the nature for humans to be drawn together through association. Similar network based

approaches such as graph based induction and link mining have been considered but fall in comparison to the effectiveness and efficiency of a friend of friends approach. Study of few recommendation pattern used by websites: Amazon recommendations change regularly based on a number of factors.

These factors include time and day of purchase, rate or like a new item, as well as changes in the interests of other customers. Because your recommendations will fluctuate, Amazon suggests you add items that interest you to your Wish List or Shopping Cart. E-Bay recommends product on bases of features of items. You Tube recommends items based on like/dislikes concept. In.com recommends the songs that are popular, songs from the same movie, similar actor-actress, artist, director etc. RS is used to filter the item/product according to the user interest and looking at the like-minded-users.

Friendbook which adopts a client-server model where each client is a Smartphone carried by a user and the servers are data centers or clouds.

On the client side, each Smartphone can record data of its user, perform real-time activity recognition and report the generated life documents to the servers. It is worth noting that an offline data collection and training phase is needed to build an appropriate activity classifier for real-time activity recognition on smartphones.

On the server side, seven modules are designed to fulfill the task of friend recommendation. The data collection module collects life documents from users' smartphones. The life styles of users are extracted by the life style analysis module with the probabilistic topic model. Then the life style indexing module puts the life styles of users into the database in the format of (life style, user) instead of (user, lifestyle). A friend-matching graph can be constructed accordingly by the friend-matching graph construction module to represent the similarity relationship between users' life styles. The impacts of users are then calculated based on the friend matching graph by the user impact ranking module. The user query module takes a user's query and sends a ranked list of potential friends to the user as response. The system also allows users to give feedback of the recommendation results which can be processed by the feedback control module. With this module, the accuracy of friend recommendation can be improved.

This is a free and comprehensive report about friend-book.com. Friend-book.com is hosted in Jacksonville FL, United States on a server with an IP address of 205.178.190.116. The local currency for Jacksonville FL, United States is USD (\$). The website friend-book.com is expected to be earning an estimated \$0 USD on a daily basis. If friend-book.com was to be sold it would possibly be worth \$66 USD (based on the daily revenue potential of the website over a 12 month period). According to our Google page rank analysis, the URL of friend-book.com currently has a page rank of /10. Our records indicate that friend-book.com receives an estimated 47 unique visitors each day - a small amount of traffic.

III. PROPOSED WORK

Existing social networking services recommend friends to users based on their social graphs, which may not be the most appropriate to reflect a user's preferences on friend selection in real life. In this paper, we present Friend-book, a novel semantic-based friend recommendation system for social networks, which recommends friends to users based on their life styles instead of social graphs.

By taking advantage of sensor-rich smart-phones, Friend-book discovers life styles of users from user-centric sensor data, measures the similarity of life styles between users, and recommends friends to users if their life styles have high similarity. Inspired by text mining, we model a user's daily life as life documents, from which his/her life styles are extracted by using the Latent Dirichlet Allocation algorithm.

We further propose a similarity metric to measure the similarity of life styles between users, and calculate users' impact in terms of life styles with a friend-matching graph. Upon receiving a request, Friend-book returns a list of people with highest recommendation scores to the query user. Finally, Friend-book integrates a feedback mechanism to further improve the recommendation accuracy. We have implemented Friend-book on the Android-based smart-phones, and evaluated its performance on both small-scale experiments and large-scale simulations. The results show that the recommendations accurately reflect the preferences of users in choosing friends.

In order to compare our DNTM to LDA, we adapt the vocabulary used for LDA to have a comparable format to that used in the DNTM. The vocabulary we use for LD consists of a pair of locations, a timeslot, as well as the distance between the locations. This results in a competitive

Comparisons since the key attributes of the DNTM are taken into the vocabulary for LDA. The log-likelihood resultson 20% unseen test data are plotted in Figure 1. We plot the log-likelihood averaged over all the test documents. The log-likelihood results reveal that for small N, LDA performs slightly better.

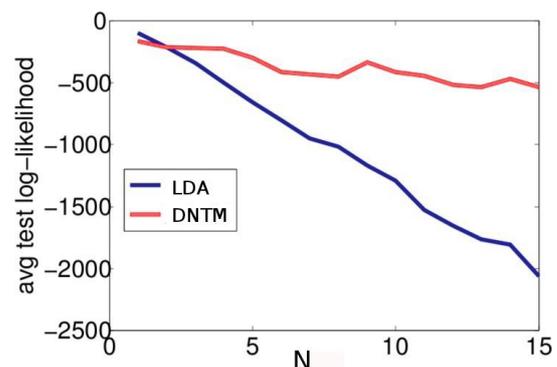


Fig.1 Average log-likelihood of the DNTM versus LDA on 20% unseen days (documents)

However, as N increases, the DNTM consistently has better generalization performance.

IV. CONCLUSION

In this paper, we presented the survey of a new activity based friend recommendation system for social networks. Outlining a recommender system for a social network is extremely difficult as the things prescribed here are not some spiritless merchandise. At the point when a friend is prescribed to a user and the user sends a friend request, the friend can in any case reject the request. There are numerous social elements which assume a part in creating a relationship or a tie between users. Recommender systems are efficient tools that beat the data over-burden issue by giving clients the most relevant contents.

Different from the friend recommendation mechanisms relying on social graphs and mutual friends in existing social networking services, System extracted life styles from user-centric data collected from daily activities such as posting, chatting, and other activities and recommended potential friends to users if they share similar life styles. The significance of contextual information has been perceived via analysts and specialists in numerous disciplines including Ecommerce, customized IR, ubiquitous and mobile computing, data mining, marketing and management.

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