Social Friend Recommendation based on

Multiple Network Correlation

ABSTRACT

Friend recommendation is an important recommender application in social media. Major social websites such as Twitter and Facebook are all capable of recommending friends to individuals. However, most of these websites use simple friend recommendation algorithms such as similarity, popularity, or "friend's friends are friends", which are intuitive but consider few of the characteristics of the social network. In this paper we investigate the structure of social networks and develop an algorithm for Network Correlation-based Social Friend Recommendation (NC-based SFR). To accomplish this goal, we correlate different "social role" networks, find their relationships and make friend recommendations. NC-based SFR is characterized by two key components: 1) Related networks are aligned by selecting important features from each network. 2) The network structure should be maximally preserved before and after network alignment. After important feature selection has been made, we recommend friends based on these features. We conduct experiments on the Flickr network, which contains more than ten thousand nodes and over 30 thousand tags covering half a million photos, to show that the proposed algorithm recommends friends more precisely than reference methods.

EXISTING SYSTEM

SOCIAL networks have experienced explosive growth in the last decade. Social websites such as Twitter, YouTube and Flickr have billions of users who share opinions, photos and videos every day Content similarity (such as image visual similarity) has been a primary method of friend recommendation. However, we argue that many other social aspects need to be explored to systematically build high-performance social friend recommendation, other than basing recommendation purely on content similarity matching. Making friends is often based on the following social aspects: 1) Social environment, including where one lives and works; 2) Social behaviours and actions, including one's working performance, shopping habits, hobbies, and, importantly, interactions with one another. 3) Social status, such as gender, age, position, etc. We summarize all these aspects as an individual's "social role". Here the term "social role" is the part that a person plays as a member of a particular society. As stated in: "In on-line social networks, people behave differently in social situations because they carry different latent social roles". We believe that utilizing the individual's social role information is a new research component for recommendation tasks.

DISADVANTAGES

- Users make on-line friends through these social networks. One challenging issue is how to help these users to efficiently find new social friends.
- Only simple content similarity recommendation based on the co-occurrence of tag can be applied for friend recommendation, whose accuracy is usually not satisfactory.

PROPOSED SYSTEM

A person has many different social roles on-line. In each social role, he/she makes different friends, and these different social roles form different social networks. To consider the effect of different social roles, we propose a network alignment method to find the correlations between networks. The second aspect we take into account is pairwise user similarity preservation to maintain the original data structure. Experimental results by aligning tag and contact networks have shown that the proposed NC-based SFR outperforms other methods in friend recommendation and achieves the highest precision in friend prediction. We find that a small number of features can align the tag network to the contact network well, and can provide sufficient information for friend recommendation. Both network alignment and social network structure preservation play an important role in our task.

ADVANTAGES

- We conduct comprehensive experiments to show that the proposed method significantly improves the accuracy of friend-recommendation.
- To reduce the problem of biased data, we choose a very large dataset that is randomly crawled from Flickr.
- The proposed algorithm recommends friends more precisely than reference methods.

SYSTEM REQUIREMENTS:

HARDWARE REQUIREMENTS:

- Processor : Pentium –III
- Speed :1.1 GHz
- RAM :256 MB(min)
- Hard Disk : 20 GB
- Floppy Drive : 1.44 MB
- Key Board : Standard Windows Keyboard
- Mouse : Two or Three Button Mouse
- Monitor : SVGA

SOFTWARE REQUIREMENTS:

- Operating System : Windows 8
- Application Server : Tomcat5.0/6.X
- Front End : HTML, Java, Jsp
- Scripts : JavaScript.
- Server side Script : Java Server Pages.
- Database : Mysql 5.0
- Database Connectivity : JDBC.