

Chapter 103

Privacy Information Leakage Prevention in Cognitive Social Mining Applications: Causes and Prevention Measures

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ABSTRACT

Online social networks, such as Facebook are increasingly used by many users and these networks allow people to publish and share their data to their friends. The problem is user privacy information can be inferred via social relations. This chapter makes a study and performs research on managing those confidential information leakages which is a challenging issue in social networks. It is possible to use learning methods on user released data to predict private information. Since the main goal is to distribute social network data while preventing sensitive data disclosure, it can be achieved through sanitization techniques. Then the effectiveness of those techniques is explored, and the methods of collective inference are used to discover sensitive attributes of the user profile data set. Hence, sanitization methods can be used efficiently to decrease the accuracy of both local and relational classifiers and allow secure information sharing by maintaining user privacy.

INTRODUCTION TO SOCIAL MINING

A social networking service is an online service, platform, site that focuses on facilitating the building of social networks or social relations among people share their interests, activities, backgrounds, or real-life connections. A social network service consists of a representation of each user, his/her social links, and a variety of additional services. Most social network services are web-based and provide means for

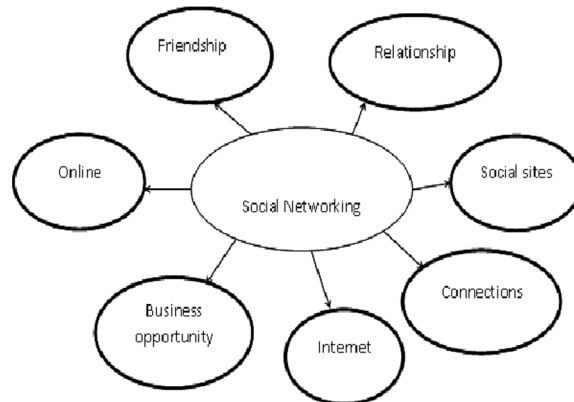
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users to interact over the Internet, such as e-mail and instant messaging. Online community services are sometimes considered as a social network service usually means an individual-centered service whereas online community services are group-centered.

Social networking sites allow users to share ideas, activities, events, and interests within their individual networks. When it comes to online social networking, websites are commonly used. These websites are known as social sites. Social networking websites function like an online community of internet users. Depending on the website in many of these online community members share common interests in hobbies, religion, politics and alternative lifestyles. Once user can grant access to a social networking website they can begin to socialize. This socialization may include reading the profile pages of other members and possibly even contacting them.

One of the benefits includes diversity because the internet gives individuals from all around the world access to social networking sites. Social networking often involves grouping specific individuals or organizations together. While there are a number of social networking websites that focus on particular interests, there are others that do not. The websites without a main focus are often referred to as traditional social networking websites and usually have open memberships. This means that anyone can become a member, no matter what their hobbies, beliefs, or views. However, once users inside this online community, they can begin to create your own network of friends and eliminate members that do not share common interests or goals.

Figure 1. Social networking



TYPES OF SOCIAL NETWORKS

There are many types of social networks available as depicted in Figure 1 and Figure 2 in detail. This examines the privacy and security implication. Most social networks combine elements of more than one of these types of networks, and the focus of a social network may change over time. While does not address every type of social network, many of the security and privacy recommendations are applicable to other types of networks.

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