Chapter 3
Online Social Network Analysis

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ABSTRACT

Expansion of online social networks is rapid and furious. Millions of users are appending to it and enriching the nature and behavior, and the information generated has various dimensional properties providing new opportunities and perspective for computation of network properties. The structure of social networks is comprised of nodes and edges whereas users are entities represented by node and relationships designated by edges. Processing of online social networks structural features yields fair knowledge which can be used in many of recommendation and prediction systems. This is referred to as social network analysis, and the features exploited usually are local and global both plays significant role in processing and computation. Local features include properties of nodes like degree of the node (in-degree, out-degree) while global feature process the path between nodes in the entire network. The chapter is an effort in the direction of online social network analysis that explores the basic methods that can be process and analyze the network with a suitable approach to yield knowledge.

DOI: 10.4018/978-1-5225-9096-5.ch003
INTRODUCTION

Advent of internet and internet facilities has provided a conducive environment which has nurtured and cultivated social networks quite rapidly and profoundly since its inception around us. Devices equipped with internet and compatible with its applications like mobile phones, computers, laptops and other smart gadgets are within the reach of common men. Facebook, linkedIn, twitter, flickr, etc. are the most popular web applications of online social networks evolved over the years and are still in development mode by understanding the behavior of its users. Tremendous generation of wide variety of data through these social networking sites as per evolution of their context such as Flickr is designed basically for various kinds of content sharing amongst users whereas Facebook is designed explicitly for social interactions amongst the users and linkedIn is designed specifically for professional interaction. Generally directly or indirectly the social networking sites are being developed for social interactions. In other words social network can be referred as network of relationships where nodes are the users or individuals and edges or links connecting nodes represents some kind of relationship (friends, brothers, sisters, father-son, coauthors, classmates, etc.) between them. It was obvious that social networks are not evolved for specifically internet based networks like Facebook; these social networks have been studied from the point of sociology for generic interaction amongst the groups of nodes(user/actors) and biomedical science for understanding the biomedical structures like protein-protein network. There are various types of networks prevailing around us which are categorized below as to understand their nature and behavior.

- **Social networks:** It is an online social network where in network users are represented as nodes and the relationship or interaction between them is represented through edges.

- **Networks With Ground-Truth Communities:** Social and information networks having sub networks or communities evolved with their actual local ground truth attributes. For example a YouTube networks having different communities developed such as fans of real Madrid, a group subscribed to lady Gagas videos and another group is a follower of Volvo. All these communities are having their own inherent properties even though all these three networks are integrated part of YouTube network.
Understanding the Video Bloggers' Community
www.igi-global.com/article/understanding-video-bloggers-community/45778?camid=4v1a