

Preface

Social networks have been studied fairly extensively over two decades in the general context of analyzing interactions between people, and determining the important structural patterns in such interactions. The trends in recent years have focussed on *online* social networks, in which the social network is enabled as an *internet application*. Some examples of such networks are *Facebook*, *LinkedIn* and *MySpace*. Such social networks have rapidly grown in popularity, because they are no longer constrained by the geographical limitations of a conventional social network in which interactions are defined in more conventional way such as face-to-face meetings, or personal friendships.

The infrastructure which is built around social networks can support a rich variety of data analytic applications such as search, text analysis, image analysis, and sensor applications. Furthermore, the analysis and evolution of the structure of the social network is also an interesting problem in of itself. While some of these problems are also encountered in the more conventional notion of social networks, many of the problems which relate to the data-analytic aspects of social networks are relevant only in the context of online social networks. Furthermore, online social networks allow for more efficient data collection on a large scale, and therefore, the computational challenges are far more significant.

A number of books have been written in recent years on the topic of social networks, though most of these books focus on the non-technological aspect, and consider social networks more generally in the context of relationships between individuals. Therefore, these books mostly focus on the social, structural, and cognitive aspects of the social network, and do not focus on the unique issues which arise in the context of the interplay between the structural and data-centric aspects of the network. For example, an online social network may contain various kinds of contents or media such as text, images, blogs or web pages. The ability to mine these rich sources of information in the context of a social network provides an unprecedented challenge and also an opportunity to determine useful and actionable information in a wide variety of fields such as marketing, social sciences, and defense. The volume of the data available is also a challenge in many cases because of storage and efficiency

constraints. This book provides a first comprehensive compendium on recent research on the *data-centric aspect* of social networks.

Research in the field of online social networks has seen a revival in the last ten years. The research in the field is now reaching a level of maturity where it is useful to create an organized set of chapters which describe the recent advancements in this field. This book contains a set of survey chapters on the different data analytic issues in online social networks. The chapters describe the different facets of the field in a comprehensive way. This creates an organized description of the significant body of research in the important and emerging field of online social networks.



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