Lecture Notes in Social Networks

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Social Networks and Surveillance for Society

Springer

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Preface

The study of social networks emerged in the nineteenth century and concentrated on small networks of humans and organizations. However, the development of Web 2.0 tremendously influenced the field and shifted the concentration from social sciences into multidisciplinary approaches centered around computing and automated systems. Indeed the twenty-first century witnessed the birth of social networking platforms, which allowed people to communicate virtually regardless of time zone, location, ethnicity, gender, etc. The new environment is associated with several concerns connected to the freedom in communication and assumed trust which is sometimes misused leading to unpleasant cases that should be identified and treated wisely. The chapters included in this book address a number of serious issues associated with social networks. The book is organized in ten chapters. The first chapter is a review of frauds and misuse activities in online social networks. The authors focus on identity manipulation and diffusion of misinformation aspects. The second chapter analyzes the behavior of coordinating deviant groups who created a lot of cyber propaganda against NATO in twitter and blogs. The authors mainly use social network analysis, cyber forensics tools and techniques to uncover the relation between the groups to discover similar groups. The third chapter explains Facebook's ticker and makes a discovery on the privacy, based on the argument of Panopticon or transparency society. It suggests how to protect our privacy to avoid leakage of information to the public unwittingly. The fourth chapter proposes a centrality metric with probabilistic edges for range-limited neighborhoods that is specific to detecting real-time influential spreaders. The fifth chapter sheds light on the benefits of decentralized online social networks and studies its architectures in terms of performance and security. The sixth chapter discusses the future of social networks from different perspectives. The seventh chapter proposes a centrality measure or method for detecting critical nodes especially in directed networks. Strong and weak middle nodes are identified in the network. The eighth chapter considers the issues of investigating criminals on social networks and privacy protection in the context of American legal system. It tries to point out that the proper use of privacy settings may prevent the issues of privacy violations. This

chapter tries to explain an expectation gap among legal system, social networking sites, and users from the perspective of privacy risk. The ninth chapter presents a multi-agent-based system with data mining approaches to provide real-time emergency management and analysis by utilizing microblog data streams. The last chapter analyzes Paris attacks and draws lessons which may help to avoid future similar disasters.

This book would not have been put together without the great effort of the authors and reviewers whom we would like to warmly thank for their valuable effort. Reviewers' comments were very constructive to uplift the quality of the content. Springer also deserves a special mention here for their encouragement.

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