On Information Propagation, Social Influence, and Communities

Francesco Bonchi
Research Leader at ISI Foundation (Turin, Italy) and Eurecat, Technological Center of Catalunya (Barcelona)

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Abstract

With the success of online social networks and microblogging platforms such as Facebook, Tumblr, and Twitter, the phenomenon of influence-driven propagations, has recently attracted the interest of computer scientists, sociologists, information technologists, and marketing specialists. In this talk we will take a data mining perspective, discussing what (and how) can be learned from a social network and a database of traces of past propagations over the social network. Starting from one of the key problems in this area, i.e. the identification of influential users, we will provide a brief overview of our recent contributions in this area. We will expose the connection between the phenomenon of information propagation and the existence of communities in social network, and we will go deeper in this new research topic arising at the overlap of information propagation analysis and community detection.

Bio

Francesco Bonchi is Research Leader at the ISI Foundation, Turin, Italy, where he leads the "Algorithmic Data Analytics" group. He is also Scientific Director for Data Mining at Eurecat (Technological Center of Catalunya), Barcelona. Before he was Director of Research at Yahoo Labs in Barcelona, Spain, where he was leading the Web Mining Research group. His recent research interests include mining query-logs, social networks, and social media, as well as the privacy issues related to mining these kinds of sensible data. In the past he has been interested in data mining query languages, constrained pattern mining, mining spatiotemporal and mobility data, and privacy preserving data mining. He will be PC Chair of the 16th IEEE International Conference on Data Mining (ICDM 2016) to be held in Barcelona in December 2016. He is member of the ECML PKDD Steering Committee, Associate Editor of the newly created IEEE Transactions on Big Data (TBD), of the IEEE Transactions on Knowledge and Data Engineering (TKDE), the ACM Transactions on Intelligent Systems and Technology (TIST), Knowledge and
Information Systems (KAIS), and member of the Editorial Board of Data Mining and Knowledge Discovery (DMKD). He has been program co-chair of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD 2010). Dr. Bonchi has also served as program co-chair of the first and second ACM SIGKDD International Workshop on Privacy, Security, and Trust in KDD (PinKDD 2007 and 2008), the 1st IEEE International Workshop on Privacy Aspects of Data Mining (PADM 2006), and the 4th International Workshop on Knowledge Discovery in Inductive Databases (KDID 2005). He is co-editor of the book ”Privacy-Aware Knowledge Discovery: Novel Applications and New Techniques” published by Chapman & Hall/CRC Press. He earned his Ph.D. in computer science from the University of Pisa in December 2003.

Faculty Host: Tina Eliassi-Rad