Propagation Phenomena in Large Social Networks

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ABSTRACT

Social media and blogging services have become extremely popular. Every day hundreds of millions of users share conversations on random thoughts, emotional expressions, political news, and social issues. Users interact by following each other's updates and passing along interesting pieces of information to their friends. Information therefore can diffuse widely and quickly through social links. Information propagation in networks like Twitter is unique in that traditional media sources and word-of-mouth propagation coexist. The availability of digitally-logged propagation events in social media help us better understand how user influence, tie strength, repeated exposures, conventions, and various other factors come into play in the way people generate and consume information in the modern society.

In this talk, I will present several findings on how bad news [9], rumors [8], prominent events [11], conventions [6, 7], tags [1, 4], behaviors [12], and moods [10] propagate in social media based on a large amount of data collected from networks like Twitter, Flickr, Facebook, and Blogosphere. I will talk about the different roles of user types [2] and content types [5] in propagations as well as ways to measure their influence [3]. Among various findings, I will demonstrate that indegree of a user, a well-known measure of popularity, alone can reveal little about the influence.

Categories and Subject Descriptors

J.4 [**Computer Applications**]: Social and Behavioral Sciences; H.3.5 [**Online Information Services**]: Web-based services

General Terms

Human Factors, Measurement

Keywords

Information propagation, User influence, Content types

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