Trend Detection Using Community Rank and Hawkes Process

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Abstract : We develop in this paper, an approach to find the trendy topic, which not only considers the user-topic interaction but also considers the community, in which user belongs. This method modifies the previous approach of user-topic interaction to user-community-topic interaction with better speed-up in the range of [1.1-3]. We assume that trend detection in a social network is dependent on two things. The one is, broadcast of messages in social network governed by self-exciting point process, namely called Hawkes process and the second is, Community Rank. The influencer node links to others in the community and decides the community rank based on its PageRank and the number of users links to that community. The community rank decides the trendy topic disseminated into the social network.

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