

Rumour Containment Using Monitor Placement and Truth Propagation

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Abstract : The emergence of online social networks (OSNs) has transformed the way we pursue and share information. On the one hand, OSNs provide great ease for the spreading of positive information while, on the other hand, they may also become a channel for the spreading of malicious rumors and misinformation throughout the social network. Thus, to assure the trustworthiness of OSNs to its users, it is of vital importance to detect the misinformation propagation in the network by placing network monitors. In this paper, we aim to place monitors near the suspected nodes with the intent to limit the diffusion of misinformation in the social network, and then we also detect the most significant nodes in the network for propagating true information in order to minimize the effect of already diffused misinformation. Thus, we initiate two heuristic monitor placement using articulation points and truth propagation using eigenvector centrality. Furthermore, to provide real-time workings of the system, we integrate both the monitor placement and truth propagation entities as well. To signify the effectiveness of the approaches, we have carried out the experiment and evaluation of Stanford datasets of online social networks.

Keywords : online social networks, monitor placement, independent cascade model, spread of misinformation

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