

A Community Discovering Method Based on Event Network for Topic Detection

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Abstract—Traditional text modeling methods are mainly based on word frequency statistics, which lacks of necessary semantic information, and in real-time news topic tracking, it is difficult to update topics to catch up with their growth and variation. In this paper, we use event network to model news text. Through using community discovering algorithm in event network, we can obtain event cluster, and accordingly achieve topic detection. Event network is a weighted directed network, therefore general community discovering methods can't be used directly on event network. The communities in event network are more likely to be fine granularity community, and their amount is not known in advance. Hence, we proposed a hierarchical community discovering algorithm based on event network, which exploits the semantic properties of event nodes and edge-weight information in the network, to discover fine granularity communities that are semantically meaningful. Experiment results show that the algorithm is effective. Our work is also the basis of topic merging, topic tracking and information discovering based on event network.

Keyword—Event Similarity, Event Network, Topic Detection, ENCDA



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