

Thesis: Influence Detection In Social Networks

Abstract: Social network users develop relationships with each other and establish communities with leaders and followers. Recognizing these hierarchical relationships is an important task because it will help to understand social networks, predict future trends, advance recommendations and advertisement, and improve national security by identifying leaders of anonymous terror groups. In this work, we develop methods that capture the differences in communication and reveal user-related information. As a part of this work, we create a new corpus annotation for interpersonal relationships and a new evaluation measure. Furthermore, we propose new methods to improve user influence prediction. These methods are based on the joined model that captures not only a user influence but also a demography and conversational style. The model is based on a multi-task learning framework with graph embedding for user representation. In addition, we propose to create a demo web project that implements this work.

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