

Scholar-Friend Recommendation in Online Academic Community

TREO Talk Paper

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Abstract

As particular type of virtual communities, online academic communities are becoming a new platform which promotes research collaboration and cooperation. From the aspect of academic relationship management, researchers not only use the online academic communities to maintain contacts with old scholar-friends (which refers to friends in online academic communities), but also use the communities to find new ones within the fields of their interest. From the view of knowledge management, researchers can easily share and exchange scientific knowledge via online academic communities. Although online academic communities transcend organizational and geographical boundaries and provide services to facilitate scientific research in global context, the information overloading problem occurring in the platform presents a great challenge for researchers to find interesting and relevant information. Particularly, information overloading makes it difficult for researchers to find the scholar-friends that have similar interests leading to possible collaborations. Furthermore, the implicit nature of the expertise of researchers makes it possible that some information is lost during expertise formalization.

Considering the social nature of academic research, in this research, we propose a scholar-friend recommendation approach to help researchers find their scholar-friends by integrating multi-dimensional social networks. The proposed researcher recommendation framework includes several steps to make a final recommendation. First, we construct multi-dimensional social networks which integrate two kinds of information: direct social relations and indirect social relations. The difference between direct and indirect relations lies in whether we need to infer researchers' social relations from their features. Based on the augmented multi-dimensional social networks among researchers, random walk is used to compute the link strength between researchers and recommendations are made accordingly. A social filtering mechanism will be employed to filter researchers who are in the rejection list or contact list of the target researcher. The goal of social filtering is to prevent from recommendation those users that have already been in the target researcher's contact or rejection list. Finally, appropriate scholar-friends will be recommended to a target researcher. The theoretical contribution of this research is to enrich and extend existing expertise recommendation approaches by proposing an integrated framework which combines multi-dimensional social networks of researchers. In addition, the social recommendation mechanism may facilitate scientific knowledge dissemination in academic contexts. In future research, we will evaluate the proposed approach using real data collected from an online academic community.