

Generalizing Generalized Cores – An Analysis of Tag-Recommender Evaluation Procedures

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Abstract

Since the rise of collaborative tagging systems on the web, the *tag recommendation task* – suggesting suitable tags to users of such systems while they add resources to their collection – has been tackled. However, the (offline) evaluation of tag recommendation algorithms usually suffers from difficulties like the sparseness of the data or the cold start problem for new resources or users. Previous studies therefore often used so-called *post-cores* (specific subsets of the original datasets) for their experiments. In this paper, we generalize the notion of a core by introducing the new notion of a *set-core* – that is independent of any graph structure – to overcome a structural drawback in the construction of post-cores. We complement the theoretical results with a large-scale experiment in which we analyze different tag recommendation algorithms on different classes of cores on three real-world datasets.

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