

A Cocktail Approach for Travel Package Recommendation

ABSTRACT:

Recent years have witnessed an increased interest in recommender systems. Despite significant progress in this field, there still remain numerous avenues to explore. Indeed, this paper provides a study of exploiting online travel information for personalized travel package recommendation. A critical challenge along this line is to address the unique characteristics of travel data, which distinguish travel packages from traditional items for recommendation. To that end, in this paper, we first analyze the characteristics of the existing travel packages and develop a tourist-area-season topic (TAST) model. This TAST model can represent travel packages and tourists by different topic distributions, where the topic extraction is conditioned on both the tourists and the intrinsic features (i.e., locations, travel seasons) of the landscapes. Then, based on this topic model representation, we propose a cocktail approach to generate the lists for personalized travel package recommendation. Furthermore, we extend the TAST model to the tourist-relation-area-season topic (TRAST) model for capturing the latent relationships among the tourists in each travel group. Finally, we evaluate the TAST model, the TRAST model, and the cocktail recommendation approach on the real-world travel package data. Experimental results show that the TAST model can effectively capture the unique characteristics of the travel data and the cocktail approach is, thus, much more effective than traditional recommendation techniques for travel package recommendation. Also, by considering tourist relationships, the TRAST model can be used as an effective assessment for travel group formation