

论文

基于信任的推荐算法的鲁棒性分析

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摘要:

基于信任的推荐是一种新兴技术,其核心原理是利用用户信任网络选择可靠的建议者.虽然在先前的研究中认为它的鲁棒性优于协同过滤,但这种技术抵抗攻击的实际能力尚未被量化研究.我们就此问题提出了一个形式化的评估框架,并对2种代表性的算法进行了比较评估.实验采用的数据集来源于Epinions.com网站.实验结果展示了影响算法鲁棒性的关键因素,据此给出了几项应对策略.

关键词: 推荐系统 信任度量 鲁棒性 协同过滤

Robust analysis of trust-based recommendation algorithms

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Abstract:

Trust-based recommendation is an emerging technique,in which the trust web of users serves as an overlay to locate reliable advisers.Although this technique is claimed to be more robust than collaborative filtering in previous researches,its real strength to resist attacks has not been quantifiably studied.We propose a formal evaluation framework for this topic and compare two representative algorithms in the literature on the data set from Epinions. com.Experiments indicate the key factors for their robustness. Furthermore,several countermeasures are suggested based on these findings.

Keywords: recommender system trust metric robustness collaborative filtering

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