



一种基于和声搜索的协同过滤算法研究

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摘要 改进传统的相似度计算方法,为寻找最优的相似度函数,采用参数优化的和声搜索算法来寻找相似度函数的最优权值向量。为提高推荐速度,得到最优的相似度函数后,对于用户的推荐计算不再采用和声搜索算法。实验表明,和传统算法相比,该算法能提高预测精度和覆盖率,有更好的推荐效果,并能够更快地获得目标用户的最邻近用户,加快推荐的速度。

关键词: [协同过滤](#) [相似度函数](#) [权值向量](#) [和声搜索算法](#)

Abstract: The traditional similarity algorithm of collaborative filtering is modified in this paper. In order to find an optimal similarity function, the paper presents harmony search algorithm with parameters optimization to find the optimal weights vector of similarity function. To improve the speed of recommendation, harmony search algorithm is no longer used for the calculation of the recommendation after finding the optimal similarity function. The validation experiments show that the proposed algorithm improves prediction accuracy and coverage so as to provide better recommendation. And the proposed algorithm can more quickly obtain the nearest neighbor users of the target user, which can accelerate the recommended speed.

Keywords: [Collaborative filtering](#), [Similarity function](#), [Weights vector](#), [Harmony search algorithm](#)

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