

基于用户历史行为的协同过滤推荐算法

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摘要: 协同过滤推荐是数据挖掘一个重要方向, 传统协同过滤推荐算法受到数据稀疏性和冷启动制约, 难以获得理想的推荐结果, 为了改善协同过滤推荐的准确性, 提出了基于用户历史行为的协同过滤推荐算法. 首先根据用户的历史行为预测用户对每一个项目的偏好程度, 并采用标签描述用户对项目的偏好程度, 建立相应的特征向量, 然后根据特征向量计算项目相似度实现个性化推荐, 最后采用多个经典数据进行了仿真测试, 以验证算法的优越性. 测试结果表明, 该算法大幅度降低了推荐的误差, 提高了协同过滤推荐的准确率, 克服了传统协同过滤推荐算法存在的局限性, 而且可以加快推荐速度, 具有更高的实际价值.

关键词: 数据挖掘; 协同过滤; 用户偏好; 项目相似度; 个性化推荐

Collaborative Filtering Recommendation Algorithm

Based on User's Historical Behavior

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Abstract: Collaborative filtering is an important direction of data mining, the traditional collaborative filtering recommendation algorithm is sensitive for by data sparsity and cold start control, so recommendation result is difficult to achieve the ideal. In order to improve the accuracy of collaborative filtering recommendation, a collaborative filtering recommendation algorithm based on user behavior prediction is proposed in this paper. Preference for resources is predicted of according to the user's historical behavior, label is used to describe users Preference for resources and establish feature vector, and secondly similarity of resources are computed according to the feature vector and achieve personalized recommendation, finally a number of classic data are adopted to carry out the simulation test to verify the superiority. The test results show that the proposed algorithm greatly reduces the error of collaborative filtering recommendation and improve the accuracy to overcome the limitations of traditional collaborative filtering algorithms, but also can accelerate the recommended speed, so it has higher practical value.

Key words: data mining; collaborative filtering; user preference; resource similarity; personalized recommendation

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