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COMP9417 ASSIGNMENT PROPOSAL

Recommender system using collaborative filtering

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Introduction

The research of the recommender system can be roughly divided into three phases. The first phase is based on traditional services, the second phase is based on current social network services, and the third phase is the upcoming Internet of Things. This has produced many basic and important algorithms, such as collaborative filtering (including user-based and item-based), content-based recommender system algorithms, hybrid recommender system algorithms, statistical theory-based recommender system algorithms, and social network-based information (following Filter recommender system algorithm, group recommender system algorithm, location-based recommender system algorithm, attention, trust, popularity, credibility, etc. The neighborhood-based collaborative filtering recommender system algorithm is the most basic, core, and most important algorithm in the recommender system. The algorithm is not only deeply researched in academia, but also widely used in the industry, based on neighborhood. The algorithm is mainly divided into two categories, one is user-based collaborative filtering algorithm, and the other is the item-based collaborative filtering algorithm. In addition, the item-based recommendation algorithm is also widely used, two basic algorithms will be described in detail as below.

Abstract

The collaborative filtering recommendation algorithm is the earliest and well-known recommendation algorithm. The main function is prediction and recommendation. The algorithm discovers the user's preferences by mining the user's historical behavior data, and classifies the users based on different preferences and recommends similar items. The basic steps of the memory-based collaborative filtering algorithm are to first collect and organize user preferences, then find similar users or items, and finally give recommendations by comparing similarities.

General Terms: Measurement, Performance

Key words: Collaborative Filtering, Recommendation, Pearson correlation, Cosine similarity