Capturing User Interests for Content-based Recommendations

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ABSTRACT

Nowadays, most recommender systems provide recommendations by either exploiting feedback given by similar users, referred to as collaborative filtering, or by identifying items with similar properties, referred to as content-based recommendation. Focusing on the latter, this keynote presents various examples and case studies that illustrate both strengths and weaknesses of content-based recommendation.

1. OUTLINE

Given the information overload that we are facing nowadays, tools and systems are required that help us to filter through large information and product spaces. Recommender systems approach this task by predicting the preference or rating that a user would give to an item. Two methods (or combinations thereof) to provide these predictions dominate the field – collaborative filtering and content-based recommendation. Collaborative filtering methods exploit information on users' behaviours or preferences to identify their interests and predict items that similar users showed interest in (e.g., [6, 7, 10, 11]). On the other hand, content-based recommender systems aim to identify users' interests based on analysing the actual content of items that they interacted with.

This talk first introduces the conceptual idea behind content-based recommendation. Representative systems and studies are presented that illustrate the advantage of semantic metadata, as well as the challenges that come with an automated analysis of content, especially in the multimedia domain.

Following this overview, two methods to capture users' interests in items are introduced, namely explicit and implicit user profiling. Explicit user profiles are created by asking users to rate items in a collection. Implicit user profiles are created by gathering user interest based on implicit relevance feedback such as viewing or clicking behaviour online. Examples and case studies [2, 3, 4, 12] are presented that illustrate the advantages and limitations of both techniques.

The talk ends with an overview of NewsREEL[1], an evaluation

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[1] http://clef-newsreel.org/

campaign that allows researchers to benchmark news article recommendation algorithms in an offline [9] and an online [1, 5] setting. Given the content rich nature of news articles, as well as the large numbers of users within NewsREEL who access news online [8], the lab can serve as a training ground to improve both content-based and collaborative filtering techniques.

2. REFERENCES

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