Recommender Systems Challenge 2012

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ABSTRACT

The Recommender System Challenge 2012 invited participants to work on two tracks with real-world datasets and to submit their contributions that would be related to specific problem contexts. First of all, it asked participants to develop new algorithms and to compare them to other algorithms in given settings; in addition, it asked participants to explore with new recommendation methods, services, as well as added-value services related to recommendation.

Categories and Subject Descriptors

D.2.8 [**Software Engineering**]: Metrics - complexity measures, performance measures; H.3.3 [**Information Storage and Retrieval**]: Information search and retrieval - information filtering, relevance feedback; H.3.4 [**Information Technology and Systems Applications**]: Decision support; H.3.5 [**Online Information Services**]: Data Sharing; H.5.1 [**Multimedia Information Systems**]: Evaluation/methodology

General Terms

Algorithms, Design, Experimentation, Human Factors, Measurement

Keywords

Recommender Systems, dataset, challenge, competition, context-aware, scientific paper recommendation

1. INTRODUCTION

As in other research areas, the availability of datasets in recommender systems can be considered as key for research and application purposes. These datasets serve as benchmarks to develop new algorithms and to compare them to other algorithms in given settings. Furthermore, they can be used for experimenting with new recommendation methods, services, as well as added-value services related to recommendation (such as supporting visualization and argumentation). The *2012 Recommender System Challenge* was organized in conjunction with the 6th ACM Conference on Recommender Systems (RecSys'12). The challenge focused on two tracks, each with a real-world dataset: the Benchmarking Track on *Context-Aware Movie Recommendation* (CAMRa), and the Exploratory Track on *Scientific Paper Recommendation* (ScienceRec).

The 2012 Challenge builds upon the tradition of a number of contests, challenges and workshops for recommender systems that have taken place in the past, e.g. the series of CAMRa challenges that where organized in conjunction with RecSys in 2010 [1, 4] and 2011 [5, 6] as well as a series of workshops and challenges on Technology Enhanced Learning, e.g. the DataTEL challenge [2] and RecSysTEL workshop [3].

2. CAMRA TRACK

Following CAMRa-2010 and CAMRa-2011, the CAMRa-2012 Track focused on context-aware recommendation of movie-related news from moviepilot.com. The track addressed context-aware recommendation and context-aware evaluation, as well as live evaluation of recommendations. For this, a dataset from moviepilot has been made avail-

able, with information related to concepts from the world of cinema, e.g. single movies, movie universes (such as the world of Harry Potter movies), upcoming details (trailers, teasers, news, etc).

At the end of the challenge, a live evaluation session took place during which participants demonstrated how algorithms trained on offline data where evaluated online, on real users. The aim of this track was to find the right audience for a given movie. This movie has not necessarily been released already (as it might be in production), so the overall goal is to generate a large impact on the recommended item in terms of interaction in the social networks of those users to whom the movies are recommended. The aim of the hands on session was to expose participants into the types of information that they would be expecting to handle when working on such systems, as well as bring them in direct contact with the technical team of a deployed service where recommendation is core.

3. SCIENCEREC TRACK

This track focused on recommendations to users about scientific papers that they might be interested in, using a data set that comes from the Mendeley system[1]. The aim was to share recommendation approaches and discuss issues like:

- the types of scientific recommendation services that social research platforms like Mendeley can implement

- the types of data sets that could help advance research around scientific paper recommendation

Submissions used the already published Mendeley dataset [2] which came out after the 1st DataTEL Challenge of the 2010 Workshop on Recommender Systems in Technology Enhanced Learning (RecSysTEL) [3]. The Track asked participants to use and evaluate their approaches in an off-line manner, as well as invited them to propose their approaches for relevant services, navigational interfaces, visualizations of recommendations etc. Thus it welcomed submissions that combined the data set with the Mendeley API[2].

During the interactive part of the workshop, participants had the opportunity to discuss with the Mendeley technical team about ways in which their ideas and proposals could be incorporated into a large-scale real-world system like Mendeley, and get insight into the way that such systems are being maintained and extended in the industry.

4. OVERVIEW

The Recommender Systems Challenge 2012 took place on September 13th, 2012, as a full day workshop that included sessions both focusing on algorithmic evaluations as well as hands-on experience with real datasets, APIs, recommender systems software and systems.

5. ACKNOWLEDGMENTS

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