Information Retrieval Journal

http://www.springer.com/10791

Call for Papers

Special Issue on
eCommerce Search and Recommendation

Introduction

Search, ranking and recommendations have applications ranging from traditional web search to document databases to vertical search systems. In this special issue we will explore approaches for search and recommendations of products, as well as other aspects of eCommerce Information Retrieval. Although the task is the same as web-page search (fulfill a user's information need), the way in which this is achieved is very much different. On product sites (such as eBay, Flipkart, Amazon, and Alibaba), the traditional web-page ranking features are either not present or are present in a different form - and the use of these features varies accordingly.

The entities that need to be discovered (the information that fulfills the need) might be unstructured, associated with structure, semi-structured, or have facets such as: price, ratings, title, description, seller location, and so on. Domains with such facets raise interesting research challenges such as a) relevance and ranking functions that take into account the tradeoffs across various facets with respect to the input query b) recommendations based on entity similarity c) recommendations based on user location (e.g. shipping cost), and so on. In the case of eCommerce search and recommendation, these challenges require inherent understanding of product attributes, user behavior, and the query context. Unlike document and web search, product sites are also characterized by the presence of a dynamic inventory with a high rate of change and turnover, and a long tail of query distribution.

Topics of interest

The special issue relates to all aspects of eCommerce search and recommendation. Research topics and challenges that are usually encountered in this domain include (but are not limited to):

- System architecture
- Algorithms for ranking and recommendation
- Machine learning techniques such as online learning and deep learning for eCommerce applications
- Semantic representation for users, products and services & semantic understanding of queries
- Structured data and faceted search
- The use of domain specific facets in search and other IR tasks
- Temporal dynamics for search and recommendation

- Models for relevance and ranking for multi-faceted entities
- Deterministic (and other) sorting of results lists (e.g. price low to high including postage)
- Personalized search and recommendations
- Session aware and session oriented search and recommendations
- Inventory display issues (example: legal, ethical, and spam)
- Cold start issues and approaches to addressing cold start
- Personalization and the use of personal facets such as age, gender, location etc.
- Indexing efficiency incorporating structured product data and catalog information
- Indexing and search in a rapidly changing environment (for example, an auction site)
- Scalability
- Diversity in product search and recommendations
- Strategies for resolving extremely low (or no) recall queries
- Query intent
- Semantic understanding of queries
- The use of external features such as reviews and ratings in ranking
- User interfaces and personalization
- Reviews and sentiment analysis
- The use of social signals in ranking and beyond
- The balance between business requirements and user requirements (revenue vs relevance)
- Trust
- Live experimentation
- Desktop and mobile issues
- Questions and answering, chatbots for eCommerce
- Transfer learning and multi-task learning applications in eCommerce
- Conversational commerce: shopping using voice assistants such as Amazon Alexa and Google Now
- Fashion eCommerce

Special Issue Guest Editors

Jon Degenhardt, eBay Inc., USA
Surya Kallumadi, Kansas State University, USA
Andrew Trotman, University of Otago, New Zealand (contact: andrew@cs.otago.ac.nz)

Important Dates

Initial submissions due: December 15, 2018
Initial reviewer feedback: February 15, 2019
Revised submission due: April 15, 2019
Final reviews and notification: May 15, 2019

Paper Submission

Papers submitted to the special issue must be original, and must not be under consideration for publication anywhere else. Data that have already been used in previously published work can only be reused if the research questions and analysis framework are new.

All papers are to be submitted by referring to **http://www.springer.com/10791** (submit online). At the beginning of the submission process in Editorial Manager, under "Article Type", please select the appropriate special issue.

All manuscripts must be prepared according to the journal publication guidelines which can also be found on the website provided above. Papers will be evaluated following the journal's standard review process.

For inquiries on the above please contact **Andrew Trotman (andrew@cs.otago.ac.nz).**