IFUP: Workshop on Multi-dimensional Information Fusion for User Modeling and Personalization

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ABSTRACT
Recommendation system has become an important component in many real applications, ranging from e-commerce, music app to video-sharing site and online book store. The key of a successful recommendation system lies in the accurate user/item profiling. With the advent of web 2.0, quite a lot of multimodal information has been accumulated, which provides us with the opportunity to profile users in a more comprehensive manner. However, directly integrating multimodal information into recommendation system is not a trivial task, because they may be either homogeneous or heterogeneous, which requires more advanced method for both fusion and alignment. This workshop aims to provide a platform for discussing the challenges and corresponding innovative approaches in fusing multi-dimensional information for user modeling and recommender systems. We hope more advanced technologies can be proposed or inspired, and also we hope that the direction of integrating different types of information can catch much more attention in both academic and industry.

KEYWORDS
Information Fusion; User Modeling; Multi-dimensional

2 WORKSHOP RELEVANCE
The timing of WSDM 2018 is perfect for hosting the workshop with a concentration on recommendation system, with no potential conflict from other major conferences in this community. The location is also a good match for its convenience to attract researchers from over the world. This recommender system related workshop is also very much a good fit for the WSDM community, for its broad interest to researchers both from the IR community and the web mining community. Besides, multi-modal data analysis has recently been a very hot and important research topic for not only the recommender system researchers, but also researchers from other communities regarding intelligent information processing. As a result, we can well expect that a large amount of the WSDM participants will be interested in attending the workshop this year.
3 TARGET AUDIENCE
The target audience of this workshop includes but not limited to: Academic researchers (or people from industrial) who are interested in the fields related to recommendation system, information fusion or user behavior analysis. We plan this workshop as a half-day event, and it will consist of an invited talk and a series of presentations. The number of attendees is expected to be around 30.

4 THEME AND TOPICS
Papers should elaborate on theories and methods of information fusion for user modeling and personalization. The interesting topics include: (1) user modeling and user preference inference; (2) general recommender systems; (3) recommendation methods to fuse multi-dimensional information and (4) recommendation issues to be addressed. Topics of interest include but are not limited to:

- Multiple Information Fusion for Recommendation: Heterogeneous Information Analysis for Recommendation, Structured and Unstructured Data Analysis for Recommendation.
- User Modeling with Multimodal Information: User modeling with heterogeneous data, User modeling based on social media, User modeling based on big data analytics, Preference inference based on explicit/implicit feedback.
- Addressing Special Issues in Recommender Systems: Resolving Cold-start and Data Sparsity with Auxiliary Information, Enhancing Recommendation Novelty and Explainability, Scalability when Integrating Multiple kinds of Auxiliary Information, Toolkits to Improve the Reproducibility of Recommendation Models.

5 PARTICIPATION AND SELECTION PROCESS
For the authors of accepted papers, at least one of the paper authors must attend and present their paper at the workshop to ensure the paper appearance in the proceedings of the workshop. Papers will be subject to double blind peer review in which the reviewers do not know the author’s identity. In order to make blind reviewing possible, authors must omit their names and affiliations from the paper. Selection criteria include originality of ideas, correctness, clarity, significance of results and quality of presentation. The workshop will have a two-tier program committee, with the program chairs and program committee members. The decision of the Program Committee will be final and cannot be appealed. All workshop submissions must be formatted according to ACM SIG Proceedings template, and the submissions can be made in either long (max 8 pages) or short (max 4 pages) format. Authors should submit original papers in PDF format through the Easychair system.

6 ORGANISING/PROGRAM COMMITTEE
The organizers have a very broad background in the field of recommendation system and data mining, which will help to attract top researchers in this area and expand the influence of this workshop. The following members form the program committee of the workshop:

- Paolo Cremonesi, Politecnico di Milano
- Xiangnan He, National University of Singapore
- Bin Li, NICTA, Australia
- Xin Liu, Institute for Infocomm Research, Singapore
- Weike Pan, Shenzhen University, China
- Alan Said, CWI
- Yue Shi, Yahoo
- Yao Wu, Twitter
- Fuzheng Zhang, Microsoft Research Asia
- Yong Zheng, DePaul University, USA

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