CALL FOR PAPERS
ACM Transactions on Information Systems
Special Issue on Graph Technologies for User Modeling and Recommendation

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Graphs are powerful data structures that naturally represent the relationships of data objects, and graph learning technologies enhance traditional learning methods by modeling the relationships. As most data in user-oriented services can be naturally organized as graphs, graph technologies have attracted increasingly more attention and achieved immense success, especially in two major research topics — user modeling and recommendation.

The aim of this multidisciplinary special issue is to bring together active researchers around the world from Informative Retrieval, Data Mining, Machine Learning, Social Computing, Natural Language Processing, Public Health, and Multimedia, and to combine perspectives and research across diverse domains. It will focus on the application of graph learning and reasoning techniques for user modeling and recommendation, including user profiling, behavior modeling, personalized search and recommendation, mobility modeling, and fraud detection, across user-item interaction graph, social network, knowledge graph, spatial-temporal graph, transaction network, heterogeneous information network, and so on. In addition to prevalent graph learning models like random walk, graph embedding and graph neural networks, researchers are encouraged to actively explore more recent advances, such as adversarial attack and defense, causal inference and reasoning, self-supervised learning, pre-training, deep reinforcement learning, disentangled learning, and interactive learning. Moreover, this special issue will present a stage for researchers to focus attention on new pillars of next-generation graph learning, such as explainability, trust, robustness, fairness, and privacy.

Topics of Interest
We solicit original contributions developing graph technologies for user modeling and recommendation, including but not limited to the following topics:

- User profiling and demographic inference
- User personality discovery and analysis
- Behavior modeling of individuals, groups, and communities
- Fraud, misinformation and malicious user detection
- Collaborative/Social/Sequential recommendation
- Conversational/Context-aware personalized search and recommendation
- Knowledge graph reasoning for personalized search and recommendation
- Large-scale user modeling and recommendation
- Trust, fairness, and privacy on user modeling and recommendation
- Causal graphs for user modeling and recommendation
- Adversarial attack and defense on personalized search and recommendation
- Explainable user modeling and recommendation with graphs

Submission Information
Submissions to this special issue will follow the regular TOIS submission guidelines (**https://dl.acm.org/journal/tois/author-guidelines**). Submissions must accompanied by a cover letter containing all of the following: (1) Confirm that the paper is not currently under submission at another journal or conference. (2) Confirm that the paper is substantially different from any previously published work. (3) Confirm that none of the co-authors is a Guest Editor for this special session. (4) Disclose possible conflicts of interest with Guests Editors.

Papers with a "Major Revision" decision should be resubmitted within 3 months, and with a "Minor Revision" decision should be resubmitted within 1 month. Revised submissions must be accompanied with a detailed response to reviewers explaining what revisions were implemented. The editors will conduct second-round review process and give the decision (accept or reject or need further revision) in one month.

Important Dates
- **Submission deadline EXTENDED to: November 14, 2020**
- **Results of first round of reviews:** February 14, 2021
- **Tentative publication date:** October 2021

Association for Computing Machinery

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