Recommendation in Social Media: Recent Advances and New Frontiers

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ABSTRACT

The pervasive use of social media generates massive data in an unprecedented rate and the information overload problem becomes increasingly severe for social media users. Recommendation has been proven to be effective in mitigating the information overload problem, demonstrated its strength in improving the quality of user experience, and positively impacted the success of social media. New types of data introduced by social media not only provide more information to advance traditional recommender systems but also manifest new research possibilities for recommendation. In this tutorial, we aim to provide a comprehensive overview of various recommendation tasks in social media, especially their recent advances and new frontiers. We introduce basic concepts, review state-of-the-art algorithms, and deliberate the emerging challenges and opportunities. Finally we summarize the tutorial with discussions on open issues and challenges about recommendation in social media. Updated information about the tutorial can be found at `http://www.public.asu.edu/~jtang20/Recommendation.htm`.

Who Should Attend

The intended audience for this tutorial mainly includes researchers, graduate students, and professionals who are new to this area or who already have some experience with data mining. The audience is expected to have some basic understanding of social network analysis, data mining, and machine learning. However, the tutorial will be presented at college junior/senior level and should be comfortably followed by academic researchers and practitioners from the industry.

Instructors

Jiliang Tang is a senior PhD student of Computer Science and Engineering at Arizona State University. He was awarded the 2014 ASU President's Award for Innovation, Best Paper Shortlist in WSDM13, the 3rd Place Dedicated Task 2 Next Location Prediction of Nokia Mobile Data Challenge 2012, University Graduate Fellowship, and various Student Travel Awards and Scholarships. His research interests are in computing with online trust and distrust, recommendation, mining social media data, data mining and feature selection. He co-presents tutorials in KDD14, WWW14 and Recsys14, and has published innovative works in highly ranked journals and top conference proceedings. He worked as a research intern in Yahoo!Labs and IBM Research.

Jie Tang is an associate professor at the Department of Computer Science and Technology, Tsinghua University. He serves as the director of Scientific Office of the Department of Computer Science. His main research interests include social network analysis and data mining. He has been a visiting scholar at Cornell University, Chinese University of Hong Kong, Hong Kong University of Science and Technology, and Leuven University. He has published over 100 research papers in major international journals and conferences. He serves as PC Co-Chair of WSDM'15, ADMA'11, SocInfo'12, Poster Co-Chair of KDD'14, Workshop Co-Chair of KDD'13, Local Chair of KDD'12, Publications Co-Chairs of KDD'11, and also serves as the PC member of more than 50 international conferences. He is now leading the project Arnetminer.org for academic social network analysis and mining, which has attracted millions of independent IP accesses from 220 countries/regions in the world. He was honored with the CCF Young Scientist Award, NSFC Excellent Young Scholar, and IBM Innovation Faculty Award.

Huan Liu is a professor of Computer Science and Engineering at Arizona State University. He obtained his Ph.D. in Computer Science at University of Southern California and B.Eng. in Computer Science and Electrical Engineering at Shanghai JiaoTong University. Before he joined ASU, he worked at Telecom Australia Research Labs and was on the faculty at National University of Singapore. He was recognized for excellence in teaching and research in Computer Science and Engineering at Arizona State University. His research interests are in data mining, machine learning, social computing, and artificial intelligence, investigating problems that arise in many real-world, data-intensive applications with high-dimensional data of disparate forms such as social media. His well-cited publications include books, book chapters, encyclopedia entries as well as conference and journal papers. He serves on journal editorial boards and numerous conference program committees, and is a founding organizer of the International Conference Series on Social Computing, Behavioral-Cultural Modeling, and Prediction. He is an IEEE Fellow and an ACM Distinguished Scientist.

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