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Spatio-Temporal Recommendation in Social Media

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ISSN 2191-5768 ISSN 2191-5776 (electronic)
SpringerBriefs in Computer Science
ISBN 978-981-10-0747-7 ISBN 978-981-10-0748-4 (eBook)
DOI 10.1007/978-981-10-0748-4

Library of Congress Control Number: 2016939068

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Printed on acid-free paper

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To all who make our lives worthwhile

Preface

In this book, we will guide you through the world of spatiotemporal recommendation in social media, which aims to help users find their potentially preferred items by mining the spatiotemporal data generated by the users in social media sites and apps. The spatiotemporal data imply extensive knowledge about individuals' behaviors, mobility, and interests. It also bridges the gap between the online social networks and the physical world, which enables us to better understand the users, improve user experiences, and design optimal recommendation systems. Targeted advertisement recommendation in social media is one of the application scenarios, which is predicted to generate hundreds of billions of dollars revenue.

However, spatiotemporal recommendation in social media is a highly challenging research problem because of the temporal dynamics of users' behaviors and interests, users' interests drift over geographical regions, data sparsity and cold start in the specific spatiotemporal contexts (e.g., when users travel out of town or to new cities). Moreover, users' generated spatiotemporal data in social media arrives in a timely fashion (e.g., data stream), making this problem much more difficult. Most traditional recommender techniques encounter various limitations and insufficiency.

Our book covers the major fundamentals and the state-of-the-art research of new generation spatiotemporal recommendation system in social media. This book provides researchers and developers a rich blend of theory and practice to help them explore this exciting field and develop new methods and application scenarios. It is also suitable for advanced undergraduates and graduate students, since each chapter is a tutorial that provides readers with an introduction to one important aspect of spatiotemporal recommendation in social media and also contains many valuable references to relevant research papers.

February 2016

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Acknowledgments

This work is partially supported by the Discovery Early Career Researcher Award (DE160100308) and ARC Discovery Project (DP140103171). It is also partially supported by National Natural Science Foundation of China (Grant No. 61572335, 61272155, 61232006, 61303164, 61402447) and 973 program of China (Grant No. 2014CB340405). The authors conducted the research at Peking University and the University of Queensland. During the process of writing this book, we refer to the scientific researches of many scholars and experts. Hence, we would like to express our heartfelt thanks to them. We have been accompanied by a number of people who helped to shape the outcome of this book in one way or another. Hereby, we want to take this opportunity to convey our gratitude.

We thank Prof. Xiaofang Zhou, Prof. Shazia Sadiq, Dr. Kai Zheng, Dr. Sen Wang, Dr. Quoc Viet Hung Nguyen, and Weiqing Wang at the University of Queensland for their countless discussions and comments. Meanwhile, we want to thank Dr. Qi Liu at University of Science and Technology of China, Dr. Ling Chen from University of Technology Sydney, Dr. Yizhou Sun from Northeastern University, Prof. Wen-Chih Peng from National Chiao Tung University, A/Prof. Hao Wang from Institute of Software Chinese Academy of Science, Prof. Lei Zhao from Soochow University, and the editors Celine Chang and Jane Li at Springer for their valuable feedback to improve the presentation of this book.

Also, we worked with many great colleagues at the Data and Knowledge Engineering group, the University of Queensland, on a day-to-day basis. Thank you guys for the great work atmosphere, your sense of humor, and for making the frequent long working hours not feel that bad.

Last but not least, we would like to thank our own families for having our back. Thanks for all of your kind understanding and great support.

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