

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.

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