



## Probabilistic Approaches to Recommendations (Paperback)

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Morgan Claypool Publishers, United States, 2014. Paperback. Condition: New. Language: English . Brand New Book. The importance of accurate recommender systems has been widely recognized by academia and industry, and recommendation is rapidly becoming one of the most successful applications of data mining and machine learning. Understanding and predicting the choices and preferences of users is a challenging task: real-world scenarios involve users behaving in complex situations, where prior beliefs, specific tendencies, and reciprocal influences jointly contribute to determining the preferences of users toward huge amounts of information, services, and products. Probabilistic modeling represents a robust formal mathematical framework to model these assumptions and study their effects in the recommendation process. This book starts with a brief summary of the recommendation problem and its challenges and a review of some widely used techniques. Next, we introduce and discuss probabilistic approaches for modeling preference data. We focus our attention on methods based on latent factors, such as mixture models, probabilistic matrix factorization, and topic models, for explicit and implicit preference data. These methods represent a significant advance in the research and technology of recommendation. The resulting models allow us to identify complex patterns in preference data, which can be exploited to predict...



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