Informatik-Kolloquium

Fachgruppe Informatik

Lehrstuhl für Informatik 9

RHEINISCH-WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN

EINLADUNG

Zeit: Freitag, 16. März 2012, 11:00 Uhr

Ort: AH 6, Ahornstr. 55

Referent: Prof. Martin Ester
Simon Fraser University, Vancouver, Kanada

Titel: Probabilistic Models for Data Mining in Social Media

Social media are media for social interaction, using highly accessible and scalable communication techniques to create and exchange user-generated content. While conventional media such as newspapers and TV are restricted to professional authors and are expensive to produce, social media are associated with low costs and allow large numbers of amateurs to publish their content. Another distinctive feature of social media is the support of various forms of interaction among content producers and consumers, e.g. by sharing, rating, and commenting on user-generated content. While social media sites provide a rapidly increasing wealth of potentially valuable content, their huge size makes it very hard for users to find the most relevant content. Therefore, researchers are exploring novel data mining methods to exploit the full potential of social media.

In this talk, we focus on social rating networks, social networks in which edges represent social relationships and users (nodes) express ratings on some of the given items. In the first part of the talk, we present a probabilistic generative model for social rating networks which models the bidirectional effects of ratings and social relationships. The second part of the talk addresses recommender systems, systems which recommend items of interest to users based on preferences they have expressed. Social networks promise to improve the quality of recommender systems by exploiting the social influence within the network, i.e. the effect that users trust their friends and are influenced by their opinions and preferences. We present a model-based approach for recommendation, incorporating a social network and the full process of trust propagation into the well-established matrix factorization framework. The last part of the talk explores opinion mining from online product reviews, whose goal is to summarize the opinions of large numbers of such reviews. For this task we present the Interdependent Latent Dirichlet Allocation (ILDA) model. The talk concludes with a brief discussion of interesting directions for future research on data mining in social media.

Es laden ein: Die Dozenten der Informatik