

DSSR Workshop (2020.12.3 14:00-)

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Title

Marketing Models for Customer Engagement Behaviors by Using Large Scale and Unstructured Data

Abstract

The modern consumers often use social media platform to express their opinions about products and services to deepen their relationships with companies and brands. These behaviors are called customer engagement behavior (CEB), and they have been attracting a lot of attention in recent years especially in the field of marketing aiming to on large scale and immediately analyze the drivers and effects of consumer behaviors. The main features of these CEB are the large scale and unstructured nature of the data, and the machine learning approaches have been developed in the fields of statistics and information science for handling such nature, but while the model structure can be black-box as long as it produces good results such as prediction and summarization. Therefore, I address the unsolved and important issues in the marketing field, the development of new marketing models for the CEB data analysis, by applying and reconstructing machine learning methods while retaining effective model structures of the conventional marketing models to understand the driving factors and the spillover effects of consumer behaviors.

In this seminar, after briefly introducing the whole contents of my doctoral thesis, I talk on the proposed network model considering the text information on social media to simultaneously understand the community structure on the network and the interest topics of the community members. Furthermore, I extend this model by making the edge generation probability different for each node to consider the node degree heterogeneity, which is often observed in a real social network (e.g., influential users. The empirical analysis using Twitter dataset not only shows that the models can provide interpretable community and topic structure from the network data, but also discusses the effectiveness of the simultaneous consideration of the network and text information on the estimation and results and the predictive performance through the model comparison with comparable alternatives.