Personalized Data-Driven Systems

Yongfeng Zhang
UMass Amherst

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Abstract

Recent years have witnessed a prospering of data-driven systems, such as e-commerce, social networks, online learning, digital health, and sharing economy applications. These systems have accumulated a large amount of user-generated data, which help to personalize the user preferences, understand their information needs, and provide satisfactory experience for the users. However, the data can come in very heterogeneous, dynamic, and extremely unstructured forms, such as free-texts, ratings, click series, images, or videos, which make it a difficult task to profile the users for personalized services. In this talk, I will introduce data-driven techniques for personalized recommendation systems, which include 1) Leveraging sentiment analysis on textual reviews for explainable recommendation; 2) Modeling the shifting of user preferences for dynamic recommendation; 3) Unified representation learning from heterogeneous data sources for multi-view preference modeling; and 4) The economic nature of online systems. As a conclusion of the talk, I will also provide my future vision on personalization theories for broader and emerging application scenarios, such as personalized education, personalized healthcare, personalized smart home devices, NLP for recommendation, and privacy-preserving recommendation systems.

Bio

Yongfeng Zhang is a Postdoc Research Associate in Computer Science at UMass Amherst. His research interest is on Machine Learning and Data Science spanning a range of domains, including Personalization Theories, Computational Economics, Information Retrieval, and Question Answering. He obtained his PhD and BE degree in Computer Science from Tsinghua University, and BS in Economics from Peking University. Before joining UMass Amherst, he was an Assistant Specialist in Computer Science at UC Santa Cruz, and a visiting researcher in School of Computing at the National University of Singapore. He has been regularly publishing on top conferences

including WWW, SIGIR, AAAI, IJCAI, WSDM, and many others, and has been serving as program committee member or area chair in WWW, SIGIR, IJCAI, WSDM, and CIKM. He is a Siebel Scholar and a Baidu Scholar, and his research was funded by the Microsoft PhD Fellowship, IBM PhD Fellowship, and Google Research Fellowships.

Faculty Host: Ahmed Elgammal and Alex Borgida