Predicting the Helpfulness of Online Product Reviews

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Abstract: While online shopping is rapidly changing retailing and our life, it has generated a massive amount of data: the product reviews. Reviews are a major motivation that consumers shop online. However, there are often too many reviews and too much noise in the reviews. We need artificial intelligence (AI), especially natural language processing (NLP) and machine learning (ML), to help consumers find out helpful reviews for better online shopping experience. In this talk, Dr. Bao will discuss about his work on using semantic analysis and hierarchical topic modeling to measure the helpfulness of reviews. Experimental results show that through those two techniques, helpfulness prediction can align much better with human-rated helpfulness. It also facilitates us to understand what makes a review helpful and show many interesting directions of future NLP research. Ultimately, this study on product reviews can be extended to many other kinds of online reviews, such as hotel reviews, doctor reviews, etc.

Bio: Dr. Bao is an assistant professor of computer engineering at University of Akron, where he joined in fall 2013. His research interests are on artificial intelligence (AI) and biomedical data analytics (computational biology and computational neuroscience). In AI, he works on combining natural language processing (NLP) and knowledge representation (KR). His current research is funded by National Science Foundation (NSF), Federal Aviation Administration (FAA) and Air Force Research Lab (AFRL). He received his PhD degree in Computer Science with a minor in Electrical Engineering from Texas Tech University in August 2012. From September 2012 to August 2013, he was a postdoc at Stony Brook University (SUNY Stony Brook) and Texas Tech University.