KEYNOTE TALK 5 (October 10, 10:35-11:35)

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Title of the talk: Big Data Analysis in Social Media Applications

Abstract: Various social media applications have generated lot of data, provided many challenges as well as opportunities to dig into user behaviors, discover helpful knowledge, offer information service, and so on. In this talk, we will discuss big data analysis in three social media applications: (1) Language model smoothing on social networks: we propose to tackle the Achilles Heel of social networks by smoothing the language model via influence propagation. We formulate a socialized factor graph model, which utilizes both the textual correlations between document pairs and the socialized augmentation networks behind the documents, such as user relationships and social interactions. These factors are modeled as attributes and dependencies among documents and their corresponding users, (2) Video Popularity Prediction by Sentiment Propagation via Implicit Network: we present a Dual Sentimental Hawkes Process (DSHP) to deal with all the challenging issues in existing approaches. DSHP lifts "Linear Correlation" assumption, reveals deeper factors that reflect a video's popularity; and it is topology free, (3) Mobile App Retrieval: leverage user reviews to find out important features of apps and bridge vocabulary gap between app developers and users, specifically, jointly model app descriptions and user reviews using topic model in order to generate app representations while excluding noise in reviews.

Biography: Xiaohua Hu is a professor and the founding Co-Director of the NSF Center (I/U CRC) on Visual and Decision Informatics (NSF CVDI), IEEE Computer Society Bioinformatics and Biomedicine Steering Committee Chair, and IEEE Computer Society Big Data Steering Committee Chair. He joined Drexel University in 2002. Earlier, he worked as a research scientist in Nortel Research Center, and Verizon Lab (the former GTE labs). In 2001, he founded the DMW Software in Silicon Valley, California. His current research interests are in data/text/web mining, big data and bioinformatics. He has published more than 270 peer-reviewed research papers in various journals, conferences and books. His research projects are funded by the National Science Foundation (NSF), US Dept. of Education, the PA Dept. of Health, the Natural Science Foundation of China (NSFC). He has obtained more than US$8.0 million research grants in the past 8 years as PI or Co-PI (PIs of 7 NSF grants, PI of 1 IMLS grant in the last 8 years), has graduated 15 Ph.D. students from 2006 to 2015 and is currently supervising 12 Ph.D. students.