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Fairness-Aware Predictive Modeling of Human Event Data

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Abstract: Large volumes of human event data, such as online TV viewing records, disaster rescue requests, and electronic records of hospital admissions, are becoming increasingly available in a wide variety of applications including social network analysis, smart cities, and healthcare analytics. Predictive modeling of those collective event sequences is beneficial for improving event response efficiency and promoting nationwide economic development. Although current machine learning algorithms can achieve significant event prediction accuracy, the historic data or the self-excitation property can introduce biased prediction. In this talk, we introduce a series of novel models and algorithms to analyze human events to balance between prediction accuracy and fairness. Specifically, we investigate point processes and deep learning methods to improve event prediction accuracy. Furthermore, we introduce a fairness metric that can efficiently evaluate the ranking fairness in event prediction and use the metric to penalize the event likelihood function and to strike a balance between accuracy and fair loss. ¶¶ Biography: I am an Associate Professor in the Division of Computer Science and Engineering in the School of Electrical Engineering and Computer Science at Louisiana State University. I received my Ph.D. degree in Computer Science from the Georgia Institute of Technology in 2012. I received my Master's degree in Computer Science from the University of Kentucky in 2006 and my Bachelor's degree in Computer Science and Engineering from Zhejiang University, China in 2004. I was a Senior Scientist with the playlist recommendation group, Pandora Media, Inc. from 2012 to 2015. ¶¶ <http://csc.lsu.edu/msun/> ¶¶ **Join Zoom Meeting**

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