The University of Chicago Computer Science Department

PRESENTS:

"Data-driven Models of User Behavior"

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Abstract:
The human user is a critical component in today's networked systems, as content producers, consumers, and occasionally attackers and defenders. Given the wide range of motivations that drive user actions, understanding and characterizing user behavior can be instrumental in improving the performance and robustness of online systems.

In this talk, I will present some of our efforts to improve security by using data-driven techniques to characterize and model complex human behaviors. First, I will talk about experiences using "clickstream similarity graphs," a range of unsupervised models that reveals natural clusters of correlated user behavior in online systems, using server-side logs of user-generated events (clickstreams). We use clickstream analysis to capture anomalous users and previously unknown attacks in large online systems. Second, I describe our results on highly interpretable behavior models, which help us to characterize user behavior at multiple levels of granularity and track their behavioral changes over time. Finally, I summarize our recent work on the security of mobile apps, as well as new efforts to study security problems in the context of applied machine learning.

Bio:
Ben Zhao is a Professor in the Computer Science department at U. C. Santa Barbara. He completed his PhD from Berkeley (2004) and his BS from Yale (1997). He is an ACM distinguished scientist, and recipient of the NSF CAREER award, MIT Technology Review's TR-35 Award (Young Innovators Under35), Computer World Magazine's Top 40 Tech Innovators award, Google Faculty award, and IEEE ITC Early Career Award. His work has been covered by media outlets such as New York Times, Boston Globe, LA Times, MIT Tech Review, and Slashdot. He has published roughly 140 publications in areas of security and privacy, networked/distributed systems, wireless networks, data-mining and HCI (H-index 56). He recently served as TPC co-chair for the World Wide Web Conference (WWW 2016).

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