

Seminar Series

Monday, September 16, 2019

3:30pm

Vandenberg Room, Michigan League



Predictive Analytics in Healthcare: From Anomaly Detection to Development of Clinical Decision Support Systems

Elyas Sabeti, PhD

Abstract: A central question in the era of “big data” is what to do with the enormous amount of information. Predictive Analytics answer this question by providing a platform in which historical data is being learned for the best decision to be made about future. In healthcare, the ultimate goal of this process is to detect an anomaly and to develop diagnostic tools. In this talk, examples of Predictive Analytics using information-theoretic and machine learning approaches with applications in healthcare are provided.

Bio: Elyas Sabeti is a Research Fellow at Michigan Institute for Data Science (MIDAS), University of Michigan (UM), Ann Arbor. Prior to joining MIDAS, Elyas was a Postdoctoral Research Fellow at Department of Computational Medicine and Bioinformatics, UM. He obtained his Ph.D. of Electrical Engineering in December 2017.



The Strength of Long-Range Ties

Patrick Park, PhD

Abstract: Four decades of small-scale social network research has widely assumed that interpersonal connections bridging socially distant groups are weak, comprised of sporadic and emotionally distant relationships. However, in this study using data from eleven culturally diverse population-scale phone and Twitter communication networks on four continents, I find that previously unobservable *long-range* bridging ties can be nearly as strong as the socially proximate non-bridging ties that share a common friend. Evidence from content, temporal, and geographic analyses suggests that these strong connections spanning extraordinarily distant network communities are emotionally expressive, socially oriented relationships. The discovery of relationally strong, long-range bridging ties have implications for the speed and breadth of social contagion.

Bio: Patrick Park is a computational social scientist pursuing a sociological understanding of the structure and evolution of large-scale social networks and their consequences for social contagion, economic action, and social inequality. His works appeared in *Science*, *Social Networks*, *PLoS One*, and *Lecture Notes in Computer Science*. As MIDAS Data Science Fellow, Patrick uses social media data to study how networks adapt to societal shocks (e.g., natural disasters).

MIDAS gratefully acknowledges Wacker Chemie AG
for supporting the MIDAS Seminar Series.

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