CoCo Seminar Series
Fall 2017

[CoCo/Data Science TWG Joint Seminar]

Using Big Data, Social Networks, and Agent-Based Modeling to Understand Information Diffusion

Bill Rand, Asst Professor, Poole College of Management
North Carolina State University

Tuesday, November 7th, 2017 2:00-3:00 pm (note the irregular time)
Engineering Building H-9 (Knoll-MacDonald Commons / Watson Commons)

With the increasing abundance of 'digital footprints' left by human interactions in online environments, e.g., social media and app use, the ability to model such behavior has become increasingly possible. Many approaches have been proposed, however, most previous model frameworks are fairly restrictive, and often the models are not directly compared on a diverse collection of human behavior. We will explore a new modeling approach that enables the creation of models directly from data with no previous restrictions on the data. We will explore the application of this method to three different problems: (1) the prediction of individual activity on social media, (2) the forecasting of optimal messaging times on social media, and (3) understanding marketing channel attribution. We will explore this in the context of large-scale, individual level collections of consumer and user behavior. This work illustrates the power and usefulness of an individual-level approach to modeling and understanding large datasets.

Bill Rand is an Assistant Professor of Marketing at the Poole College of Management at NC State University, specializing in the intersection of marketing and computer science. His research focuses on data-driven decision-making and the diffusion of information among consumers and organizations. To do this he examines the use of computational modeling techniques, such as agent-based modeling, machine learning, network analysis, natural language processing, and geographic information systems, to help understand and analyze complex systems, such as the social media marketing, organizational behavior, and predictive analytics. He has applied his methods to analyze big data sets that have been drawn from social media platforms, marketing communications, and large-scale software systems. He works to develop methods, create pedagogy, and build frameworks to allow researchers and marketing practitioners to use analytics and data-intensive methods in their own work. He has received funding for his research from the NSF, DARPA, ARL, Google, WPP, and the Marketing Science Institute. His work has been published in JM, JMR, IJRM, Management Science, and JOM. He received his doctorate in Computer Science from the University of Michigan in 2005 and prior to coming to NCSU was at the University of Maryland for eight years.

For more information, contact Dr. Andreas Pape (apape@binghamton.edu). http://coco.binghamton.edu/