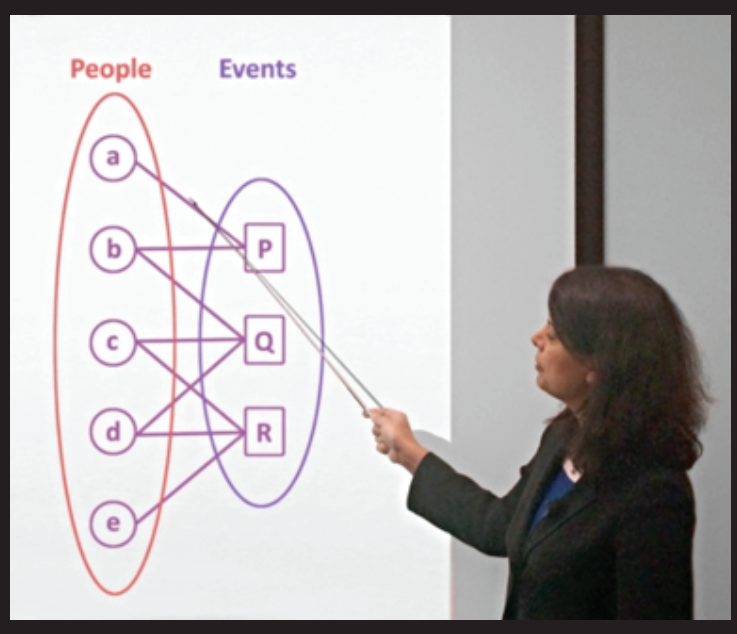
The School of Electrical Engineering and Computer Science
The Department of Mathematics & Statistics, and
The Analysis+Data Group
Present

Distinguished Speaker Series in Data Science

Tina Eliassi-Rad

Associate Professor of Computer Science
Rutgers University



Thursday, March 10, 2016
7:00 p.m.
Goertzen Communication Addition 21

Learning, Mining and Graphs

BIO

Tina Eliassi-Rad is an Associate Professor of Computer Science at Rutgers University. Before joining academia, she was a Member of Technical Staff and Principal Investigator at Lawrence Livermore National Laboratory. Tina earned her Ph.D. in Computer Sciences (with a minor in Mathematical Statistics) at the University of Wisconsin-Madison. Her current research lays at the intersection of graph mining, network science, and computational social science. Within data mining and machine learning, Tina's research has been applied to the World-Wide Web, text corpora, large-scale scientific simulation data, complex networks, fraud detection, and cyber situational awareness. She has published over 60 peer-reviewed papers (including a best paper runner-up award at ICDM'09 and a best interdisciplinary paper award at CIKM'12); and has given over 100 invited presentations. Tina is an action editor for the Data Mining and Knowledge Discovery Journal and a member of the editorial board for the Springer Encyclopedia of Machine Learning and Data Mining. In 2010, she received an Outstanding Mentor Award from the US DOE Office of Science. For more details, visit http://eliassi.org.

ABSTRACT

In this talk, I will discuss three dependent graph-mining problems ranging from theory to algorithms to applications. (1) Measuring tie-strength: Given a set of people and a set of events attended by them, how should we measure connectedness or tie strength between each pair of persons? The underlying assumption is that attendance at mutual events produces an implicit social network between people. (2) Role discovery: given a graph, how can we automatically discover roles (or functions) of nodes? Roles should compactly represent structural behaviors of nodes and generalize across various graphs. (3) Network similarity: Given two networks (without known node-correspondences), how should we measure similarity between them? This problem occurs frequently in many real-world applications such as efficacy of transfer learning, re-identification, and change detection.

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