

COMPUTER SCIENCE RESEARCH SEMINAR

A Probabilistic Approach to Modeling Socio-Behavioral Interactions

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Abstract: The vast growth and reach of the Internet and social media have led to a tremendous increase in socio-behavioral interaction content on the web. The ever-increasing number of online interactions has led to a growing interest to understand and interpret online communications to enhance user experience. My work focuses on building scalable computational methods and models for representing and reasoning about rich, heterogeneous, interlinked socio-behavioral data. In this talk, I focus on one such emerging online interaction platform---online courses (MOOCs) and present a family of probabilistic models to represent and reason about complex socio-behavioral interactions in the following real-world problems: 1) modeling student engagement, 2) predicting student completion and dropouts, 3) modeling student sentiment in discussion forums toward various course aspects (e.g., academic content vs. logistics) and its effect on their course completion, 4) designing an automatic system to predict fine-grained topics and sentiment in online course discussion forums, and 5) modeling evolution of topics in repeated offerings of online courses. These methods have the potential to improve learning and teaching experience of online education participants and focus limited instructor resources to increase student retention.

Bio: Arti Ramesh is an assistant professor in Department of Computer Science at Binghamton University. She received her PhD in Computer Science from University of Maryland, College Park. Her primary research interests are in the field of machine learning, data mining, and natural language processing, particularly probabilistic graphical models. Her research focuses on building scalable models for reasoning about interconnectedness, structure, and heterogeneity in socio-behavioral networks. She has published papers in peer-reviewed conferences such as AAAI and ACL. She has served on the TPC/reviewer for notable conferences such as NIPS, SDM, and EDM. She has won multiple awards during her graduate study including the Ann G. Wylie Dissertation Fellowship, outstanding graduate student Dean's fellowship 2016, Dean's graduate fellowship (2012 – 2014), and yahoo scholarship for grace hopper.

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Pizza will be provided!