

Computer Science Seminar Series

National Capital Region

Probabilistic Soft Logic

Speaker: Dr. Bert Huang
University of Maryland/Virginia Tech
Friday, October 3, 2014
1:00PM - 2:00PM, NVC 207

Abstract

Data-driven computing applications are rapidly changing the world. The data underlying these applications comes from the messy, complex, and interconnected real world. Computational tools for analyzing this data therefore require new models and algorithms to handle this modern setting. In this talk, I'll cover a new tool called *probabilistic soft logic* (PSL), a logic-based language for probabilistic modeling of complex phenomena. I'll review several applications of PSL to diverse tasks involving analysis of natural networks, social behavior, and microbiology. Then I'll detail the mathematical semantics and foundation behind PSL, which has important ties to distinct concepts in computer science, from fuzzy logic to weighted maximum satisfiability. Finally, I'll discuss various new methods for machine learning of PSL models from data.

Biography



Bert Huang is currently a postdoctoral research associate at the University of Maryland. In December, he will join the Department of Computer Science at Virginia Tech as an assistant professor. Previously, Bert earned his doctorate from Columbia University. His research investigates the theory, algorithms, and applications involving machine learning of probabilistic models for structured domains, focusing on settings where structure comes from natural network phenomena.