



BRIGHAM YOUNG UNIVERSITY

CS Department Colloquium Series



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1170 TMCB, 11:00 A.M.

Unifying Logical and Statistical AI

Abstract

Intelligent agents must be able to handle the complexity and uncertainty of the real world. Logical AI has focused mainly on the former and statistical AI on the latter. Markov logic combines the two by attaching weights to first-order formulas and viewing them as templates for features of Markov networks. Inference algorithms for Markov logic draw on ideas from satisfiability, Markov chain Monte Carlo and knowledge-based model construction. Learning algorithms are based on the voted perceptron, pseudo-likelihood and inductive logic programming. Markov logic has been successfully applied to problems in entity resolution, link prediction, information extraction and others, and is the basis of the open-source Alchemy system.

Biography

Pedro Domingos is Associate Professor of Computer Science and Engineering at the University of Washington. His research interests are in artificial intelligence, machine learning and data mining. He received a PhD in Information and Computer Science from the University of California at Irvine, and is the author or co-author of over 100 technical publications. He is a member of the advisory board of JAIR, a member of the editorial board of the Machine Learning journal, and a co-founder of the International Machine Learning Society. He was program co-chair of KDD-2003, and has served on numerous program committees. He has received several awards, including a Sloan Fellowship, an NSF CAREER Award, a Fulbright Scholarship, an IBM Faculty Award, and best paper awards at KDD-98, KDD-99 and PKDD-2005.

Donuts will be provided