

# Global Inference and Learning: Towards Natural Language Understanding

An invited talk in AAAI'06

Dan Roth  
Department of Computer Science  
University of Illinois at Urbana-Champaign  
Urbana, IL 61801-2302, USA  
[danr@uiuc.edu](mailto:danr@uiuc.edu)

The maturity of machine learning techniques allows us today to learn many low level natural language predicates and generate an appropriate vocabulary over which reasoning methods can be used to make significant progress in natural language understanding.

I will describe research on a framework that combines learning and inference. Our Inference with Classifiers approach allows the output of local classifiers for different problem components to be assembled into a whole that reflects global preferences and constraints. Examples will be drawn from wh attribution in natural language processing (determining who did what to whom when and where) and textual entailment (determining whether one utterance is a likely consequence of another).

**Bio:** Dan Roth is a Professor in the Department of Computer Science at the University of Illinois at Urbana-Champaign. Roth has published broadly in machine learning, natural language processing, knowledge representation and reasoning and has developed advanced machine learning based tools for natural language applications that are being used widely by the research community. Among his paper awards are the best paper award in IJCAI-99 and the 2001 AAAI Innovative Applications of AI Award. Roth was the program chair of CoNLL'02 and of ACL'03 and is an associate editor for JAIR and the Machine Learning Journal. Roth got his Ph.D in Computer Science from Harvard University in 1995.