Speaker: Percy Liang, Google

Title: Models of Natural Language Semantics

Abstract:

Since the mid-1990s, statistical modeling has revolutionized the field of natural language processing. These models have grown in complexity over time to capture richer linguistic phenomena, thus enabling the development of practical systems for linguistic analyses, machine translation, information extraction, etc. However, one of the main challenges is modeling the semantics of natural language utterances.

Towards this end, I will present two models of semantics. In both cases, the semantics are represented as a discrete structure — an alignment+segmentation in the former and a logical formula in the latter. However, these structures are latent and must be inferred from data. Learning complex structures from weak supervision is an important theme, and we will also present a framework for estimating exponential family models given linear constraints.

About this Speaker: Percy Liang is currently a post-doc at Google and will be starting as an assistant professor at Stanford next fall. He obtained his B.S./M.S. from MIT and Ph.D. from UC Berkeley. The general theme of his research, which spans machine learning and natural language processing, is learning richly-structured statistical models from limited supervision, most recently in the context of program induction and natural language semantics. He has won a best student paper at the International Conference on Machine Learning in 2008, received the NSF, GAANN, and NDSEG fellowships, and is also a 2010 Siebel Scholar.