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"Weakly Supervised Learning of Semantic Parsers in Interactive Systems"

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1:30-2:30pm
CIT 368

Situated linguistic interactions provide many opportunities for autonomous language learning. For example, an agent can learn to improve its language facility through trial and error, by asking questions and imitating experts. In this talk, I will describe two approaches that use situated interactions to learn to map sentences to rich meaning representations. In both cases, we show accurate interactive learning while treating meaning as latent, thereby avoiding the high cost of data annotation typically required for such semantic analysis tasks. In the first instance, we show how a dialog system can learn from failures. Similarly, for an agent following instructions, we describe learning through trial and error with joint interpretation and execution of instructions. In both instances we induce a log-linear weighted CCG semantic parser, which includes both parsing parameters and a lexicon. Such approaches, when integrated into complete systems, promise the potential of continuous improvement through automatic learning.

Yoav Artzi is a Ph.D. candidate working with Luke Zettlemoyer in the Computer Science & Engineering department at the University of Washington, Seattle. His research studies the acquisition of grounded natural language understanding within interactive systems. His work focuses on modeling semantic representations and designing weakly supervised learning algorithms. Prior to that, he completed a B.Sc. in Computer Science in Tel Aviv University. He is a recipient of the 2012 Yahoo Key Scientific Challenge award.

This presentation is part of the HCRI's multidisciplinary speaking program that showcases diverse and groundbreaking research undertaken by leaders in science, technology, design, and impact of robotics on society.