Deep Multitask Learning for Semantic Dependency Parsing
Hao Peng¹, Sam Thomson², Noah A. Smith¹
¹University of Washington, ²Carnegie Mellon University

Overview

- Semantic graphs - expensive to annotate. Fragmented efforts across competing theories.
- Motivation - exploit implicit overlap among different theories.
- Contributions - state-of-the-art basic model; two orthogonal multitask approaches.

Basic Model

Scoring function - BiLSTM and MLPs

Objective - Structured hinge

Results - SemEval 2015 shared task

Multitask Models

- Multilinear cross-task part scoring - Low rank of parameter tensor $W$ enforced by construction.

Model variants

Results - SemEval 2015 shared task

Analysis

- Both multitask techniques improve upon the basic model

References