



TUPA at MRP 2019

A Multi-Task Baseline System

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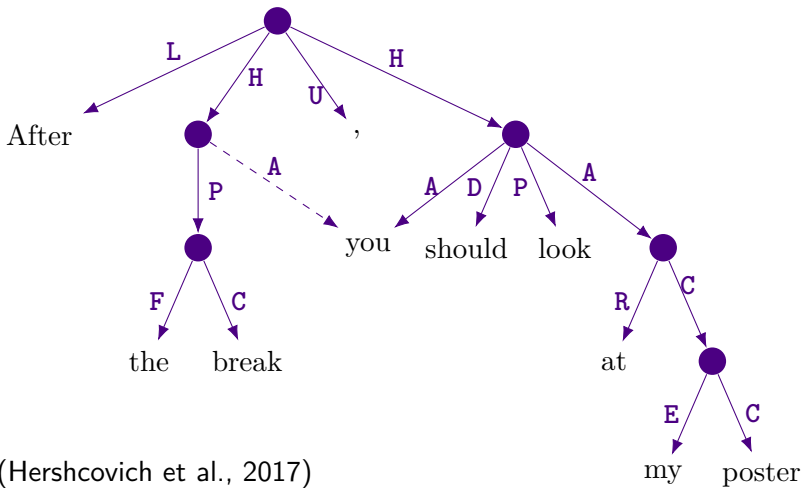
²Hebrew University of Jerusalem

CoNLL Shared Task

3 November 2019



Transition-Based UCCA Parser



(Herscovich et al., 2017)

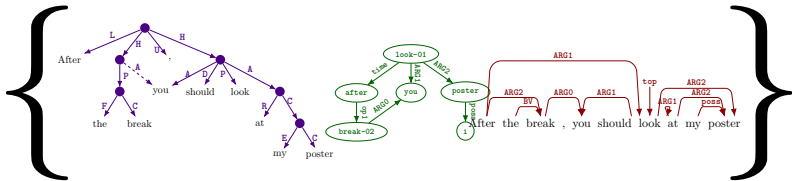


Scarcity of Training Data

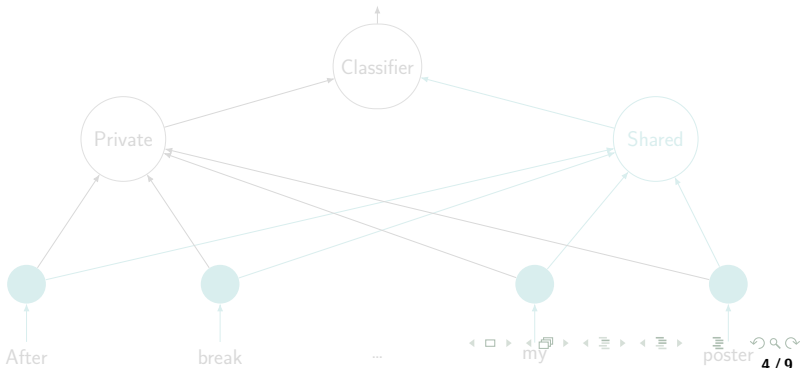




Multi-Task Parser

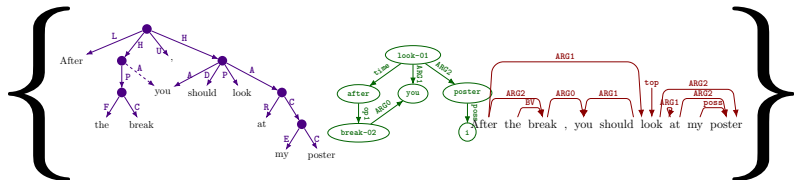


Multi-task improves UCCA parsing (Herscovich et al., 2018).

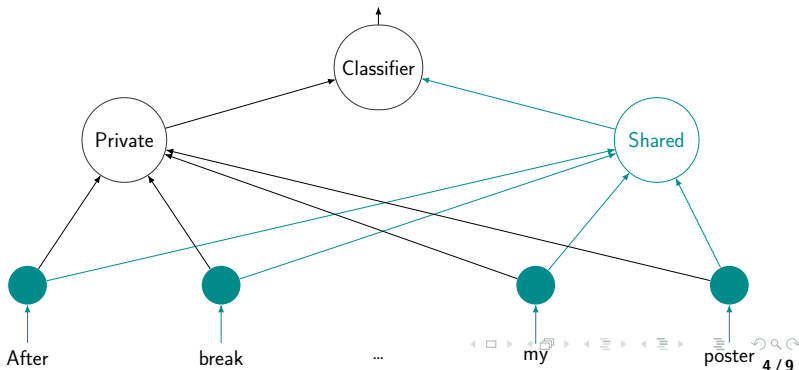




Multi-Task Parser



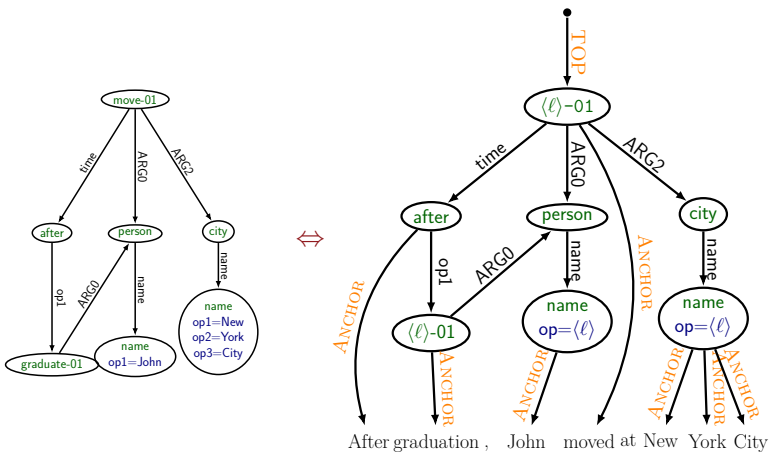
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MRP

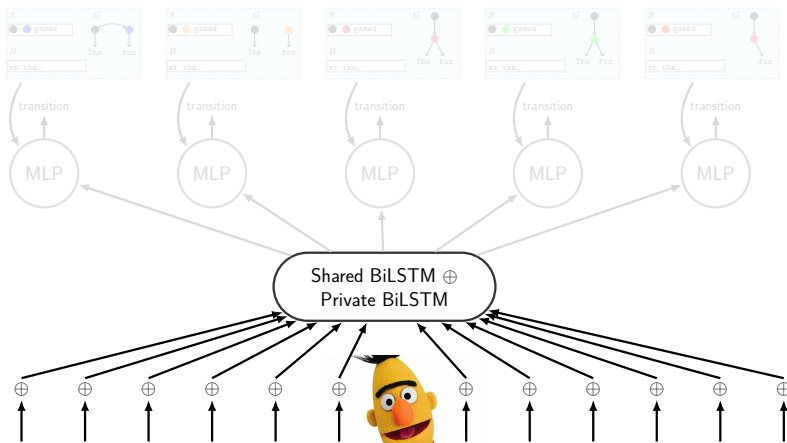
Intermediate graph representation,
extended transition system.





Transition Classifier

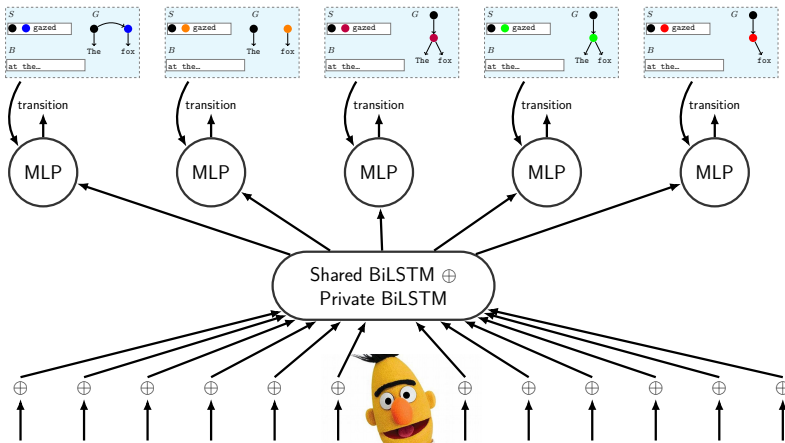
BiLSTM + BERT (Devlin et al., 2019).





Transition Classifier

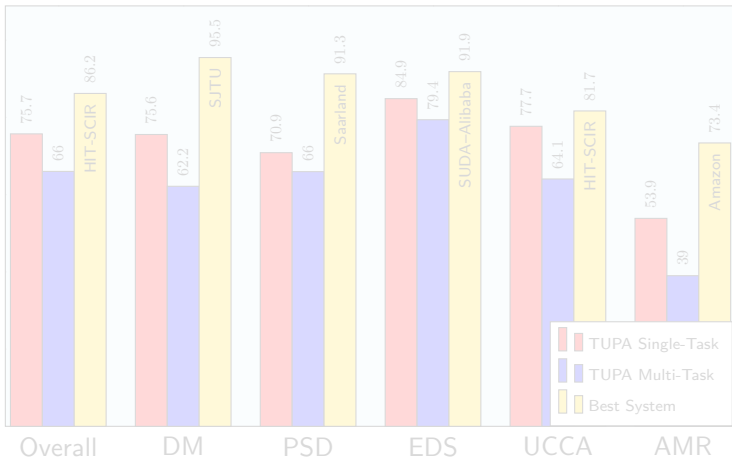
BiLSTM + BERT (Devlin et al., 2019).





Results

Baseline: single-task + multi-task.

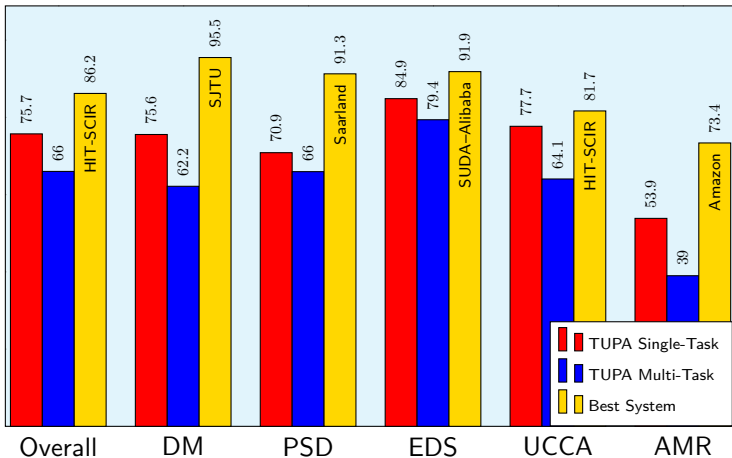


Full Evaluation MRP F-score (%). TUPA scores are post-evaluation.



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References

- Jacob Devlin, Ming-Wei Chang, Kenton Lee, and Kristina Toutanova. 2019. BERT: Pre-training of deep bidirectional transformers for language understanding. In *Proc. of NAACL*, pages 4171–4186.
- Daniel Hershcovich, Omri Abend, and Ari Rappoport. 2017. A transition-based directed acyclic graph parser for UCCA. In *Proc. of ACL*, pages 1127–1138.
- Daniel Hershcovich, Omri Abend, and Ari Rappoport. 2018. Multitask parsing across semantic representations. In *Proc. of ACL*, pages 373–385.