TUPA at
MRP 2019

Daniel
Hershcovich

Results
Representation
Transitions
Classifier
References

TUPA at MRP 2019
A Multi-Task Baseline System

Daniel Hershcovich[1],   Ofir Arviv[2]

[1]University of Copenhagen
[2]Hebrew University of Jerusalem

CoNLL Shared Task
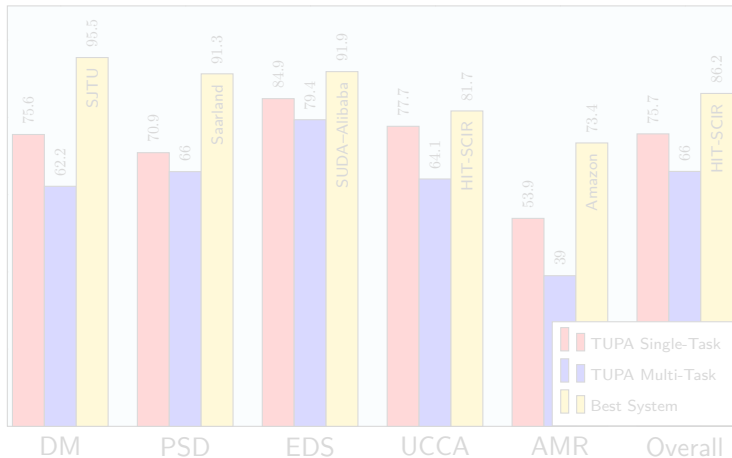3 November 2019

TUPA at
MRP 2019

Daniel
Hershcovich

Results

Representation

Transitions

Classifier

References

Shared Task Results

Baseline: single-task + multi-task.

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

Shared Task Results

TUPA at MRP 2019

Daniel Hershcovich

Results

Representation

Transitions

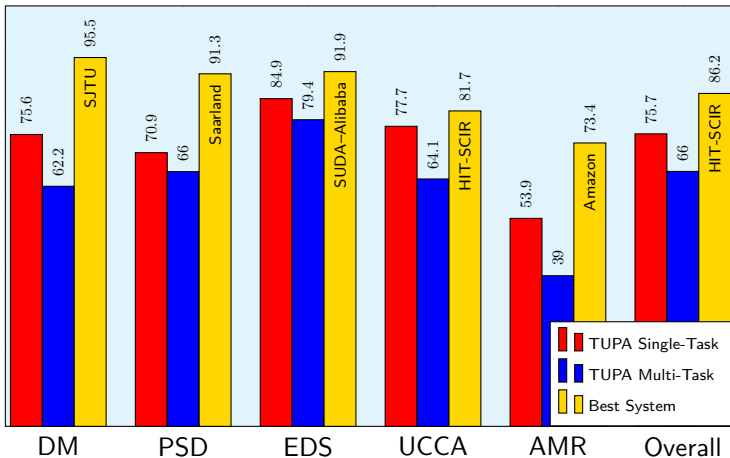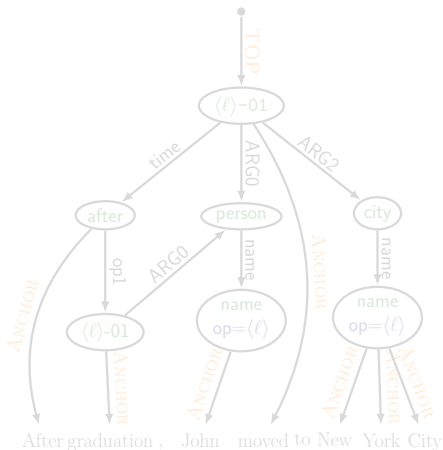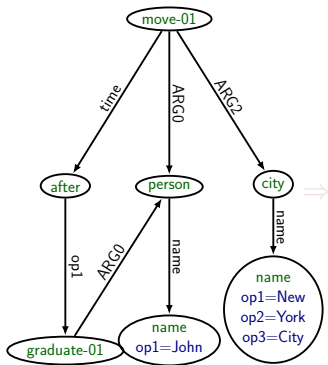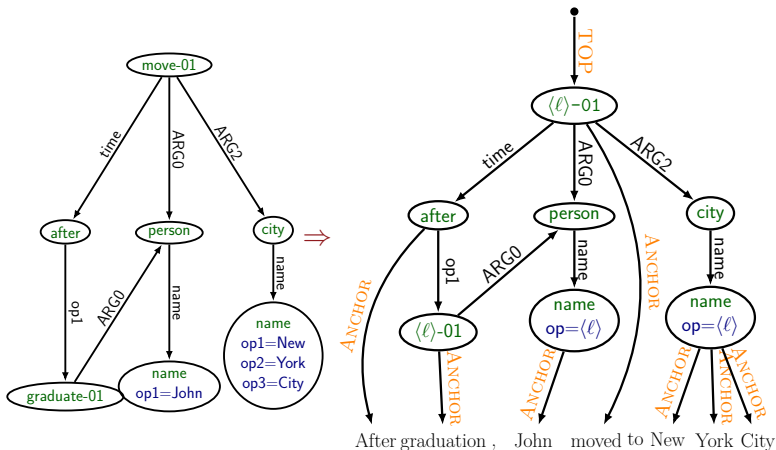Classifier

References

Baseline: single-task + multi-task.

	DM	PSD	EDS	UCCA	AMR	Overall
TUPA Single-Task	75.6	70.9	84.9	77.7	53.9	75.7
TUPA Multi-Task	62.2	66	79.4	64.1	39	66
Best System	95.5 (SJTU)	91.3 (Saarland)	91.9 (SUDA–Alibaba)	81.7 (HIT-SCIR)	73.4 (Amazon)	86.2 (HIT-SCIR)

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

TUPA at
MRP 2019

Daniel
Hershcovich

Results

Representation

Transitions

Classifier

References

Intermediate Graph Representation

Made for UCCA (Hershcovich et al., 2017, 2018), generalized.

TUPA at
MRP 2019
Daniel
Hershcovich

Results

Representation

Transitions

Classifier

References

Intermediate Graph Representation

Made for UCCA (Hershcovich et al., 2017, 2018), generalized.

TUPA at
MRP 2019

Daniel
Hershcovich

Results

Representation

Transitions

Classifier

References

Transition System

Supports general DAGs.

SHIFT
REDUCE
NODE$_X$
CHILD$_X$
LABEL$_X$
PROPERTY$_{X=Y}$
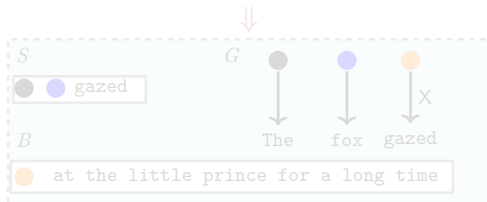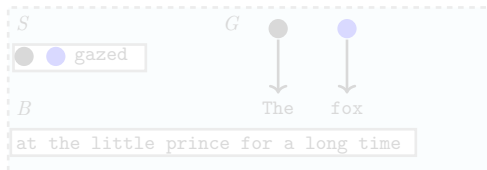LEFT-EDGE$_X$
RIGHT-EDGE$_X$
ATTRIBUTE$_{X=Y}$
SWAP
FINISH

TUPA at
MRP 2019

Daniel
Hershcovich

Results

Representation

Transitions

Classifier

References

Transition System

Supports general DAGs.

SHIFT
REDUCE
NODE$_X$
CHILD$_X$
LABEL$_X$
PROPERTY$_{X=Y}$
LEFT-EDGE$_X$
RIGHT-EDGE$_X$
ATTRIBUTE$_{X=Y}$
SWAP
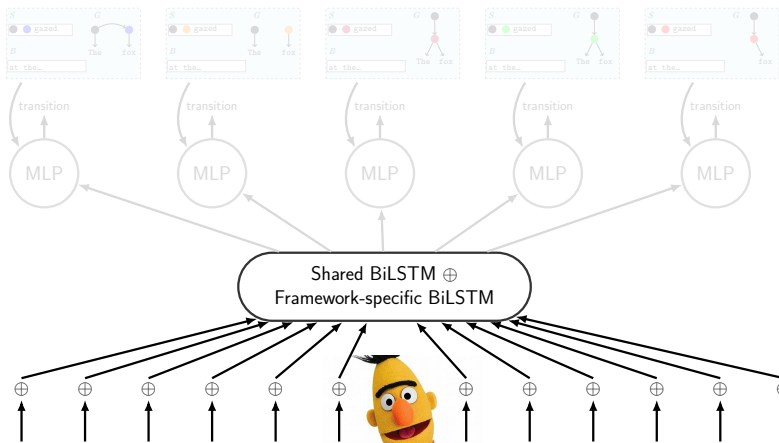FINISH

TUPA at
MRP 2019
Daniel
Hershcovich

Results
Representation
Transitions
Classifier
References

Transition Classifier

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

TUPA at
MRP 2019
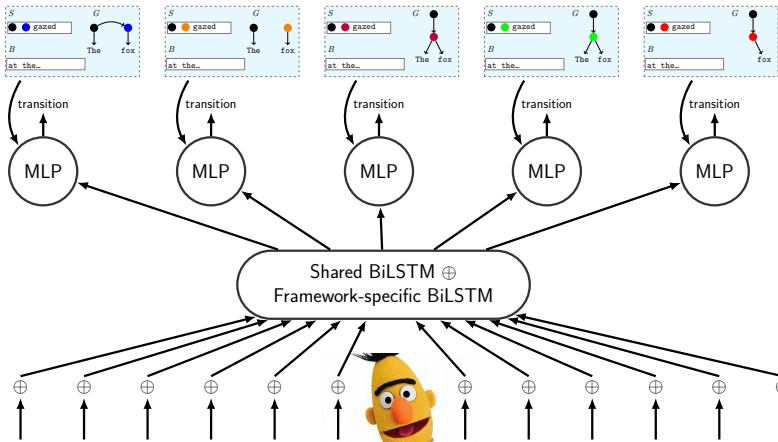
Daniel
Hershcovich

Results

Representation

Transitions

Classifier

References

Transition Classifier

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

References

TUPA at
MRP 2019
Daniel
Hershcovich

Results
Representation
Transitions
Classifier
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.