

Pengxiang Cheng

CONTACT INFORMATION

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EDUCATION

University of Texas at Austin, Austin, TX
Ph.D. candidate in Computer Science, expected June 2020
Thesis: Learning Better Latent Representations from Semantic Knowledge
Advisor: Katrin Erk

Tsinghua University, Beijing, China
B.Eng. in Automation and B.Econ. in Economics, July 2013

PUBLICATIONS

Pengxiang Cheng, Katrin Erk. 2020. Attending to Entities for Better Text Understanding. *Proceedings of AAAI Conference on Artificial Intelligence (AAAI)*.

Pengxiang Cheng, Alex Tomkovich, Eric Holgate, Su Wang, Katrin Erk. 2019. The UTexas System for TAC 2019 SM-KBP Task 3: Hypothesis Detection with Graph Convolutional Networks. *Proceedings of Text Analysis Conference (TAC)*.

Pengxiang Cheng, Katrin Erk. 2019. Implicit Argument Prediction as Reading Comprehension. *Proceedings of AAAI Conference on Artificial Intelligence (AAAI)*.

Pengxiang Cheng, Eric Holgate, Katrin Erk. 2018. The UTexas System for TAC SM-KBP Task 3: Probabilistic Generation of Coherent Hypotheses. *Proceedings of Text Analysis Conference (TAC)*.

Pengxiang Cheng, Katrin Erk. 2018. Implicit Argument Prediction with Event Knowledge. *Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL)*.

I. Beltagy, Stephen Roller, **Pengxiang Cheng**, Katrin Erk, Raymond Mooney. 2016. Representing Meaning with a Combination of Logical and Distributional Models. *Computational Linguistics (CL)*, 42(4).

Yalin Sun, **Pengxiang Cheng**, Shengwei Wang, Hao Lyu, Matthew Lease, Iain Marshall, Byron C. Wallace. 2016. Crowdsourcing Information Extraction for Biomedical Systematic Reviews. *4th AAAI Conference on Human Computation and Crowdsourcing (HCOMP): Works-in-Progress Track*.

RESEARCH EXPERIENCE

Computational Linguistics Lab, UT Austin August 2014 – present
Graduate Research Assistant working with Dr. Katrin Erk

- Investigated different techniques of integrating semantic knowledge into end-to-end neural models for better natural language understanding and reasoning.
- Designed and implemented the UTexas team pipeline for the DARPA AIDA project on generating coherent hypotheses from large knowledge graphs.
- Developed new methods to infer implicit predicate-argument relations from the raw text with linguistic knowledge of events and entities.
- Built compositional distributional models for phrase representations on recognizing textual entailment and semantic textual similarity.

	Center for Perceptual Systems, UT Austin August 2013 – May 2014 Graduate Research Assistant working with Dr. Dana Ballard <ul style="list-style-type: none"> • Studied computational muscle control in humanoid movement. • Developed an efficient representation of muscle length changes using sparse decomposition to simulated the motor primitives of human gait.
INDUSTRY EXPERIENCE	Google, Mountain View, CA May 2015 – August 2015 Software Engineering Intern at Google Payments team <ul style="list-style-type: none"> • Designed and optimized tools and APIs for processing and correcting sensitive payments and workflow data. Google, Mountain View, CA May 2014 – August 2014 Software Engineering Intern at Machine Intelligence team <ul style="list-style-type: none"> • Improved an ontological word sense disambiguation (WSD) system by exploiting WordNet knowledge and dependency parses to augment training data. • Tested different classification models and evaluation benchmarks for WSD.
TEACHING EXPERIENCE	CS 389L: Automated Logic Reasoning, UT Austin Spring 2017 Teaching Assistant (Instructor: Isil Dillig) CS 345H: Programming Languages: Honors, UT Austin Fall 2016 & Fall 2017 Teaching Assistant (Instructor: Thomas Dillig) LIN 353C: Introduction to Computational Linguistics, UT Austin Spring 2015 Teaching Assistant (Instructor: Katrin Erk) CS 378: Computer Vision & 3D Reconstruction, UT Austin Fall 2014 Teaching Assistant (Instructor: Bryan Klingner) CS 342C: Computational Brain, UT Austin Spring 2014 Teaching Assistant (Instructor: Dana Ballard)
SERVICE	<ul style="list-style-type: none"> • Program Committee member (reviewer): ACL 2020, IJCAI 2020, AAAI 2020, DeepLo Workshop at EMNLP 2019, NAACL 2018 (secondary)
HONORS AND AWARDS	<ul style="list-style-type: none"> • Academic Excellence Scholarship, Tsinghua University, 2011 • Academic Excellence Scholarship, Tsinghua University, 2010 • Silver Medal at Chinese Physics Olympiad, 2008
SKILLS	<ul style="list-style-type: none"> • Languages: Python, Java, C++, C, MATLAB • Toolkits: PyTorch, TensorFlow, Theano