

Pengxiang Cheng

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EXPERIENCE **Bloomberg**, New York, NY September 2020 – present
Senior Research Scientist at Bloomberg AI

- Developed algorithms and tools for named entity recognition and linking on news, social media, and financial documents.
- Built and maintained core NLP functionalities to support developing and deploying various NLP models and pipelines across the company.

Google, Mountain View, CA May 2015 – August 2015
Software Engineering Intern at Google Payments team

- 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

- Improved an ontological word sense disambiguation (WSD) system by exploiting WordNet knowledge and dependency parses to augment training data.

EDUCATION **The University of Texas at Austin**, Austin, TX
Ph.D. in Computer Science, August 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 – June 2020

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.
- Developed new methods to infer implicit predicate-argument relations from the raw text by modeling narrative coherence and entity salience.
- Designed and implemented the UTexas system for the DARPA AIDA project on generating coherent hypotheses from large knowledge graphs.
- Built compositional distributional models for phrase representations on recognizing textual entailment and semantic textual similarity tasks.

Center for Perceptual Systems, UT Austin August 2013 – May 2014

Graduate Research Assistant working with Dr. Dana Ballard

- Studied computational muscle control in humanoid movement.
- Developed an efficient representation of muscle length changes using sparse decomposition to simulate the motor primitives of human gait.

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

- Program Committee member (reviewer): AAAI, ACL, ACL Rolling Review, EACL, EMNLP, IJCAI, NAACL
 - Outstanding reviewer for EACL 2021, EMNLP 2020

HONORS AND AWARDS

- Academic Excellence Scholarship, Tsinghua University, 2011
- Academic Excellence Scholarship, Tsinghua University, 2010
- Silver Medal at Chinese Physics Olympiad, 2008