Pengxiang Cheng

CONTACT
INFORMATION

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919 3rd Avenue
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EXPERIENCE

Bloomberg, New York, NY   September 2020 – present
Senior Research Scientist at Bloomberg AI
- Designed and maintained algorithms and tools for named entity recognition and linking on news, social media, and various financial documents.

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.
- Tested different classification models and evaluation benchmarks for WSD.

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 Marshal, 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): ACL 2021, NAACL 2021, EACL 2021 (outstanding reviewer), AAAI 2021, EMNLP 2020 (outstanding reviewer), ACL 2020, IJCAI 2020, AAAI 2020, DeepLo Workshop at EMNLP 2019, NAACL 2018 (secondary)

HONORS AND
AWARDS

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