

# Junxian He

Email: junxianh2@gmail.com

Homepage: <https://jxhe.github.io>

**Research Interests:** I am generally interested in natural language processing and machine learning.

## EMPLOYMENT

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### Tenure-track Assistant Professor

Aug. 2022 - present

John Hopcroft Center for Computer Science  
Shanghai Jiao Tong University

## EDUCATION

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### Ph.D. in Language Technologies

Sep. 2017 - Jun. 2022

Carnegie Mellon University, Language Technologies Institute in the School of Computer Science  
Advisor: Graham Neubig and Taylor Berg-Kirkpatrick

### B.Eng. in Electronic Engineering

Sep. 2013 - Jul. 2017

Shanghai Jiao Tong University  
Rank: 1/176; Overall GPA: 92.4/100

## PAST EMPLOYMENT

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### Research Intern, Salesforce Research

May. 2020 - Aug. 2020

Mentor: Bryan McCann

### Research Intern, Facebook AI Research

May. 2019 - Aug. 2019

Mentor: Dr. *Jiatao Gu* and Dr. *Marc'Aurelio Ranzato*

### Visiting Scholar, Carnegie Mellon University

Oct. 2016 - Feb. 2017

Advisor: Prof. *Eric Xing*

### Visiting Scholar, University of Illinois Urbana-Champaign

Jul. 2016 - Sep. 2016

Advisor: Prof. *Kevin Chang*

## AWARDS AND HONORS

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Baidu PhD Fellowship (awarded 10 Chinese PhD Students across the world) 2020

2021 Global Top 100 Chinese Rising Stars in Artificial Intelligence 2021

Outstanding Undergraduate Thesis (top 1%) 2017

National Scholarship in China (top 2%) 2014, 2015, and 2016

## PUBLICATIONS

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\* denotes equal contribution.

- [1] **J. He\***, C. Zhou\*, X. Ma, T. Berg-Kirkpatrick, G. Neubig. *Towards a Unified View of Parameter-Efficient Transfer Learning*. International Conference on Learning Representations (ICLR), 2022. **Spotlight (5%)**.
- [2] F. Xu, **J. He**, G. Neubig, V. Hellendoorn. *Capturing Structural Locality in Non-parametric Language Models*. International Conference on Learning Representations (ICLR), 2022.
- [3] **J. He**, G. Neubig, T. Berg-Kirkpatrick. *Efficient Nearest Neighbor Language Models*. Conference on Empirical Methods in Natural Language Processing (EMNLP), 2021.
- [4] J. Shen, P. Chen, M. Le, **J. He**, J. Gu, M. Ott, M. Auli, M. Ranzato. *The Source-Target Domain Mismatch Problem in Machine Translation*. Conference of the European Chapter of the Association for Computational Linguistics (EACL), 2021.

- [5] R. Su, S. Rijhwani, H. Zhu, **J. He**, X. Wang, Y. Bisk, G. Neubig. *Dependency Induction Through the Lens of Visual Perception*.  
The SIGNLL Conference on Computational Natural Language Learning (CoNLL), 2021
- [6] **J. He**, W. Kryciski, B. McCann, N. Rajani, C. Xiong. *CTRLsum: Towards Generic Controllable Text Summarization*  
Preprint 2020
- [7] **J. He**, T. Berg-Kirkpatrick, G. Neubig. *Learning Sparse Prototypes for Text Generation*.  
Conference on Neural Information Processing Systems (NeurIPS), 2020.
- [8] **J. He**<sup>\*</sup>, J. Gu<sup>\*</sup>, J. Shen, M. Ranzato. *Revisiting Self-Training for Neural Sequence Generation*.  
International Conference on Learning Representations (ICLR), 2020.
- [9] **J. He**<sup>\*</sup>, X. Wang<sup>\*</sup>, G. Neubig, T. Berg-Kirkpatrick. *A Probabilistic Formulation of Unsupervised Text Style Transfer*.  
International Conference on Learning Representations (ICLR), 2020. **Spotlight (5%)**.
- [10] B. Li, H. Zhou, **J. He**, M. Wang, Y. Yang, L. Li. *On the Sentence Embeddings from BERT for Semantic Textual Similarity*.  
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2020.
- [11] **J. He**, D. Spokoyny, G. Neubig, T. Berg-Kirkpatrick. *Lagging Inference Networks and Posterior Collapse in Variational Autoencoders*.  
International Conference on Learning Representations (ICLR), 2019.
- [12] **J. He**, Z. Zhang, T. Berg-Kirkpatrick, G. Neubig. *Cross-Lingual Syntactic Transfer through Unsupervised Adaptation of Invertible Projections*.  
Annual Conference of the Association for Computational Linguistics (ACL), 2019.
- [13] B. Li<sup>\*</sup>, **J. He**<sup>\*</sup>, T. Berg-Kirkpatrick, G. Neubig, Y. Yang, *A Surprisingly Effective Fix for Latent Variable Modeling of Text*.  
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2019.
- [14] Y. -H. Lin, C. -Y. Chen, J. Lee, Z. Li, Y. Zhang, M. Xia, S. Rijhwani, **J. He**, Z. Zhang, X. Ma, A. Anastasopoulos, P. Littell, G. Neubig. *Choosing Transfer Languages for Cross-Lingual Learning*.  
Annual Conference of the Association for Computational Linguistics (ACL), 2019.
- [15] Z. Hu, H. Shi, B. Tan, W. Wang, Z. Yang, T. Zhao, **J. He**, L. Qin, D. Wang, X. Ma, Z. Liu, X. Liang, W. Zhu, D. S. Sachan, E. P. Xing. *Texar: A modularized, versatile, and extensible toolkit for text generation*.  
Annual Conference of the Association for Computational Linguistics (ACL) Demo Track, 2019. **Best Demo Paper Nomination**.
- [16] **J. He**, G. Neubig, T. Berg-Kirkpatrick. *Unsupervised Learning of Syntactic Structure with Invertible Neural Projections*.  
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2018.
- [17] P. Yin, C. Zhou, **J. He**, G. Neubig. *StructVAE: Tree-structured Latent Variable Models for Semi-supervised Semantic Parsing*.  
Annual Conference of the Association for Computational Linguistics (ACL), 2018.
- [18] **J. He**<sup>\*</sup>, Z. Hu<sup>\*</sup>, T. Berg-Kirkpatrick, Y. Huang, E. P. Xing. *Efficient Correlated Topic Modeling with Topic Embedding*.  
ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2017.
- [19] **J. He**, Ying Huang, Changfeng Liu, Jiaming Shen, Yuting Jia, Xinbing Wang. *Text Network Exploration via Heterogeneous Web of Topics*.  
International Conference on Data Mining Workshops, 2016

## PROFESSIONAL ACTIVITIES

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Area Chair: EMNLP 2022

Reviewer: ICLR, NeurIPS, ICML, ACL, EMNLP, NAACL, ARR, TMLR

## TALKS

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AI TIME @ICLR2022	<i>Jun. 2022</i>
University of Wisconsin–Madison, NLP meetup	<i>May. 2022</i>
MLNLP	<i>May. 2022</i>
ReadPaper	<i>Apr. 2022</i>

## TEACHING

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<b>Teaching Assistant</b> , Carnegie Mellon University 11747 Neural Networks for NLP.	<i>Spring 2019</i>
<b>Teaching Assistant</b> , Carnegie Mellon University 10708 Probabilistic Graphical Models.	<i>Spring 2020</i>