

Junxian He

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

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

EMPLOYMENT

Shanghai Jiao Tong University, Shanghai, China *Oct. 2022 - present*
– **Tenure-Track Assistant Professor** at John Hopcroft Center for Computer Science

EDUCATION

Carnegie Mellon University, Pittsburgh, the United States *Sep. 2017 - Aug. 2022*
– **Ph.D. in Language Technologies**
– Language Technologies Institute in the School of Computer Science
– Advisor: Graham Neubig and Taylor Berg-Kirkpatrick

Shanghai Jiao Tong University, Shanghai, China *Sep. 2013 - Jul. 2017*
– **B.Eng. in Electronic Engineering**
– Rank: 1/176

PAST EMPLOYMENT

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*

TEACHING

Teaching Assistant, Carnegie Mellon University *Spring 2019*
11747 Neural Networks for NLP.

Teaching Assistant, Carnegie Mellon University *Spring 2020*
10708 Probabilistic Graphical Models.

PUBLICATIONS

* **denotes equal contribution.**

- [1] **J. He**, W. Kryciski, B. McCann, N. Rajani, C. Xiong. *CTRLsum: Towards Generic Controllable Text Summarization*
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2022
- [2] C. Zhou*, **J. He***, X. Ma, T. Berg-Kirkpatrick, G. Neubig. *Prompt Consistency for Zero-Shot Task Generalization*
Findings of Conference on Empirical Methods in Natural Language Processing (EMNLP Findings), 2022
- [3] **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%)**.
- [4] F. Xu, **J. He**, G. Neubig, V. Hellendoorn. *Capturing Structural Locality in Non-parametric Language Models*
International Conference on Learning Representations (ICLR), 2022.

- [5] U. Alon, F. Xu, **J. He**, S. Sengupta, D. Roth, G. Neubig. *Neuro-Symbolic Language Modeling with Automaton-augmented Retrieval*. International Conference on Machine Learning (ICML), 2022.
- [6] **J. He**, G. Neubig, T. Berg-Kirkpatrick. *Efficient Nearest Neighbor Language Models*. Conference on Empirical Methods in Natural Language Processing (EMNLP), 2021.
- [7] 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.
- [8] 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.
- [9] **J. He**, T. Berg-Kirkpatrick, G. Neubig. *Learning Sparse Prototypes for Text Generation*. Conference on Neural Information Processing Systems (NeurIPS), 2020.
- [10] **J. He***, J. Gu*, J. Shen, M. Ranzato. *Revisiting Self-Training for Neural Sequence Generation*. International Conference on Learning Representations (ICLR), 2020.
- [11] **J. He***, X. Wang*, G. Neubig, T. Berg-Kirkpatrick. *A Probabilistic Formulation of Unsupervised Text Style Transfer*. International Conference on Learning Representations (ICLR), 2020. **Spotlight (5%)**.
- [12] 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.
- [13] **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.
- [14] **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.
- [15] B. Li*, **J. He***, 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.
- [16] 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.
- [17] 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**.
- [18] **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.
- [19] 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.
- [20] **J. He***, Z. Hu*, 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.
- [21] **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

Area Chair: EMNLP 2022

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

AWARDS AND HONORS

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*