Lingpeng Kong

https://ikekonglp.github.io/

Employment

Assistant Professor, Department of Computer Science, The University of Hong Kong, 2020 - *present*
Shanghai Artificial Intelligence Laboratory, 2021 - *present*

Senior Research Scientist, Google DeepMind, 2019 - 2020
Research Scientist, Google DeepMind, 2017 - 2019
Software Engineer, IBM China Systems and Technology Lab, 2011 - 2012

Research Internships: Google DeepMind (2017), Google Research (2016), University of Washington (2015-17), Harvard University (2015), NEC Laboratories China (2011), Tsinghua University (2010).

Education

Ph.D. Computer Science, Carnegie Mellon University, 2017
Thesis topic: Neural Representation Learning in Linguistic Structured Prediction [37]
Committee: Noah A. Smith*, Chris Dyer*, Alan W. Black, Michael Collins (*co-chair)
M.S. Computer Science, Carnegie Mellon University, 2015
B.E. Computer Science, Beijing Language and Culture University, 2011

Awards and Major Service

2022 Spotlight, ICLR [19]. Area Chair, NeurIPS.
2021 Tencent AI Lab Rhino-Bird Award. Area Chair, ICLR. Spotlight, ICLR [22].
2020 Area Chair, NAACL. Spotlight, ICLR [23].
2017 Outstanding Paper Award, EACL [27].
2010 China National Scholarship.

Teaching Experience

2022 Instructor, Machine Learning, The University of Hong Kong, Spring
2021 Instructor, Natural Language Processing, The University of Hong Kong, Fall
2015 Teaching Assistant, Natural Language Processing, Carnegie Mellon University, Spring
2013 Teaching Assistant, Machine Learning, Carnegie Mellon University, Spring

Professional Activities

Journal reviewer, *Transactions of the Association for Computational Linguistics* (TACL) 2015 -
Journal reviewer, *The Journal of Artificial Intelligence Research* (JAIR) 2016 -
Area chair: NAACL (2020), NLPCC (2021), ICLR (2022), NeurIPS (2022).
Program comittee member: ICML (2020; 2019; 2018; 2017), ACL (2020; 2019; 2017; 2016), NeurIPS (2017), EMNLP (2020; 2017; 2016; 2015), ICLR (2017), NAACL (2016), COLING (2016), and other various conferences and workshops.

ADVISING

PH.D., PRE-THESIS PROPOSAL

- Lin Zheng (2021-); University Postgraduate Fellowship; [12,13,20]
- Qintong Li (2021-); [15]

GRADUATE STUDENT VISITORS AND INDEPENDENT STUDY PROJECTS

2022: Dantong Li, Jiayi Xin, Chenxin An

2021: Xijia Tao, Xiangwei Kong, Shuailong Zhu, Jiahui Gao [19], Ya-Cheng Hsu, Jakob Prange (Georgetown University) [14], Chengzu Li, Yuval Kansal, King Min Hao, Ke Ma, Jiacheng Ye

2020: Zhiyong Wu [16,20,21], Hao Peng (University of Washington) [17,22], Huijie Pan [13], Yiming Wang, Chiu Yu Ying

PUBLICATIONS

PREPRINTS & TECHNICAL REPORTS

1. Dani Yogatama, Cyprien de Masson d'Autume, Jerome Connor, Tomas Kocisky, Mike Chrzanowski, Lingpeng Kong, Angeliki Lazaridou, Wang Ling, Lei Yu, Chris Dyer, Phil Blunsom, Learning and Evaluating General Linguistic Intelligence, arXiv:1901.11373, February 2019.
2. Jiangtao Feng, Lingpeng Kong, Po-Sen Huang, Chong Wang, Da Huang, Jiayuan Mao, Kan Qiao, Dengyong Zhou, Neural Phrase-to-Phrase Machine Translation, arXiv:1811.02172, November 2018.
3. Lei Yu, Cyprien de Masson d'Autume, Chris Dyer, Phil Blunsom, Lingpeng Kong, Wang Ling, Sentence Encoding with Tree-constrained Relation Networks, arXiv:1811.10475, November 2018.
4. Chris Alberti, Daniel Andor, Ivan Bogatyy, Michael Collins, Dan Gillick, Lingpeng Kong, Terry Koo, Ji Ma, Mark Omernick, Slav Petrov, Chayut Thanapirom, Zora Tung, David Weiss, SyntaxNet Models for the CoNLL 2017 Shared Task, arXiv:1703.04929, March 2017. [Link]
5. Lingpeng Kong, Chris Alberti, Daniel Andor, Ivan Bogatyy, David Weiss, DRAGNN: A Transition-based Framework for Dynamically Connected Neural Networks, arXiv:1703.04474, March 2017. [GitHub][Google AI Blog]
6. Graham Neubig, Chris Dyer, Yoav Goldberg, Austin Matthews, Waleed Ammar, Antonios Anastasopoulos, Miguel Ballesteros, David Chiang, Daniel Clothiaux, Trevor Cohn, Kevin Duh, Manaal Faruqui, Cynthia Gan, Dan Garrette, Yangfeng Ji, Lingpeng Kong, Adhiguna Kuncoro, Gaurav Kumar, Chaitanya Malaviya, Paul Michel, Yusuke Oda, Matthew Richardson, Naomi Saphra, Swabha Swayamdipta, Pengcheng Yin, DyNet: The Dynamic Neural Network Toolkit, arXiv:1701.03980, January 2017. [GitHub]
7. Lingpeng Kong, and Noah A. Smith, An Empirical Comparison of Parsing Methods for Stanford Dependencies, arXiv:1404.4314, April 2014. [code]

PEER-REFEREED PUBLICATIONS

Journal papers

8. Dani Yogatama, Cyprien de Masson d'Autume, Lingpeng Kong, Adaptive Semiparametric Language Models, Transactions of the Association for Computational Linguistics (**TACL**), April 2021.

9. Adhiguna Kuncoro*, Lingpeng Kong*, Daniel Fried*, Dani Yogatama, Laura Rimell, Chris Dyer, Phil Blunsom, Syntactic Structure Distillation Pretraining For Bidirectional Encoders, Transactions of the Association for Computational Linguistics (**TACL**), September 2020.

10. Lei Yu, Laurent Sartran, Wojciech Stokowiec, Wang Ling, Lingpeng Kong, Phil Blunsom, Chris Dyer, Better Document-level Machine Translation with Bayes' Rule, Transactions of the Association for Computational Linguistics (**TACL**), April 2020.

11. Hao Tang, Liang Lu, Lingpeng Kong, Kevin Gimpel, Karen Livescu, Chris Dyer, Noah A. Smith, Steve Renals, End-to-End Neural Segmental Models for Speech Recognition, IEEE Journal of Selected Topics in Signal Processing, August 2017.

Peer-refereed conference publications

12. Lin Zheng, Chong Wang, and Lingpeng Kong, Linear Complexity Randomized Self-attention Mechanism, In Proceedings of the International Conference on Machine Learning, July 2022. **ICML 2022**

13. Lin Zheng, Huijie Pan, and Lingpeng Kong, Ripple Attention for Visual Perception with Sub-quadratic Complexity, In Proceedings of the International Conference on Machine Learning, July 2022. **ICML 2022**

14. Jakob Prange, Nathan Schneider, and Lingpeng Kong, Linguistic Frameworks Go Toe-to-Toe at Neuro-Symbolic Language Modeling, In Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics, July 2022. **NAACL 2022**

15. Qintong Li, Piji Li, Wei Bi, Zhaochun Ren, Yuxuan Lai, and Lingpeng Kong, Event Transition Planning for Open-ended Text Generation, In findings of the Annual Meeting of the Association for Computational Linguistics, May 2022. **ACL 2022 Findings**

16. Zhiyong Wu, Wei Bi, Xiang Li, Lingpeng Kong, and Ben Kao, Lexical Knowledge Internalization for Neural Dialog Generation, In Proceedings of the Annual Meeting of the Association for Computational Linguistics, May 2022. **ACL 2022**

17. Hao Peng, Jungo Kasai, Nikolaos Pappas, Dani Yogatama, Zhaofeng Wu, Lingpeng Kong, Roy Schwartz, and Noah A. Smith, ABC: Attention with Bounded-memory Control, In Proceedings of the Annual Meeting of the Association for Computational Linguistics, May 2022. **ACL 2022**

18. Zhen Qin, Weixuan Sun, Hui Deng, Dongxu Li, Yunshen Wei, Baohong Lv, Junjie Yan, Lingpeng Kong, and Yiran Zhong, cosFormer: Rethinking Softmax In Attention, In International Conference on Learning Representations, April 2022. **ICLR 2022**

19. Han Shi*, Jiahui Gao*, Hang Xu, Xiaodan Liang, Zhenguo Li, Lingpeng Kong, Stephen M. S. Lee, and James Kwok, Revisiting Over-smoothing in BERT from the Perspective of Graph, In International Conference on Learning Representations, April 2022. [Spotlight] **ICLR 2022**

20. Lin Zheng, Zhiyong Wu and Lingpeng Kong, Cascaded Head-colliding Attention. In Proceedings of the Annual Meeting of the Association for Computational Linguistics, August 2021. **ACL 2021**

21. Zhiyong Wu, Lingpeng Kong, Wei Bi, Xiang Li and Ben Kao, Good for Misconceived Reasons: An Empirical Revisiting on the Need for Visual Context in Multimodal Machine Translation. In Proceedings of the Annual Meeting of the Association for Computational Linguistics, August 2021. **ACL 2021**

22. Hao Peng, Nikolaos Pappas, Dani Yogatama, Roy Schwartz, Noah Smith, and Lingpeng Kong, Random Feature Attention. In International Conference on Learning Representations, May 2021. [Spotlight] **ICLR 2021**

23. Lingpeng Kong, Cyprien de Masson d'Autume, Wang Ling, Lei Yu, Zihang Dai, and Dani Yogatama, A Mutual Information Maximization Perspective of Language Representation Learning. In International Conference on Learning Representations, Ethiopia, April 2020. [Spotlight] **ICLR 2020**

24. Cyprien de Masson d'Autume, Sebastian Ruder, Lingpeng Kong, and Dani Yogatama, Episodic Memory in Lifelong Language Learning. In Advances in Neural Information Processing Systems, Vancouver, Canada, December 2019. **NeurIPS 2019**

25. Lingpeng Kong, Gabor Melis, Wang Ling, Lei Yu, and Dani Yogatama, Variational Smoothing in Recurrent Neural Network Language Models. In International Conference on Learning Representations, New Orleans, Louisiana, May 2019. **ICLR 2019**

26. Liang Lu, Lingpeng Kong, Chris Dyer, and Noah A. Smith, Multi-task Learning with CTC and Segmental CRF for Speech Recognition. In Proceedings of the Annual Conference of the International Speech Communication Association , Stockholm, Sweden, August 2017. **INTERSPEECH 2017**

27. Adhiguna Kuncoro, Miguel Ballesteros, Lingpeng Kong, Chris Dyer, Graham Neubig, and Noah A. Smith, What Do Recurrent Neural Network Grammars Learn About Syntax?. In Proceedings of the Conference of the European Chapter of the Association for Computational Linguistics, Valencia, Spain, January 2017. [Outstanding Paper Award] **EACL 2017**

28. Liang Lu*, Lingpeng Kong*, Chris Dyer, and Noah A. Smith, and Steve Renals, Segmental Recurrent Neural Networks for End-to-end Speech Recognition. In Proceedings of the Annual Conference of the International Speech Communication Association, San Francisco, California, September 2016. **INTERSPEECH 2016**

29. Adhiguna Kuncoro, Miguel Ballesteros, Lingpeng Kong, Chris Dyer, and Noah A. Smith, Distilling an Ensemble of Greedy Dependency Parsers into One MST Parser. In Proceedings of the Conference on Empirical Methods in Natural Language Processing, Austin, TX, November 2016 **EMNLP 2016**

30. Lingpeng Kong, Chris Dyer, and Noah A. Smith, Segmental Recurrent Neural Networks. In Proceedings of International Conference on Learning Representations, San Juan, Puerto Rico, May 2016. [GitHub]**ICLR 2016**

31. Dani Yogatama, Lingpeng Kong, and Noah A. Smith, Bayesian Optimization of Text Representations. In Proceedings of the Conference on Empirical Methods in Natural Language Processing, Lisboa, Portugal, September 2015. **EMNLP 2015**

32. Lingpeng Kong, Alexander M. Rush, and Noah A. Smith, Transforming Dependencies into Phrase Structures. In Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics, Denver, CO, May 2015. [GitHub] **NAACL 2015**

33. Lingpeng Kong, Nathan Schneider, Swabha Swayamdipta, Archna Bhatia, Chris Dyer and Noah A. Smith, A Dependency Parser for Tweets. In Proceedings of the Conference on Empirical Methods in Natural Language Processing, Doha, October 2014. [GitHub] **EMNLP 2014**

34. William Yang Wang, Lingpeng Kong, Kathryn Mazaitis, and William W. Cohen, Dependency Parsing for Weibo: An Efficient Probabilistic Logic Programming Approach. In Proceedings of the Conference on Empirical Methods in Natural Language Processing, Doha, Qatar, October 2014. **EMNLP 2014**

35. Lingpeng Kong, and Likun Qiu, Formalization and Rules for Recognition of Satirical Irony. In Proceedings of the International Conference on Asian Language Processing, Penang, Malaysia, November 2011. **IALP 2011**

36. Likun Qiu, Lei Wu, Changjian Hu, Kai Zhao, and Lingpeng Kong, Improving Chinese Dependency Parsing with Self-Disambiguating Patterns. In Proceedings of the International Conference on Asian Language Processing, Penang, Malaysia, November 2011. **IALP 2011**

Thesis

37. Lingpeng Kong, Neural Representation Learning in Linguistic Structured Prediction, CMU-LTI-17-008, Carnegie Mellon University, Pittsburgh, PA, October 2017.

Peer-refereed workshop publications

38. Yangfeng Ji, Trevor Cohn, Lingpeng Kong, Chris Dyer, Jacob Eisenstein, Document Context Language Models. In International Conference on Learning Representations Workshop Track, San Juan, Puerto Rico, May 2016.

39. Ting-Hao (Kenneth) Huang, Yun-Nung Chen, and Lingpeng Kong, ACBiMA: Advanced Chinese Bi-Character Word Morphological Analyzer. In Proceedings of The 8th SIGHAN Workshop on Chinese Language Processing, Beijing, China, July 2015. [GitHub]

INVITED TALKS

2022	Invited Talk, Tam Wing Fan Innovation Wing.
	Westlake Engineering Lecture Series, Westlake University.
2021	Invited Talk, Tencent AI Lab.
	Invited Talk, ByteDance.
	Colloquium, Shenzhen Institutes of Advanced Technology (SIAT), Chinese Academy of Sciences.
	Invited Talk, Zoom.
	Invited Talk, HKU-TCL Joint Research Centre for Artificial Intelligence.
	Keynote, Genetic and Evolutionary Computation Conference (GECCO-2021).
2020	Colloquium, University of Cambridge.
2019	Colloquium, Peking University.
	Invited Talk, Fudan University.
	Colloquium, University of Cambridge.
2017	Colloquium, National Taiwan University.
2016	Colloquium, Academia Sinica.