Lili Mou

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Date of Birth	4 September 1990	**Email**	doublepower.mou@gmail.com
Nationality	Chinese	**Homepage**	https://lili-mou.github.io

Personal Profile

Lili Mou is currectly a postdoctoral fellow at the University of Waterloo. Lili Mou received his BS and PhD degrees in 2012 and 2017, respectively, from School of EECS, Peking University. His recent research interests include deep learning applied to natural language processing as well as programming language processing. He has publications at top conferences and journals like AAAI, ACL, CIKM, COLING, EMNLP, ICML, IJCAI, INTERSPEECH, and TACL (in alphabetic order).

Employment

2017.8– Postdoctoral fellow (Advisor: Pascal Poupart)
David R. Cheriton School of Computer Science, University of Waterloo

Education

2012.9–2017.7 PhD, School of EECS, Peking University

Awards: *2012–2013, Second Prize of Hangtiankegong Scholarship*
2014–2015, Specialized Scholarship in Research
2015–2016, Specialized Scholarship in Research
2015–2016, National Scholarship
2016.5, Top-10 Student Scholars in School of EECS, Peking University
2017.7, Outstanding PhD Thesis in Peking University

2008.9–2012.7 BS, School of EECS, Peking University

Internships

2016.8–2017.1 Research intern at Noah's Ark Lab, Huawei Technologies, Hong Kong
(Mentor: Zhengdong Lu)

2015.5–2016.4 Research intern at Inspero Inc. (In corporation with Rui Yan at Baidu)

2010.5–2017.7 Research assistant at Key Laboratory of High Confidence Software Technologies (Peking University), Ministry of Education, China

Languages (Natural)

- Chinese (native)
- Wu (native) [a dialect of Chinese, significantly different from Mandarin]
- English (proficient)

Languages (Programming)

- C/C++
- Java
- Matlab
- Python
- Theano

Software release: A hybrid `C++` and `python` package for automatic forward/back-prop of neural networks (available at `https://github.com/Lili-Mou`)

Publications

[1] = equal contribution

1. Zaixiang Zheng,[1] Hao Zhou,[1] Shujian Huang, **Lili Mou**, Xin-Yu Dai, Jiajun Chen, Zhaopeng Tu. Modeling past and future for neural machine translation. To appear in *Transactions of the Association for Computational Linguistics (TACL)*.

2. Lei Sha, **Lili Mou**, Tianyu Liu, Pascal Poupart, Sujian Li, Baobao Chang, Zhifang Sui. Order-planning neural text generation from structured data. To appear in *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI)*, 2018.

3. Chongyang Tao, **Lili Mou**, Dongyan Zhao, Rui Yan. RUBER: An unsupervised method for automatic evaluation of open-domain dialog systems. To appear in *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI)*, 2018.

4. Zhao Meng, **Lili Mou**, Zhi Jin. Towards neural speaker modeling in multi-party conversation: The task, dataset, and models. To appear in *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI-student poster)*, 2018.

5. Zhao Meng, **Lili Mou**, Zhi Jin. Hierarchical RNN with static sentence-level attention for text-based speaker change detection. In *Proceedings of the 2007 ACM International Conference on Information and Knowledge Management (CIKM-short)*, pages 2203–2206, 2017.

6. **Lili Mou**, Zhengdong Lu, Hang Li, Zhi Jin. Coupling distributed and symbolic execution for natural language queries. In *Proceedings of the 34th International Conference on Machine Learning (ICML)*, pages 2518–2526, 2017. Also presented at *ICLR Workshop*, 2017.

7. Zhiliang Tian, Rui Yan, **Lili Mou**, Yiping Song, Yansong Feng, Dongyan Zhao. How to make context more useful? An empirical study on context-aware neural conversational models. In *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (ACL-short)*, volume 2, pages 231–236, 2017.

8. **Lili Mou**, Yiping Song, Rui Yan, Ge Li, Lu Zhang, Zhi Jin. Sequence to backward and forward sequences: A content-introducing approach to generative short-text conversation. In *Proceedings of the 26th International Conference on Computational Linguistics (COLING)*, pages 3349–3358, 2016.

9. Yan Xu,[1] Ran Jia,[1] **Lili Mou**, Ge Li, Yunchuan Chen, Yangyang Lu, Zhi Jin. Improved relation classification by deep recurrent neural networks with data augmentation. In *Proceedings of the 26th International Conference on Computational Linguistics (COLING)*, pages 1461–1470, 2016.

10. **Lili Mou**, Zhao Meng, Rui Yan, Ge Li, Lu Zhang, Zhi Jin. How transferable are neural networks in NLP applications? In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 478–489, 2016.

11. **Lili Mou**, Ran Jia, Yan Xu, Ge Li, Lu Zhang, Zhi Jin. Distilling word embeddings: An encoding approach. In *Proceedings of the 25th ACM International Conference on Information and Knowledge Management (CIKM-short)*, pages 1977–1980. Also presented in *Representation Learning for Natural Language Processing (RL4NLP) Workshop @ACL*, 2016.

12. Zhao Meng, **Lili Mou**, Ge Li, Zhi Jin. Context-aware tree-based convolutional neural networks for natural language inference. In *Proceedings of 9th International Conference on Knowledge Science, Engineering and Management*, pages 515–526, 2016.

13. Yiping Song, **Lili Mou**, Rui Yan, Li Yi, Zinan Zhu, Xiaohua Hu. Dialogue session segmentation by embedding-enhanced TextTiling. In *Proceedings of the 17th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, pages 2706–2710, 2016.

14. Yunchuan Chen, **Lili Mou**, Yan Xu, Ge Li, Zhi Jin. Compressing neural language models by sparse word representations. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (ACL)*, pages 226–235, 2016.

15. **Lili Mou**,[1] Rui Men,[1] Ge Li, Yan Xu, Lu Zhang, Rui Yan, Zhi Jin. Natural language inference by tree-based convolution and heuristic matching. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (ACL-short)*, volume 2, pages 130–136 2016.

16. Xiang Li, **Lili Mou**, Rui Yan, Ming Zhang. StalemateBreaker: A proactive content-introducing approach to automatic human-computer conversation. In *Proceedings of the 25th International Joint Conference on Artificial Intelligence (IJCAI)*, pages 2845–2851, 2016.

17. **Lili Mou**, Ge Li, Zhi Jin, Lu Zhang, Tao Wang. Convolutional neural networks over tree structures for programming language processing. In *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI)*, pages 1287–1293, 2016.

18. Hao Peng,[1] **Lili Mou**,[1] Ge Li, Yuxuan Liu, Zhi Jin, Yan Xu, Lu Zhang. Building program vector representations for deep learning. In *Proceedings of 8th International Conference on Knowledge Science, Engineering and Management*, pages 547–553, 2015.

19. **Lili Mou**,[1] Hao Peng,[1] Ge Li, Yan Xu, Lu Zhang, Zhi Jin. Discriminative neural sentence modeling by tree-based convolution. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 2315–2325, 2015.

20. Hao Peng,[1] **Lili Mou**,[1] Ge Li, Yunchuan Chen, Yangyang Lu, Zhi Jin. A comparative study on regularization strategies for embedding-based neural networks. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (EMNLP-short)*, pages 2106–2111, 2015.

21. Yan Xu, **Lili Mou**, Ge Li, Yunchuan Chen, Hao Peng, Zhi Jin. Classifying relations via long short term memory networks along shortest dependency paths. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 1785–1794, 2015.

22. Yan Xu, Ge Li, **Lili Mou**, Yangyang Lu. Learning non-taxomomic relations on demand for ontology extension. *International Journal of Software Engineering and Knowledge Engineering*, vol. 24, no. 8, pages 1159–1175, 2014.

23. **Lili Mou**, Ge Li, Zhi Jin, Lu Zhang. Verification based on hyponymy hierarchical characteristics for Web-based hyponymy discovery. In *Proceedings of 7th International Conference on Knowledge Science, Engineering and Management*, pages 81–92, 2014.

24. Yiyang Hao, Ge Li, **Lili Mou**, Lu Zhang, Zhi Jin. MCT: A tool for commenting programs by multimedia comments. In *Proceedings of the 2013 International Conference on Software Engineering (ICSE-demo)*, pages 1330–1442, 2013.

25. **Lili Mou**, Ge Li, Zhi Jin. Domain hyponymy hierarchy discovery by iterative Web searching and inferable semantics based concept selecting. In *Proceedings of the 2013 IEEE 37th Annual Computer Software and Applications Conference*, pages 387–392, 2013.

26. **Lili Mou**, Ge Li, Zhi Jin, Yangyang Lu, Yiyang Hao. Discovering domain concepts and hyponymy relations by text relevance classifying based iterative Web searching. In *Proceedings of 19th Asia-Pacific Software Engineering Conference*, pages 213–222, 2012.

Unpublished Manuscripts

27. Hareesh Bahuleyan,[1] **Lili Mou**,[1] Olga Vechtomova, Pascal Poupart. Variational attention for sequence-to-sequence models. *arXiv preprint arXiv:1712.08207*, 2017.
28. Bolin Wei,[1] Shuai Lu,[1] **Lili Mou**, Hao Zhou, Pascal Poupart, Ge Li, Zhi Jin. Why do neural dialog systems generate short and meaningless replies? A comparison between dialog and translation. *arXiv preprint arXiv:1712.02250*, 2017.
29. Nabiha Asghar, Pascal Poupart, Jesse Hoey, Xin Jiang, **Lili Mou**. Affective neural response generation. *arXiv preprint arXiv:1709.03968*, 2017.
30. Yunchuan Chen, **Lili Mou**, Yan Xu, Ge Li, Zhi Jin. Learning word representations from multiple information sources. Presented in *Representation Learning for Natural Language Processing (RL4NLP) Workshop @ACL*, 2016.
31. **Lili Mou**, Rui Yan, Ge Li, Lu Zhang, Zhi Jin. Backward and forward language modeling for constrained sentence generation. *arXiv preprint arXiv:1512.06612*, 2015.
32. **Lili Mou**, Rui Men, Ge Li, Lu Zhang, Zhi Jin. On end-to-end program generation from user intention by deep neural networks. *arXiv preprint arXiv:1510.07211*, 2015.

Academic Service

Primary reviewer:	NAACL-HLT 2016 (best reviewers), COLING 2016, ACL 2017, IJCNLP 2017, LREC 2018, AAAI 2018, NAACL-HLT 2018, ACL 2018, *Computer Speech & Language*
Subreviewer:	FSE 2016, BigData 2017, AAAI 2017, *Cognitive Computing*, *JCST*
Invited/Seminar Talks:	2016.5.28, NLP Session, Chinese R Language Forum (at Renming Univ.) *Tree-Based Convolution and its Applications*
	2017.1.13, Hong Kong Polytechnic University
	2017.3.3, Information Sciences Institute, U. Southern California *Coupling Distributed and Symbolic Execution for Natural Language Queries*
	2017.7.5, Nanyang Technological University *Deep Learning for Program Analysis: From Classification to Generation*

Teaching Experience

Certificate: 2017.11, Completion of *Teaching and Development Seminar Series* at the University of Waterloo

Co-Advised Students

2017.9–	Hareesh Bahuleyan, master student (with arXiv preprint)
2016.1–2017.1	Yiping Song, Ph.D. student (with publication in *INTERSPEECH'16*)
2015.7–	Bolin Wei, undergraduate→master (with arXiv preprint)
2015.7–2017.6	Zhao Meng, undergraduate (with publications in *EMNLP'16*, *CIKM'17*, and *AAAAI'18 student poster*)
2015.7–2016.3	Rui Men, undergraduate (with publication in *ACL'16*)
2014.9–2015.6	Hao Peng, undergraduate (with publication in *EMNLP'15*)

Teaching Assistant

2012.9–2013.1	TA of Introduction to Computing (undergraduate course) **Exercise lesson** (Dec 2012): *Minimax and Alpha-Beta Pruning*
2013.2–2013.6	TA of Java Programming (graduate course)

2013.9–2014.1	TA of Introduction to Programming Languages (undergraduate course)
	TA of Introduction to Computing (MOOC)
2014.9–2015.1	TA of Introduction to Computing (MOOC)
2015.2–2015.6	TA of Deep Learning Techniques and Applications (graduate course)
2016.2–2016.6	TA of Deep Learning Techniques and Applications (graduate course) **Lecture** (5 May 2016): *Neural Networks for Natural Language Processing*
2017.5.11	**Guest lecture** (at the "Deep Learning Techniques and Applications" course) *Neural Networks in NLP: The Curse of Indifferentiability*
2017.10.22/23	**Mini-Project Tutorial** (two 5-hour sessions for the Undergraduate Research Opportunities Conference at the University of Waterloo) *Adversarial Training and Security in Machine Learning*