LIJUN WU

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EDUCATION

Sun Yat-Sen University *Sep. 2015 to Jun. 2020 (expected)*
Ph.D. in Computer Science and Technology◇ Joint Ph.D. Program with Microsoft Research Asia
School of Data and Computer Science
Ph.D. Supervisor: Tie-Yan Liu and Jianhuang Lai

Sun Yat-Sen University *Sep. 2011 to Jun. 2015*
B.S. in Computer Science and Technology
School of Information Science and Technology

RESEARCH INTERESTS

- **Sequence Prediction**: *Focusing on techniques to improve the sequence-to-sequence models.*
- **Neural Machine Translation**: *Focusing on new structures, algorithms, data and loss functions..*
- **Reinforcement Learning**: *Focusing on DRL techniques to various NLP applications..*

PUBLICATIONS

- **Lijun Wu**, Fei Tian, Tao Qin, Jianhuang Lai and Tie-Yan Liu, A Study of Reinforcement Learning for Neural Machine Translation, In *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing* (EMNLP-2018).
- **Lijun Wu**, Xu Tan, Di He, Fei Tian, Tao Qin, Jianhuang Lai and Tie-Yan Liu, Beyond Error Propagation in Neural Machine Translation: Characteristics of Language Also Matter, In *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing* (EMNLP-2018).
- **Lijun Wu**, Fei Tian, Yingce Xia, Tao Qin, Jianhuang Lai, Tie-Yan Liu, Learning to Teach with Dynamic Loss Functions, In *32nd Conference on Neural Information Processing Systems* (NIPS-2018).
- **Lijun Wu**, Fei Tian, Li Zhao, Jianhuang Lai and Tie-Yan Liu, Word Attention for Sequence to Sequence Text Understanding, In *32nd AAAI Conference on Artificial Intelligence* (AAAI-2018).
- **Lijun Wu**, Yingce Xia, Li Zhao, Fei Tian, Tao Qin, Jianhuang Lai and Tie-Yan Liu, Adversarial Neural Machine Translation, In *10th Asian Conference on Machine Learning* (ACML-2018).
- **Lijun Wu**, Li Zhao, Tao Qin, Jianhuang Lai and Tie-Yan Liu, Sequence Prediction with Unlabeled Data by Reward Function Learning, In *26th International Joint Conference on Artificial Intelligence* (IJCAI-2017).
- Fei Gao, **Lijun Wu**, Li Zhao, Tao Qin, Xueqi Cheng and Tie-Yan Liu, Efficient Sequence Learning with Group Recurrent Networks, In *16th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies* (NAACL-HLT-2018).
- Yingce Xia, Fei Tian, **Lijun Wu**, Jianxin Lin, Tao Qin, Nenghai Yu, Tie-Yan Liu, Deliberation Networks: Sequence Generation Beyond One-Pass Decoding, In *31st Conference on Neural Information Processing Systems* (NIPS-2017).

PREPRINTS

- Hany Hassan, Anthony Aue, Chang Chen, Vishal Chowdhary, Jonathan Clark, Christian Federmann, Xuedong Huang, Marcin Junczys-Dowmunt, William Lewis, Mu Li, Shujie Liu, Tie-Yan Liu, Renqian Luo, Arul Menezes, Tao Qin, Frank Seide, Xu Tan, Fei Tian, **Lijun Wu**, Shuangzhi Wu, Yingce Xia, Dongdong Zhang, Zhirui Zhang, Ming Zhou, Achieving Human Parity on Automatic Chinese to English News Translation, 2018 (***The first Chinese-to-English machine translation system that can match the human translation accuracy***).
- **Lijun Wu**, Jinhua Zhu, Di He, Fei Gao, Xu Tan, Tao Qin, Tie-Yan Liu, Machine Translation with Weakly Paired Bilingual Documents, 2019.

EXPERIENCES

- Microsoft Research Asia — *Jan. 2019 to Present*
  Machine Learning Group ◇ Research Intern — Mentor: Tao Qin
- Microsoft Research Asia — *Jun. 2016 to Oct. 2018*
  Machine Learning Group ◇ Research Intern — Mentor: Tao Qin
- Microsoft Research Asia — *Jul. 2014 to Jul. 2015*
  Artificial Intelligence Group ◇ Research Intern — Mentor: Tie-Yan Liu

HONORS & AWARDS

1. Microsoft Research Asia Ph.D Fellowship — *2018*
2. Graduate Student National Scholarship — *2018*
3. Stars of Tomorrow Internship Award of Microsoft Research Asia — *2018*
4. Outstanding Graduate Awards — *2015*
5. 1st Place of IBM/IEEE Smarter Planet Challenge — *2013*
6. Undergraduate Student National Scholarship — *2012, 2013*

PROJECTS

Neural Machine Translation — *Jun. 2016 to Present*

☞ *Neural Machine Translation* (NMT) is proven to significantly outperform traditional translation techniques. To further improve the accuracies of NMT, we explore different structures (deep structures, deliberation networks, efficient group recurrent network), different attention mechanism design (word attention), different training loss (sequence level loss), that can boost the performances of NMT from different aspects. I am one of the main contributor of this project, including algorithm design, system implementation and working on experiments.

PROGRAMMING SKILLS

1. Programming Languages: Python, C++, Matlab, LaTeX
2. Deep Learning Tools: Theano, Tensorflow, Pytorch