

Jie Yang (杨杰)

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I am a research fellow at Harvard University (Harvard Medical School, Brigham and Women's Hospital). My interest includes natural language processing, as well as artificial intelligence in medicine and healthcare. I work on medical/clinical text processing, structured prediction, lexical analysis, entity recognition, and financial NLP.

EDUCATION AND EXPERIENCE

- **Harvard University** 2018.12–present
Postdoctoral Research Fellow. Artificial intelligence in medicine and healthcare. Host: Prof. Li Zhou
- **Singapore University of Technology and Design** 2014.9–2018.9
Ph.D. in Computer Science. Deep learning for NLP. ISTD Best Dissertation Award With: Prof. Yue Zhang
- **University of Oxford** 2018.5–2018.8
Visiting Ph.D. Student. NLP for finance. With: Prof. Xiaowen Dong/Jan Callies
- **University of Chinese Academy of Sciences** 2011.9–2014.7
M.S. in Microelectronics With: Prof. Chao Zhao
- **Chongqing University** 2007.9–2011.7
B.S. in Electronics (Honor class) and B.S. in Physics (Double degree)

PROJECTS

★ represents the number of github stars.

- **NCRF++** ★ 1200 <https://github.com/jiesutd/NCRFpp>
A PyTorch implementation neural sequence labeling framework with flexible combination of word, character, and handcrafted features with CRF layer (e.g. Bi-LSTM-CRF with char CNN).
- **YEDDA** ★ 410 <https://github.com/jiesutd/YEDDA>
An efficient graphical toolkit for chunk/entity/event annotation. Supports shortcuts annotation, command line annotation, system recommendation and result analysis.
- **LatticeLSTM** ★ 770 <https://github.com/jiesutd/LatticeLSTM>
A state-of-the-art Chinese NER system with Lattice LSTM structure. This model give the best performance on many Chinese NER datasets, gives 93.18% (F1) on MSRA NER shared task.
- **RichWordSegmentor** ★ 92 <https://github.com/jiesutd/RichWordSegmentor>
A state-of-the-art neural transition based Chinese word segmentor with neural rich pretraining character representation (multi-task structure).
- **NNNamedEntity** ★ 20 <https://github.com/SUTDNLP/NNNamedEntity>
A named entity recognition system with combination of neural and sparse features.
- **LibN3L** ★ 73 <https://github.com/SUTDNLP/LibN3L>
A light-weight neural network package for natural language processing with C++.
- **RerankNER** ★ 21 <https://github.com/jiesutd/RerankNER>
Neural reranking model for named entity recognition with state-of-the-art performance. The first neural reranking system for named entity recognition task.
- **Financial Text Analysis at Oxford-Man Institute of Quantitative Finance**

PUBLICATIONS

Published Papers: (means equal contribution.)*

15. **Jie Yang**, Yue Zhang, Shuailong Liang. Subword Encoding in Lattice LSTM for Chinese Word Segmentation. *Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)*, 2019
14. Hongming Wang, **Jie Yang**, Yue Zhang. From Gensis to Creole language: Transfer Learning for Singlish Universal Dependencies Parsing and POS Tagging. *ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP)*, Journal, 2019.
13. **Jie Yang**, Shuailong Liang and Yue Zhang. Design Challenges and Misconceptions in Neural Sequence Labeling. *In Proceedings of the 27th International Conference on Computational Linguistics (COLING 2018)*, Santa Fe, USA, 2018. **Best Paper Award.**
12. Yue Zhang* and **Jie Yang***. Chinese NER Using Lattice LSTM. *In Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL 2018)*, Long, Melbourne, Australia, 2018.
11. **Jie Yang** and Yue Zhang. NCRF++: An Open-source Neural Sequence Labeling Toolkit. *In Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL 2018)*, Demonstration, Melbourne, Australia, 2018.
10. **Jie Yang**, Yue Zhang, Linwei Li, Xingxuan Li. YEDDA: A Lightweight Collaborative Text Span Annotation Tool. *In Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL 2018)*, Demonstration, Melbourne, Australia, 2018. **Best Demonstration Paper Nomination.**
9. **Jie Yang***, Yue Zhang* and Fei Dong. Neural Word Segmentation with Rich Pretraining. *In Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (ACL 2017)*, Long, Vancouver, Canada, 2017.
8. Hongmin Wang, Yue Zhang, GuangYong Chan, **Jie Yang** and Hai Leong Chieu. Universal Dependencies Parsing for Colloquial Singaporean English. *In Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (ACL 2017)*, Long, Vancouver, Canada, 2017.
7. **Jie Yang**, Yue Zhang and Fei Dong. Neural Reranking for Named Entity Recognition. *In Proceedings of the Recent Advances in Natural Language Processing (RANLP 2017)*, Varna, Bulgaria, 2017.
6. Fei Dong, Yue Zhang, **Jie Yang**. Attention-based Recurrent Convolutional Neural Network for Automatic Essay Scoring. *In Proceedings of the 21st Conference on Computational Natural Language Learning (CoNLL 2017)*, Vancouver, Canada, 2017.
5. **Jie Yang**, Zhiyang Teng, Meishan Zhang and Yue Zhang. Combining Discrete and Neural Features for Sequence Labeling. *In Proceedings of the 17th International Conference on Intelligent Text Processing and Computational Linguistics (CICLing 2016)*, Konya, Turkey, 2016.
4. Meishan Zhang, **Jie Yang**, Zhiyang Teng and Yue Zhang. LibN3L:A Lightweight Package for Neural NLP. *In Proceedings of the 10th International Conference on Language Resources and Evaluation (LREC 2016)*, Portoro, Slovenia, 2016.

Non-NLP Papers:

3. Kunpeng Jia, Yajuan Su, Yang Chen, Jun Luo, **Jie Yang**, Peng Lv, Zihan Zhang, Huilong Zhu, Chao Zhao, Tianchun Ye. Effects of defects and thermal treatment on the properties of graphene. *VACUUM*, 2015
2. **Jie Yang**, Jia Kunpeng, Su Yajuan, Chen Yang, Zhao Chao. Hysteresis analysis of graphene transistor under repeated test and gate voltage stress. *Journal of Semiconductors*, 2014
1. Jia Kunpeng, **Jie Yang**, Liang Qingqing, Zhu Huilong .etc. Stability analysis of a back-gate graphene transistor in air environment. *Journal of Semiconductors*, 2013

ACADEMIC SERVICE AND LEADERSHIP

- PC/Reviewer 2019: ACL, EMNLP, NAACL(**kudos reviewer**), AAAI, AMIA, NAACL(demo), IJCAI, CoNLL, CCL, NLPCC, PACLIC
- PC/Reviewer 2018: ACL(**outstanding reviewer**), COLING (**outstanding reviewer**), EMNLP, PACLIC, NLPCC, IALP
- PC/Reviewer 2017/2016: AAAI(17), IWPT(17), IJCNLP(17), IALP(17), NLPCC(16), CLP(16)
- Journal Reviewer: International Journal of Medical Informatics, IEEE Transactions on BIG DATA, Artificial Intelligence Review, Neurocomputing, TALLIP, Computer Speech & Language
- Student Volunteer at *Association for Computational Linguistics*, ACL 2018
- Vice President of Student Union, *University of Chinese Academy of Sciences*
- Vice President of Innovation Club, *Chongqing University*
- Principal Volunteer, *China Association for Science and Technology*

TECHNIQUE SUMMARY AND TEACHING

- Programming Languages: Python, C++, Java, Shell, TeX.
- Developing Tools: PyTorch, LibN3L(contributor), Keras/Lasagne, Theano, ZPar
- Teaching Assistant for 50.005: Computer System Engineering, 2016
- Teaching Assistant for 50.007: Machine Learning, 2015

HONORS AND AWARDS

- Kudos Reviewer in NAACL: *Association for Computational Linguistics*. 2019
- Nvidia GPU Grant: *Nvidia Corp*. 2019
- ISTD Best Dissertation Award: *Singapore University of Technology and Design*. 2018
- Best Paper Award in COLING: *International Committee on Computational Linguistics*. 2018
- Best Demo Paper Award Nomination in ACL: *Association for Computational Linguistics*. 2018
- Outstanding Reviewer in ACL: *Association for Computational Linguistics*. 2018
- Outstanding Reviewer in COLING: *International Committee on Computational Linguistics*. 2018
- Best Technical Solution Award at A.I. Impact Weekend: *University of Oxford*. 2018

- Ranked as Top 3 Python GitHub developers in Singapore: *git-awards.com*. 2018
- ACL Travel Award: *Association for Computational Linguistics*. 2018
- President's Graduate Fellowship: *Singapore University of Technology and Design*. 2014-2018
- Excellent Student Leader: *University of Chinese Academy of Sciences*. 2014
- Outstanding Graduate : *Chongqing University*. 2011
- Excellent Student (top 5%): *Chongqing University*. 2010
- National Inspirational Scholarship: *Ministry of Education, PRC*. 2008
- Student Scholarship: *Chongqing University*. 2007-2010
- Honor Class (top 0.5%): *Chongqing University*. 2007-2009

REFERENCES

- Yue Zhang (yue.zhang@wias.org.cn), Westlake University
- Alexander Binder (alexander_binder@sutd.edu.sg), Singapore University of Technology and Design
- Wei Lu (wei_lu@sutd.edu.sg), Singapore University of Technology and Design