

YUE ZHANG

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EMPLOYMENT

- Assistant professor** SUTD, Singapore Jul. 2012 – present
Research interests: machine learning and inference algorithms for structural prediction, statistical parsing, Chinese syntactical processing, syntax-based text generation, statistical machine translation and sentiment analysis.
- Postdoctoral research associate** University of Cambridge, UK Mar. 2010 – Jun. 2012
Research project (EU FP7): Feedback Analysis for User adaptive Statistical Translation (FAUST).
Objectives: automatic analysis and grammaticality improvement of machine translation output.
- Systems programmer** Abing Group Ltd., UK Jul. 2003 – Sep. 2005
Design and development of Abing Messaging: web server, XML HTTP protocol, and desktop client.
Extreme programming; developing over 70,000 lines of code in mainly Python and C++.

EDUCATION

- DPhil computer science** University of Oxford, UK Oct. 2006 – Dec. 2009
Overseas research student (ORS) Scholarship and Clarendon Fund (full scholarship) for DPhil research.
Nominated by Oxford to enter the 2010 best British PhD dissertation in computer science competition.
Thesis title: Discriminative learning approaches for the statistical processing of Chinese.
- MSc computer science (distinction)** University of Oxford, UK Oct. 2005 – Sep. 2006
Won both *the best overall performance award* and the *Richard Bird prize for the best thesis*.
The only one in class scoring A⁺ for all 7 subjects: a very rare performance for the Oxford MSc course.
Thesis title: Chinese-English statistical machine translation by parsing.
- BEng computer science (distinction)** Tsinghua University, China Sep. 1999 – Jul. 2003
Won annual scholarships from Lenovo (2000), Nortel Networks (2001) and Tsinghua University (2002).
GPA 3.77/4.0, 2nd in class; total credits 1st in class.
Thesis title: An implementation of MPICH upon VIA user level communication.

PUBLICATIONS

Journal articles

Yue Zhang and Stephen Clark. 2011. Syntactic Processing Using the Generalized Perceptron and Beam Search. In *Computational Linguistics 37(1)*. March. Pages 105 – 151. [22 citations]

Conference proceedings

Wenliang Chen, Min Zhang and Yue Zhang. 2013. Semi-Supervised Feature Transformation for Dependency Parsing. In *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Seattle, USA, October. Pages 1303 – 1313.

Yanxia Qin, Yue Zhang, Min Zhang and Dequan Zheng. 2013. Feature-Rich Segment-Based News Event Detection on Twitter. In *Proceedings of the 6th International Joint Conference on Natural Language Processing (IJCNLP)*. Nagoya, Japan, October. Pages 302 – 310.

Wenduan Xu, Yue Zhang, Philip Williams, and Philipp Koehn. 2013. Learning to Prune: Context-Sensitive Pruning for Syntactic MT. In *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL), short papers*. Sophia, Bulgaria, August. Pages 352 – 357.

- Meishan Zhang, Yue Zhang, Wanxiang Che and Ting Liu. 2013. Chinese Parsing Exploiting Characters. In *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL)*. Sophia, Bulgaria. August. Pages 125 – 134. [2 citations]
- Muhua Zhu, Yue Zhang, Wenliang Chen, Min Zhang and Jingbo Zhu. 2013. Fast and Accurate Shift-Reduce Constituent Parsing. In *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL)*. Sophia, Bulgaria. August. Pages 434 – 443.
- Yue Zhang. 2013. Partial-Tree Linearization: Generalized Word Ordering for Text Synthesis. In *Proceedings of the 23rd International Joint Conference on Artificial Intelligence (IJCAI)*. Beijing, China. August. Pages 2232 – 2238. [2 citations]
- Junhua Liu, Yue Zhang, Justin Ruths, Diana Moreno, Daniel Jansen and Kristin L Wood. 2013. Innovations in Software Engineering Education: An Experimental Study and Integrating Active Learning and Design-Based Learning. In *Proceedings of the 121th ASEE Annual Conference and Exposition*. Atlanta, Georgia, USA. June.
- Yang Liu and Yue Zhang. 2012. Unsupervised Domain Adaptation for Joint Segmentation and POS-Tagging. In *Proceedings of the 24th International Conference on Computational Linguistics (Coling), posters*. Mumbai, India. December. Pages 745 – 754.
- Yue Zhang and Joakim Nivre. 2012. Analyzing the Effect of Global Learning and Beam-Search for Transition-Based Dependency Parsing. In *Proceedings of the 24th International Conference on Computational Linguistics (Coling), posters*. Mumbai, India. December. Pages 1391 – 1400. [5 citations]
- Yue Zhang, Graeme Blackwood and Stephen Clark. 2012. Syntax-Based Word Ordering Incorporating a Large-Scale Language Model. In *Proceedings of the 13th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*. Avignon, France. April. Pages 736– 746. [2 citations]
- Yue Zhang and Stephen Clark. 2011. Syntax-based Grammaticality Improvement using CCG and Guided Search. In *Proceedings of the 2011 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Edinburgh, UK. July. Pages 1147 – 1157. [5 citations]
- Yue Zhang and Joakim Nivre. 2011. Transition-based Dependency Parsing with Rich Non-local Features. In *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL:HLT), short papers*. Portland, USA. June. Pages 188 – 193. [68 citations]
- Yue Zhang and Stephen Clark. 2011. Shift-Reduce CCG Parsing. In *Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL:HLT)*. Portland, USA. June. Pages 683 – 692. [11 citations]
- Yue Zhang and Stephen Clark. 2010. A Fast Decoder for Joint Word Segmentation and POS-tagging Using a Single Discriminative Model. In *Proceedings of the 2010 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Massachusetts, USA. October. Pages 843 – 852. [28 citations]
- Yue Zhang, Byung-Gyu Ahn, Stephen Clark, Curt Van Wyk, James Curran and Laura Rimell. 2010. Chart Pruning for Fast Lexicalised-Grammar Parsing. In *Proceedings of the 23rd International Conference on Computational Linguistics (Coling)*. Beijing, China. October. Pages 1471 – 1479. [11 citations]
- Karo Moilanen, Stephen Pulman and Yue Zhang. 2010. Packed Feelings and Ordered Sentiments: Sentiment Parsing with Quasi-compositional Polarity Sequencing and Compression. In *Proceedings of the 1st Workshop on Computational Approaches to Subjectivity and Sentiment Analysis*. Lisbon, Portugal. August. Pages 36 – 43. [18 citations]
- Yue Zhang and Stephen Clark. 2009. Transition-based Parsing of the Chinese Treebank Using a Global Discriminative Model. In *Proceedings of the 11th International Conference on Parsing Technologies (IWPT)*. Paris, France. October. Pages 162 – 171. [25 citations]
- Yue Zhang and Stephen Clark. 2008. A Tale of Two Parsers: Investigating and Combining Graph-based and Transition-based Dependency Parsing Using Beam-search. In *Proceedings of the 2008 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Hawaii, USA. October. Pages 562 – 571. [110 citations]
- Yue Zhang and Stephen Clark. 2008. Joint Word Segmentation and POS-tagging Using a Single Perceptron. In *Proceedings of the 46th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL:HLT)*. Ohio, USA. June. Pages 888 – 896. [51 citations]

Yue Zhang and Stephen Clark. 2007. Chinese Segmentation Using a Word-based Perceptron Algorithm. In *Proceedings of the 45th Annual Meeting of the Association of Computational Linguistics (ACL)*. Prague, Czech republic. July. Pages 840 – 847. [48 citations]

Notes: the field of computational linguistics is conference-driven, with many influential work in leading conferences such as ACL and EMNLP. The leading journal of the field is *Computational Linguistics*.

TALKS, TUTORIALS AND CONSULTANCY

2013. Yue Zhang. Semantics Based Statistical Machine Translation and Partial Tree Linearization. An invited talk to CWMt.

2013. Invited talks to Tsinghua University and Northeast University (China) on dependency parsing.

2013. Invited talks to the Chinese Academy of Science, Baidu Inc (China) and Harbin Institute of Technology on word ordering.

2012. Invited talk to the Institute of Infocomm Research (Singapore) on CCG parsing.

2011. Stephen Clark and Yue Zhang. Surprisingly Efficient Parsing for a Wide-Coverage Lexicalised-Grammar Parser. Cambridge NLIP seminar.

2010. Invited talk at Uppsala University (Sweden) on dependency parsing.

2010. Qin Iris Wang and Yue Zhang. Recent Advances in Dependency Parsing. A conference tutorial at Human Language Technologies: The 11th Annual Conference of the North American Chapter of the Association for Computational Linguistics (HLT:NAACL).

2009. Invited talk to the NLIP group seminar, University of Cambridge on dependency parsing.

2008. Invited talk to the School of Informatics (ICCS), University of Edinburgh on dependency parsing.

2008. Consultancy for Sharp Research Europe Ltd. on word segmentation.

RESEARCH

PI. SUTD startup research grant. Statistical parsing and machine translation. Jul 2012 – Jul 2015

Nov. 2013 – Feb. 2014. Host research visit of Linfeng Song from Institute of Computing Technology, Chinese Academy of Sciences, China.

Nov. 2013 – Feb. 2014. Host research visit of Xiao Ding from Harbin Institute of Technology, China.

Oct. 2013 – May. 2014. Host research visit of Kai Song from Northeastern University, China.

Sep. 2013 – Jun. 2014. Host research visit of Ji Ma from Northeastern University, China.

May. 2013 – Jun. 2013. Host research visit of Miguel Ballesteros from Universitat Pompeu Fabra, Spain.

Feb. 2013 – Jun. 2013. Host research visit of Yanxia Qin from Harbin Institute of Technology, China.

Jan. 2013 – Mar. 2013. Host research visit of Muhua Zhu from Northeastern University, China.

Dec. 2012 – Feb. 2013. Host research visit of Meishan Zhang from Harbin Institute of Technology, China.

PI. Singapore MOE Tier2 grant. Statistical machine translation by syntactic transfer. Jun 2013 – Jun 2016

Jan. 2014 – Jan. 2015 Post-doctoral research fellow Likun Qiu (PhD from Peking university, China)

Nov. 2013 – Nov. 2014. Research assistant Yijia Liu (BEng from Harbin Institute of Technology, China).

Other research activities

Sep. 2013 – . PhD advisor of Vo Duy Tin (SUTD).

Jun. 2013 – . External PhD co-advisor of Cher Pei Hua (University of Queensland, Australia).

Sep. 2013 – Sep. 2014. MSc co-supervisor of Hussan Dugum (SUTD/MIT).

Sep. 2013 – Oct. 2013. Host visit of Associate Prof. Carlos Gómez Rodríguez from University of A Corua, Spain.

Dec. 2012 – Nov. 2013. Host visit from Prof. Haoliang Qi (Longjiang Scholar 2013; provincial distinguished professor) from China.

2010–11. MPhil thesis (which won distinction) supervisor of Yang Liu (University of Cambridge).

Sep. – Oct. 2010. Research visit to Uppsala University, Sweden (Prof. Joakim Nivre).
Jul. – Aug. 2009. Participant of the six-week Johns Hopkins University NLP Workshop (competitive entry), on the project *Parsing the Web*.

TEACHING

2014. Spring Term. Teaching the sophomore course ‘the Digital World’ (SUTD).
2013. Fall term. Teaching (lead) of the pillar course Computation Structures (SUTD).
Aug. 2013. Invited summer lecture series: Python and Computer Programming (Heilongjiang Institute of Technology, China).
2013. Spring Term. Teaching the sophomore course ‘the Digital World’ (SUTD).
2012, 13. Teaching the undergraduate summer lecture series on advanced Java programming (SUTD).
2011. Undergraduate supervisor for C/C++ (University of Cambridge).
2011. Practical demonstrator for Statistical Machine Translation (University of Cambridge).
2010–11. Undergraduate thesis supervisor (University of Cambridge).
2010. Undergraduate supervisor for Natural Language Processing (University of Cambridge).
2008. Class tutor for Advanced Topics in Natural Language Processing (University of Oxford).
2006, 07. Teaching assistant for Introduction to Specification (University of Oxford).

PROFESSIONAL SERVICE

IT officer, ACL SIGHAN, Dec 2013-.
Chair of the departmental undergraduate committee, ISTD/SUTD, 2012-.
Member of the university curriculum committee, SUTD, 2013-.
Mentor (merit award) for the Science Mentorship Program, Singapore, 2013.
Book proposal reviewer for Cambridge University Press, 2013.
Reviewer for journals: *Computational Linguistics* (2010, 11, 12, 13, 14), *Natural Language Engineering* (2012), *Computer, Speech and Language* (2010, 13), *IEEE Transactions on Audio, Speech and Language Processing* (2013, 14), *ACM Transactions on Asian Language Information Processing* (2011, 13), *Journal of Logic and Computation* (2012), *Knowledge and Information Systems* (2010, 11), *Computational Intelligence* (2010, 13), and *the International Journal of Artificial Intelligence* (2009), *Journal of Computer Science and Technology* (2013), *Computing and Informatics* (2013).
PC member for conferences: ACL (2008, 09, 12, 13, 14), ACL student research workshop (2012), ACL demos (2014), EMNLP (2009, 10, 12 [best reviewer award], 13), COLING (2012, 14 [area co-chair]), NAACL (2010, 12), EACL (2012, 14), IJCNLP (2011, 13 [session chair]), IWPT (2011, 13), ROCLING (2014), NLPCC (2014 [area co-chair]), AACL (2012), IJCAI (2013); workshops: CWMT (2013), ADIM (2011), CLUK (2008 [session chair]).