

# Julia Hockenmaier

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## Employment

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**Associate Professor, Department of Computer Science, University of Illinois at Urbana-Champaign**  
since August 2014

**Assistant Professor, Department of Computer Science, University of Illinois at Urbana-Champaign**  
August 2007–August 2014

**Postdoctoral Fellow, Institute for Research in Cognitive Science, University of Pennsylvania**  
With Prof. Aravind K. Joshi (University of Pennsylvania)  
Also a Visiting Postdoctoral Scholar with Prof. Ken A. Dill (UC San Francisco)  
Feb 2003–August 2007

## Education

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### **PhD (Informatics), University of Edinburgh**

Thesis: *Data and Models for Statistical Parsing with Combinatory Categorical Grammar*

Supervisor: Prof. Mark Steedman

Feb 1999 – Jan 2003 (degree awarded July 2003)

**Shortlisted for the British Computer Society's Distinguished Dissertation Award 2004**

### **MSc (Cognitive Science and Natural Language), University of Edinburgh**

Thesis: *Rule-based Word-Segmentation*

Supervisor: Dr. Chris Brew

Oct 1996—Sept 1997

### **Diplom (Computer)linguistik (minor: Computer Science), Universität Stuttgart**

*Degree in computational linguistics*

Thesis: *Parsing unsegmented Chinese text with a head-lexicalised PCFG*

Supervisor: Prof. Mats Rooth

Final grade: 1 (“*sehr gut*”, best out of 1–6)

Oct 1993—Jan 1999

### **Chinese language studies, Nanjing University, People's Republic of China**

Sept 1995—Aug 1996

## Awards

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**IJCAI-JAIR Best Paper Prize 2018** for Hodosh, Young and Hockenmaier, JAIR 2013  
2018

**Willett Faculty Scholar**, University of Illinois  
Since 2015 **NSF CAREER award**  
2011–2016

**Engineering and Physical Sciences Research Council Quota Award**  
1999–2002

**Division of Informatics studentship, University of Edinburgh**  
1999–2002

**Fellow of the German National Academic Foundation (Studienstiftung des deutschen Volkes)**  
1995–1999

**Fellow of the China programme, Alfred Krupp von Bohlen und Halbach Stiftung**  
1995–1996

## Publications

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### PhD thesis

J. Hockenmaier (2003a). *Data and models for statistical parsing with Combinatory Categorical Grammar*, Informatics, University of Edinburgh. <http://hdl.handle.net/1842/320>

### Journal publications

- [1] B. Plummer, L. Wang, C. Cervantes, J. Caicedo, J. Hockenmaier, S. Lazebnik (2017). Flickr30k Entities: Collecting Region-to-Phrase Correspondences for Richer Image-to-Sentence Models, *International Journal of Computer Vision*, May 2017, Volume 123, Issue 1, pp. 74–93.  
<https://link.springer.com/article/10.1007/s11263-016-0965-7>
- [2] P. Young, A. Lai, M. Hodosh and J. Hockenmaier (2014). From image descriptions to visual denotations: New similarity metrics for semantic inference over event descriptions. *Transactions of the Association of Computational Linguistics (TACL)*, Volume 2, February. pp 67–78  
<https://www.aclweb.org/anthology/Q14-1006/>  
<http://hockenmaier.cs.illinois.edu/DenotationGraph>
- [3] M. Hodosh, P. Young and J. Hockenmaier (2013) Framing image description as a ranking task: data, models and evaluation metrics. *Journal of Artificial Intelligence Research (JAIR)*, 2013, Vol. 47, pp 853–89.  
<https://www.jair.org/index.php/jair/article/view/10833>  
[http://hockenmaier.cs.illinois.edu/Framing\\_Image\\_Description/KCCA.html](http://hockenmaier.cs.illinois.edu/Framing_Image_Description/KCCA.html)
- [4] Y. Bisk and J. Hockenmaier (2013). An HDP Model for Inducing Combinatory Categorical Grammars. *Transactions of the Association of Computational Linguistics (TACL)*, Volume 1, pp 75–88.  
<http://aclweb.org/anthology//Q/Q13/Q13-1007.pdf>
- [5] J. Hockenmaier and M. Steedman (2007). CCGbank - a corpus of CCG derivations and dependency structures extracted from the Penn Treebank. *Computational Linguistics* 33(3), pp 355–396. <http://aclweb.org/anthology//J/J07/J07-3004.pdf>

- [6] K.A. Dill, A. Lucas, J. Hockenmaier, L. Huang, D. Chiang, A.K. Joshi (2007). Computational Linguistics – a new tool for exploring biopolymer structures and statistical mechanics. Invited contribution (feature article), *Polymer*, 48(15), pp 4289–4300.  
<http://dx.doi.org/10.1016/j.polymer.2007.05.018>
- [7] J. Hockenmaier, A.K. Joshi and K.A. Dill (2007). Routes are trees: the parsing perspective on protein folding, *Proteins: Structure, Function, and Bioinformatics*, 66(1), pp 1–15  
<http://dx.doi.org/10.1002/prot.21195>
- [8] J. Hockenmaier, G. Bierner and J. Baldridge (2004). Extending the Coverage of a CCG System, *Research in Language and Computation, Special Issue on Linguistic Theory and Grammar Implementation 2(2)*, pp 165–208, June 2004.  
<http://dx.doi.org/10.1023/B:ROLC.0000016736.80096.76>
- [9] J. Hockenmaier and C. Brew (1998). Error Driven Segmentation of Chinese, *Communications of COLIPS 8(1)*, pp 69–84, June 1998.  
 Also in *Proceedings of 12th Pacific Conference on Language and Information*, pp 218–229, Singapore, February 1998. <http://aclweb.org/anthology//Y/Y98/Y98-1021.pdf>

### Refereed conference publications

- [1] P. Jayannavar, A. Narayan-Chen and J. Hockenmaier (2020) Learning to execute instructions in a Minecraft dialogue. To appear in *Proceedings of the 2020 Annual Conference of the Association for Computational Linguistics (ACL)* (long paper).  
<http://hockenmaier.cs.illinois.edu/Papers/ACL2020/JayannavarEtAlACL2020.pdf>
- [2] R. Haldar, L. Wu, J. Xiong and Julia Hockenmaier (2020) A Multi-Perspective Architecture for Semantic Code Search. To appear in *Proceedings of the 2020 Annual Conference of the Association for Computational Linguistics (ACL)* (short paper).  
<http://hockenmaier.cs.illinois.edu/Papers/ACL2020/HaldarEtAlACL2020.pdf>
- [3] J. Liu, J. Hockenmaier (2019) Phrase Grounding by Soft-Label Chain Conditional Random Field. *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*,  
<https://www.aclweb.org/anthology/D19-1515/>
- [4] A. Narayan-Chen, P. Jayannavar, J. Hockenmaier (2019) Collaborative Dialogue in Minecraft. *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL)*  
<https://www.aclweb.org/anthology/P19-1537/>
- [5] A. Lai, Y. Bisk, J. Hockenmaier (2017) Natural Language Inference from Multiple Premises. *Proceedings of the Eighth International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*  
<https://www.aclweb.org/anthology/I17-1011>
- [6] A. Lai, J. Hockenmaier (2017) Learning to Predict Denotational Probabilities For Modeling Entailment. *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics: Volume 1, Long Papers*,  
<https://www.aclweb.org/anthology/E17-1068>

- [7] Y. Bisk, S. Reddy, J. Blitzer, J. Hockenmaier, M. Steedman (2016). Evaluating Induced CCG Parsers on Grounded Semantic Parsing, *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*,  
<https://www.aclweb.org/anthology/D16-1214>
- [8] B. Plummer, L. Wang, C. Cervantes, J. Caicedo, J. Hockenmaier, S. Lazebnik (2015) Flickr30k Entities: Collecting Region-to-Phrase Correspondences for Richer Image-to-Sentence Models. *Proceedings of the International Conference for Computer Vision*.  
<https://ieeexplore.ieee.org/document/7410660>
- [9] Y. Bisk and J. Hockenmaier (2015) Probing the Linguistic Strengths and Limitations of Unsupervised Grammar Induction. *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics (ACL) – Volume 1: Long Papers* (Acceptance rate: 25%).  
<https://www.aclweb.org/anthology/P15-1135/>
- [10] Y. Bisk, C. Christodoulopoulos and J. Hockenmaier (2015) Labeled Grammar Induction with Minimal Supervision. *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics (ACL) – Volume 2: Short Papers* (Acceptance rate: 22.3%).  
<https://www.aclweb.org/anthology/P15-2143/>
- [11] M. Hodosh, P. Young, and J. Hockenmaier (2015) Framing Image Description as a Ranking Task: Data, Models and Evaluation Metrics (Extended Abstract of JAIR 2013 paper). 24th International Joint Conference on Artificial Intelligence, August 2015.  
<http://hockenmaier.cs.illinois.edu/Papers/IJCAI2015/ExtendedAbstract.pdf>
- [12] Y. Gong, L. Wang, M. Hodosh, J. Hockenmaier and S. Lazebnik (2014) Improving Image-Sentence Embeddings Using Large Weakly Annotated Photo Collections. *European Conference on Computer Vision (ECCV) 2014* (Acceptance rate: 26.7%)  
<http://hockenmaier.cs.illinois.edu/Papers/ECCV2014/ECCV2014Sentences.pdf>
- [13] Y. Bisk and J. Hockenmaier (2012). Simple Robust Grammar Induction with Combinatory Categorical Grammars. *Proceedings of the Twenty-Sixth AAAI Conference on Artificial Intelligence (AAAI 2012)*, July 22-26, 2012, Toronto, Ontario, Canada. (Acceptance rate: 26%)  
<http://hockenmaier.cs.illinois.edu/Papers/AAAI2012/Induction.pdf>
- [14] M. Garley and J. Hockenmaier (2012). Beefmoves: Diffusion, diversity, and dynamics of English borrowings in a German hip hop forum. *Proceedings of the 50th Annual Meeting of the Association for Computational Linguistics (ACL) – Volume 2: Short Papers*, pp 135–139, July 8-14, 2012, Jeju Island, Korea (Acceptance rate: 21%)  
<http://aclweb.org/anthology//P/P12/P12-2027.pdf>
- [15] H. Kim, Y. Sun, J. Hockenmaier, J. Han (2012). ETM: Entity Topic Models for Mining Documents Associated with Entities. *Proceedings of the 12th IEEE International Conference on Data Mining (ICDM 2012)*, pp 349–358, Brussels, Belgium, December 10-13, 2012 (Acceptance rate for full papers: 10.7%; also invited for publication in Knowledge and Information Systems (KAIS) as one of the best papers from ICDM 2012)  
<http://dx.doi.org/10.1109/ICDM.2012.107>
- [16] H. Hajishirzi, J. Hockenmaier, E.T. Mueller, E. Amir (2011). Reasoning about Robocup Soccer Narratives. *Uncertainty in Artificial Intelligence. Proceedings of the Twenty-Seventh Conference*, pp 291–300, Spain, 2011. (Oral presentation: acceptance rate 8.4%, 33.6% overall)  
<https://arxiv.org/abs/1202.3728>

- [17] J. Hockenmaier and Y. Bisk (2010). Normal-form parsing for Combinatory Categorical Grammars with generalized composition and type-raising. *Proceedings of COLING 2010*, pp 465–473, Beijing, China. (Acceptance rate: 19% oral) <http://aclweb.org/anthology//C/C10/C10-1053.pdf>
- [18] P. Sondhi, M. Gupta, C.X. Zhai and J. Hockenmaier (2010). Shallow Information Extraction from Medical Forum Data. *Proceedings of COLING 2010*, pp 1158–1166, Beijing, China. (Poster; acceptance rate: 42% oral or poster) <http://aclweb.org/anthology//C/C10/C10-2133.pdf>
- [19] Y. Tu, N. Johri, D. Roth and J. Hockenmaier (2010). Citation Author Topic Model in Expert Search. *Proceedings of COLING 2010*, pp 1265–1273, Beijing, China. (Poster; acceptance rate: 42% oral or poster) <http://aclweb.org/anthology//C/C10/C10-2145.pdf>
- [20] A. Farhadi, M. Hejrati, M.A. Sadeghi, P. Young, C. Rashtchian, J. Hockenmaier, D. Forsyth (2010). Every picture tells a story: generating sentences from images. *Proceedings of the 11th European Conference on Computer Vision (ECCV 2010)*, pp 15–29, Greece, 2010. (Acceptance rate: 27.7%) [http://dx.doi.org/10.1007%2F978-3-642-15561-1\\_2](http://dx.doi.org/10.1007%2F978-3-642-15561-1_2)
- [21] M. Hodosh, P. Young, C. Rashtchian and J. Hockenmaier (2010). Cross-Caption Coreference Resolution for Automatic Image Understanding. *Proceedings of the Fourteenth Conference on Computational Natural Language Learning (CoNLL)*, pp 162–171, Uppsala, Sweden. (Acceptance rate: 30.8%) <http://aclweb.org/anthology//W/W10/W10-2920.pdf>
- [22] J. Hockenmaier (2006). Creating a CCGbank and a wide-coverage CCG lexicon for German, *Proceedings of COLING/ACL 2006*, pp 505–512, Sydney, Australia, 2006 <http://aclweb.org/anthology//P/P06/P06-1064.pdf>
- [23] J. Hockenmaier, A.K. Joshi and K.A. Dill (2006). Protein folding and chart parsing, *Proceedings of the 2006 Conference on Empirical Methods in Natural Language Processing (EMNLP-2006)*, pp 293–300, Sydney, Australia, 2006. <http://aclweb.org/anthology//W/W06/W06-1635.pdf>
- [24] D. Reitter, J. Hockenmaier and F. Keller (2006). Priming effects in Combinatory Categorical Grammar, *Proceedings of the 2006 Conference on Empirical Methods in Natural Language Processing (EMNLP-2006)*, pp. 308–316, Sydney, Australia, 2006. <http://aclweb.org/anthology//W/W06/W06-1637.pdf>
- [25] J. Bos, S. Clark, M. Steedman, J. Curran, J. Hockenmaier (2004). Wide-Coverage Semantic Representations from a CCG Parser, *Proceedings of the 20th International Conference on Computational Linguistics (COLING '04)*, pp 1240–1246, Geneva, Switzerland, August 2004. <http://aclweb.org/anthology//C/C04/C04-1180.pdf>
- [26] J.Hockenmaier (2003b). Parsing with Generative Models of Predicate-Argument Structure, *Proceedings of the 41th Annual Meeting of the Association for Computational Linguistics (ACL)*, pp 359–366, Sapporo, Japan, July 2003. <http://www.aclweb.org/anthology/P03-1046>
- [27] D. Gildea and J. Hockenmaier (2003). Identifying Semantic Roles Using Combinatory Categorical Grammar, *Proceedings of 2003 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp 57–64, Sapporo, Japan, July 2003. <http://aclweb.org/anthology//W/W03/W03-1008.pdf>

- [28] M. Steedman, R. Hwa, S. Clark, M. Osborne, A. Sarkar, J. Hockenmaier, P. Ruhlen, S. Baker and J. Crim (2003). Example Selection for Bootstrapping Statistical Parsers, *Proceedings of the Annual Meeting of the North American Chapter of the ACL (NAACL)*, pp 236–243, Edmonton, Canada, May 2003  
<http://aclweb.org/anthology//N/N03/N03-1031.pdf>
- [29] M. Steedman, M. Osborne, A. Sarkar, S. Clark, R. Hwa, J. Hockenmaier, P. Ruhlen, S. Baker and J. Crim (2003). Bootstrapping Statistical Parsers from Small Datasets, *Proceedings of the Annual Meeting of the European Chapter of the ACL (EACL)*, pp 331–338, Budapest, Hungary, April 2003.  
<http://aclweb.org/anthology//E/E03/E03-1008.pdf>
- [30] J. Hockenmaier and M. Steedman (2002a). Generative Models for Statistical Parsing with Combinatory Categorical Grammar, *Proceedings of the 40th Annual Meeting of the Association for Computational Linguistics (ACL)*, pp 335–342, Philadelphia, PA, July 2002.  
<http://aclweb.org/anthology//P/P02/P02-1043.pdf>
- [31] S. Clark, J. Hockenmaier and M. Steedman (2002). Building Deep Dependency Structures Using a Wide-Coverage CCG Parser, *Proceedings of the 40th Annual Meeting of the Association for Computational Linguistics (ACL)*, pp 327–334, Philadelphia, PA, July 2002.  
<http://aclweb.org/anthology//P/P02/P02-1042.pdf>
- [32] J. Hockenmaier and M. Steedman (2002b). Acquiring Compact Lexicalized Grammars from a Cleaner Treebank, *Third International Conference on Language Resources and Evaluation (LREC)*, Vol. V, pp 1974–1981, Las Palmas, Spain, May 2002.  
<http://www.lrec-conf.org/proceedings/lrec2002/pdf/263.pdf>

### Refereed workshop publications

- [1] M. Canby, A. Karipbayeva, B. Lunt, S. Mozaffari, C. Yoder, Julia Hockenmaier (2020). University of Illinois Submission to the CoNLL-SIGMORPHON 2020 Shared Task 0: Typologically Diverse Morphological Inflection. To appear in *Proceedings of the SIGMORPHON 2020 Workshop*  
<http://hockenmaier.cs.illinois.edu/Papers/ACL2020/CanbyEtAlSIGMORPHON2020.pdf>
- [2] A. Narayan-Chen, C. Graber, M. Das, M. Islam, S. Dan, S. Natarajan, J. Doppa, J. Hockenmaier, M. Palmer, D. Roth (2017). Towards Problem Solving Agents that Communicate and Learn, *Proceedings of the First Workshop on Language Grounding for Robotics*, <https://www.aclweb.org/anthology/W17-2812>
- [3] M. Hodosh, J. Hockenmaier (2016). Focused Evaluation for Image Description with Binary Forced-Choice frTasks, *Proceedings of the 5th Workshop on Vision and Language*, <https://www.aclweb.org/anthology/W16-3203>
- [4] A. Lai and J. Hockenmaier (2014). Illinois-LH: A Denotational and Distributional Approach to Semantics. *Proceedings of the 8th International Workshop on Semantic Evaluation (SemEval 2014)*. <http://aclweb.org/anthology/S/S14/S14-2055.pdf>
- [5] M. Hodosh and J. Hockenmaier (2013). Sentence-based image description with scaleable, explicit models, *Proceedings of the V&L Net CVPR Workshop on Language for Vision*, pp 294–300, June 2013, Portland, OR. <http://dx.doi.org/10.1109/CVPRW.2013.51>



- [6] Y. Bisk and J. Hockenmaier (2012b). Induction of Linguistic Structure with Combinatory Categorical Grammars *Proceedings of the NAACL-HLT Workshop on the Induction of Linguistic Structure*, pages 90–95, Montreal, Canada, June 2012 (System description for our participation in the PASCAL Challenge on Grammar Induction (Shared Task)). <http://aclweb.org/anthology/W/W12/W12-1912.pdf>
- [7] C. Rashtchian, P. Young, M. Hodosh and J. Hockenmaier (2010). Collecting Image Annotations Using Amazon’s Mechanical Turk, *Proceedings of the NAACL HLT 2010 Workshop on Creating Speech and Language Data with Amazon’s Mechanical Turk*, pp 139–147, June 2010, Los Angeles, CA. <http://aclweb.org/anthology/W/W10/W10-2920.pdf>
- [8] J. Hockenmaier and P. Young (2008). Non-local scrambling: the equivalence of TAG and CCG revisited, *Proceedings of The Ninth International Workshop on Tree Adjoining Grammars and Related Formalisms*, pp 41–48, Tübingen, Germany. June, 2008 <http://nlp.cs.illinois.edu/HockenmaierGroup/Papers/TAG2008/HockenmaierYoung.pdf>
- [9] S. Clark and J. Hockenmaier (2002). Evaluating a Wide-Coverage CCG Parser, *Proceedings of Beyond PARSEVAL workshop*, pp 60–66, Las Palmas, Spain, June 2002. <http://nlp.cs.illinois.edu/HockenmaierGroup/Papers/LREC2002/ClarkHockenmaier02.pdf>
- [10] J. Hockenmaier (2001). Statistical Parsing for CCG with Simple Generative Models, *Proceedings of Student Research Workshop, 39th Annual Meeting of the Association for Computational Linguistics and 10th Meeting of the European Chapter*, pp 7–12, Toulouse, France, July 2001.
- [11] J. Hockenmaier, G. Bierner and J. Baldridge (2000). Providing Robustness for a CCG System, *Proceedings of Workshop on Linguistic Theory and Grammar Implementation, ESSLLI 2000*, pp 97–112, Birmingham, UK, August 2000.

## Refereed abstracts

- [1] D. Reitter, F. Keller and J. Hockenmaier (2007). Corpus-based evidence against sequence priming. Poster presented at the *20th annual CUNY conference on human sentence processing*, La Jolla, March 2007.
- [2] J. Hockenmaier, A. Joshi and K. A. Dill (2005). Routes are trees: The parsing view on protein folding. Poster presented at *13th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB 2005)*, Detroit, MI, June 2005. *Among 50 (out of >600 submissions) selected for oral presentation*

## Corpora

- [1] J. Hockenmaier and Mark Steedman (2005a). *CCGbank*, Linguistic Data Consortium, LDC2005T13 (ISBN 1-58563-340-2), Philadelphia, PA.

## Grants

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**Contract W911NF-15-1-0461 with the US Defense Advanced Research Projects Agency (DARPA) Communicating with Computers Program and the Army Research Office (ARO)**

\$3,000,000 (Illinois: \$944,863), August 2015–August 2020  
PIs: Julia Hockenmaier (since August 2017), Dan Roth (until August 2017);  
Co-PIs: Martha Palmer, Sriraam Natarajan, Jana Doppa

**NSF award 1563727:RI: Medium: Collaborative Research:  
Text-to-Image Reference Resolution for Image Understanding and Manipulation**  
\$550,000.00 June 2016–May 2020  
PI: Svetlana Lazebnik, Co-PI: Julia Hockenmaier

**DARPA: Linguistic Resources for Multilingual Genre-Independent Language Technologies  
BOLT (Univ of Colorado DARPA 1552247)**  
\$27,000.00 for January - May 2015  
PI: Julia Hockenmaier (subcontract from U Colorado, PI: Martha Palmer)

**NSF award 1405883 CI-New: Collaborative Research:  
Federated Data Set Infrastructure for Recognition Problems in Computer Vision**  
\$300,000.00 for August 2014-August 2017  
PI: Julia Hockenmaier

**NSF award CNS-1205627- CI-P: Collaborative Research:  
Visual entailment data set and challenge for the language and vision community**  
\$41,000.00 for July 2012-June 2013  
PI: Tamara Berg (Stony Brook University); Co-PI: Julia Hockenmaier

**NSF CAREER: Bayesian Models for Lexicalized Grammars**  
\$500,000 for February 2011-February 2016  
PI: Julia Hockenmaier

**NSF IIS medium grant: Understanding the Meaning of Images**  
\$550,000 for August 2008—July 2011  
PI: David Forsyth, Co-PI: Julia Hockenmaier

## Gifts

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**Tencent AI Lab Rhino-Bird Gift Fund**  
\$50,000 March 2019  
Awardees: Svetlana Lazebnik, Julia Hockenmaier

**Google Research Award**  
\$29,000 February 2016  
Awardees: Julia Hockenmaier, Svetlana Lazebnik



## Invited seminars and keynotes

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### Keynotes

- “Collaborative Dialog in Minecraft”*  
2020 ICML Workshop on Learning in Open Worlds  
2020 EMNLP Workshop on Spatial Language Understanding (SpLU)
- “Describing Images in Natural Language: Where are we at?”*  
2015 Microsoft Research Faculty Summit. Invited speaker  
Seattle, WA, July 2015
- “An HDP Model for Inducing Combinatory Categorical Grammars”*  
Invited keynote talk at the Statistical Parsing of  
Morphologically Rich Languages (SPMRL) workshop  
Seattle, WA, October 2013
- “The future role of language resources for natural language parsing”*  
Symposium on Language Resources  
Pacific Asia Conference on Language, Information and Computation (PACLIC 24)  
Tohoku University, Sendai, Japan, November 2010
- “Translating the Tiger corpus to CCG: Why yet another German corpus?”*  
Invited keynote talk at the ACL 2008 Workshop on Parsing German,  
Columbus, OH, June 2008
- “What extracting grammars from treebanks can tell us about linguistic theory”*  
Keynote lecture at the 6th International Workshop on Treebanks  
and Linguistic Theories, Bergen, Norway; December, 2007

### Invited seminars

- “Blocksworld revisited: Instruction giving and following in Minecraft ”*  
LTI Colloquium, Carnegie Mellon University, April 2020
- “Getting Computer to Understand Natural Language”*  
Stony Brook University, September 2019
- “Getting Computers to Understand Descriptions of Everyday Events”*  
Colloquium, Toyota Technological Institute, September 2018
- “Describing Images in Natural Language: Where are we at?”*  
CS Colloquium, Hebrew University of Jerusalem, November 2016  
NLP Seminar, Technion, Haifa, November 2016
- “Unsupervised Grammar Induction with Linguistically Expressive Grammars*  
Colloquium, Department of Linguistics, The Ohio State University, March 2019  
CS Colloquium, Department of Computer Science, University of Colorado, April 2014  
Google Tech Talk, Google, Mountain View, August 2014  
University of Edinburgh, UK, July 2014
- “Unsupervised Grammar Induction with Linguistically Expressive Grammars*  
Colloquium, Department of Linguistics, University of Chicago, November 2012
- “Describing Images in Natural Language*  
Distinguished Scholar Speaker Series, Institute of Cognitive Science,  
University of Colorado, April 2014;  
Seminaire Alpage, INRIA, Paris, France, May 2014
- “Learning to describe images”*

Universität Heidelberg, December 2013  
 Carnegie Mellon University, Pittsburgh, March 2013  
 Columbia University, New York, March 2013  
 University of Washington, Seattle, October 2012  
 Microsoft Research, Redmond, October 2012  
 KAIST, Daejeon, Republic of Korea, July 2012  
 CLSP, Johns Hopkins University, Baltimore, September 2011  
 “*Describing images in natural language*”  
 Department of Computer Science and Engineering,  
 Washington University, St. Louis, April 2011  
 “*NLP and computer vision*”  
 Tsujii lab, University of Tokyo, Japan, November 2010  
 “*Scrambling in CCG: a theoretical and empirical evaluation*”  
 Colloquium, Department of Linguistics, Indiana University,  
 Bloomington IN, March 2009  
 “*Protein folding and parsing*”  
 Living texts: interdisciplinary approaches and methodological commonalities  
 in biology and textual analysis (Invitation-only workshop),  
 E-science Institute, Edinburgh, UK, October 2008  
 “*Protein folding and parsing*”  
 Department of Computer Science,  
 Union College, Schenectady, NY, February 2008  
 “*What extracting grammars from treebanks can tell us about linguistic theory*”  
 Colloquium, Department of Linguistics,  
 The University of Illinois at Urbana-Champaign, February 2008  
 “*Protein folding and parsing*”  
 Seminar Series, The Center for Language and Speech Processing,  
 Johns Hopkins University, Baltimore, April 2007  
 “*Protein folding and parsing*”  
 Colloquium, Computer Science Department,  
 The University of Illinois at Urbana-Champaign, April 2007  
 “*Protein folding and parsing*”  
 Colloquium, Computer Science Department,  
 The University of California, Irvine, March 2007  
 “*Statistical parsing with expressive wide-coverage grammars*”  
 Linguistics Department, Northwestern University, February 2007  
 “*Routes are Trees: The Parsing Perspectives on Protein Folding*”  
 Computational Biology Seminar, University of Pittsburgh, December 2005  
 “*Protein folding as chart parsing*”  
 Language Technology Institute, Carnegie Mellon University, December 2005  
 “*Statistical Parsing with CCG, or: Don’t fire your linguist*”  
 Google, New York City, June 2005  
 “*Protein folding as parsing*”  
 NLP group, Stanford University, October 2004  
 “*Data and models for statistical parsing with CCG*”  
 Dublin Computational Linguistics Research Seminar Series,  
 Trinity College, Dublin, December 2003  
 “*Statistical Parsing with CCG*”,

NLP group, Computer Laboratory, University of Cambridge, January 2001  
“*Extracting Combinatory Categorical Grammars from the Penn Treebank*”,  
IMS, Universität Stuttgart, December 2000  
“*What’s in a Character: Comparing Rule-Based and Statistical Language Learning*”  
Dublin Computational Linguistics Research Seminar Series,  
Trinity College, Dublin, March 1999

## **Invited workshop presentations**

2013 UW/MSR Summer Institute “Understanding Situated Language in Everyday Life”  
Alderbrook Resort, WA, July 2013  
NAACL-HTL Workshop “From Words to Actions: Semantic Interpretation in an Actionable Context”  
Montreal, Canada, June 2012  
NIPS Workshop on Integrating Language and Vision  
Sierra Nevada, Spain, December 2011  
NSF Workshop on Language and Vision  
Arlington, VA, May 2011

## **Teaching experience**

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### **Classes taught at the University of Illinois**

N.B.: \* indicates classes with a large lecture component that I developed.

#### **CS546: Machine Learning and Natural Language**

Spring 2014, Spring 2019, Spring 2020

#### **CS446: Machine Learning**

Fall 2013, Spring 2015

#### **CS447: Natural Language Processing\***

Fall 2014, Fall 2015, Fall 2018, Fall 2019, Fall 2020

#### **CS440/ECE448: Introduction to Artificial Intelligence**

Spring 2011, Spring 2019

#### **CS 598: Advanced Natural Language Processing\***

Spring 2009, Spring 2010, Spring 2012, Spring 2013

#### **CS 498: Introduction to Natural Language Processing\***

Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012

#### **CS 591: Semantics, Knowledge Representation and Language Understanding in Context**

Fall 2008 (*With Prof. Dan Roth*)

#### **CS 598: Integrative Intelligent Information Systems**

Spring 2008

*With Profs. David Forsyth and ChengXiang Zhai*

#### **CS 498: Expressive Grammars for Natural Language Processing\***

Fall 2007

## **Tutorials and summer schools**

### **“Tasks, Applications and state-of-the-art methods in Natural Language Processing”**

Tutorial on NLP for a vision audience at the

European Network on Integrating Vision and Language Training School  
Leuven, Belgium, June 2015

**“Describing images in natural language”**

Tutorial on vision and language for a language audience at EACL 2014  
Gothenburg, Sweden, April 2014

**“Describing images in natural language”**

Tutorial on vision and language for a vision audience at CVPR 2014  
Columbus, Ohio, June 2014

**“Wide-Coverage NLP with Linguistically Expressive Grammars”**

Tutorial at ACL 2010

*With Prof. Josef van Genabith (Dublin City University)  
and Yusuke Miyao (National Institute of Informatics)*

Uppsala, Sweden, July 2010

**“Treebank-Based Acquisition of LFG, HPSG and CCG Resources”**

European Summer School in Logic, Language and Information

*With Prof. Josef van Genabith (Dublin City University) and Yusuke Miyao (U.Tokyo)*

Malaga, Spain, Summer 2006

## Student supervision

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### PhD students

Marc Canby, PhD Computer Science, since Fall 2019  
Rajarshi Haldar, PhD Computer Science, since Fall 2018  
Prashant Jayannavar, PhD Computer Science, since Fall 2017  
Anjali Narayan-Chen, PhD Computer Science, since Fall 2014  
Alice Lai, PhD Computer Science, 2018 (now: Microsoft)  
Yonatan Bisk, PhD Computer Science, 2014 (CMU CS/LTI Assistant professor, Fall 2020)  
Micah Hodosh, PhD Computer Science, 2015 (now: A9)  
Peter Young, PhD Computer Science, Spring 2008–Winter 2013 (now: Google)

### MS students

Dhruv Agarwal, MS Computer Science, 2019 (now: Amazon)  
Sidhartha Satapathy, MS Computer Science, 2019 (now: Google)  
Sarah Schieferstein, MS Computer Science, 2018  
Mihika Dave, MS Computer Science, 2018 (now: Facebook)  
Chris Cervantes, MS Computer Science, 2017 (now: Here.com)  
Ryan Musa, MS Computer Science, 2016 (first: IBM Research, now Google)

### External PhD thesis committees

Olivia Winn, Computer Science, Columbia University  
Omid Mohamad Nezami, Computer Science, Macquarie University, 2020  
Desmond Elliott, Informatics, University of Edinburgh, 2014  
Daniel Tse, Computer Science, University of Sydney, 2013  
Gisle Ytrestol, Computer Science, University of Oslo, 2012

### PhD thesis committees at Illinois

Lourentzou, Ismini, Computer Science, 2019  
Ning, Qiang, Computer Science, 2019  
Wilner, Sean, Informatics, 2019  
Suryadi, Dedi, Industrial and Enterprise Systems Engineering, 2019  
Peng, Haoruo, Computer Science, 2018  
Plummer, Bryan, Computer Science, 2018  
Wang, Liwei, Computer Science, 2018  
Roy, Subhro, Computer Science, 2017  
Hyungsul Kim, Computer Science, 2017  
Massung, Sean, Computer Science, 2017  
Pietrowicz, Mary, Computer Science, 2017  
Girlea, Codruta, Computer Science, 2017  
Wang, Jingjing, Computer Science, 2016  
Rania Al-Sabbagh, Linguistics, 2015  
Gourab Kundu, Computer Science, 2014  
Marina Danilevsky, Computer Science, 2014  
Mehwish Riaz, Computer Science, 2014  
Alla Rozovskaya, Linguistics, 2013  
Vivek Srikumar, Computer Science, 2013  
Quang Do, Computer Science 2012  
Dan Goldwasser, Computer Science 2012  
Yuancheng Tu, Linguistics 2012  
Matt Garley, Linguistics 2012

Michael Connor, Computer Science 2011  
Hannaneh Hajishirzi, Computer Science 2011  
Alexander Sorokin, Computer Science 2011  
Kevin Small, Computer Science 2009

### **Senior theses**

Zijian Yao, Fall 2017  
Yongjin Kim, Fall 2017  
Xiaoyan Wang, Fall 2017  
Zeno Barcutean, Spring 2015  
Sohan Rao, Spring 2014  
Hannah Rashkin, Fall 2013  
Paul Lambert, Spring 2012  
Yanchuan Sim, Spring 2010  
Cyrus Rashtchian, Spring/Summer 2010

## **Professional service**

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### **Activities in Professional Societies:**

2018–2019 Chair of the board of the NAACL  
(North American Chapter of the Association for Computational Linguistics)  
2018–2019 Ex-officio Member of the Executive Board of the ACL  
(Association for Computational Linguistics)  
2016–2017 Member of the board of the NAACL  
(North American Chapter of the Association for Computational Linguistics)  
2017–2021 President, SIGNLL (ACL's Special Interest Group on Natural Language Learning)  
2014–2016 Secretary, SIGNLL (ACL's Special Interest Group on Natural Language Learning)

### **Conference Chairing:**

2018 Co-Program Chair of the Conference on Empirical Methods in Natural Language Processing (EMNLP)  
2013 Co-Chair of the Seventeenth Conference on Computational  
Natural Language Learning (CoNLL-2013)

### **Editorial Board Membership:**

ACM Transactions on Asian Language Processing (TALIP) (2013–2015)  
Journal of Artificial Intelligence Research (JAIR) (2013–2016, now Associate Editor)  
Computational Linguistics (2011–2014)  
Revue Traitement Automatique des Langues (TAL);  
Standing Reviewer for Transactions of the Association for Computational Linguistics (TACL) (2015–)

### **Senior Program Committees:**

Senior area chair, ACL 2019  
Area chair, EMNLP 2017  
Senior program committee (area chair for vision & language area), NAACL 2015  
Senior program committee (area chair for vision & language area), EMNLP 2015  
Senior program committee, AAAI 2014  
Senior program committee (co-chair for syntax/parsing area), HLT-NAACL 2007

### **Program Committees:**

EMNLP 2019  
ACL 2004, 2005, 2007, 2010, 2011, 2012, 2013, 2014, 2015, 2020  
(*Annual Meeting of the Association for Computational Linguistics*)  
ACL/COLING 2006



*(Joint Meeting of the ACL and International Conference on Computational Linguistics)*  
ACL-HLT 2008  
*(Annual Meeting of the Association for Computational Linguistics: Human Language Technologies)*  
ACL/IJCNLP 2009  
*(47th ACL and 4th International Joint Conference on NLP of the Asian Federation of NLP)*  
COLING 2004, 2008, 2010, 2012  
*(International Conference on Computational Linguistics)*  
EACL 2009, 2012  
*(Conference of the European Chapter of the Association for Computational Linguistics)*  
ICML 2009, 2013, 2014  
International Conference on Machine Learning  
IWPT 2007, 2011, 2013  
*(International Conference on Parsing Technologies)*  
HLT-NAACL 2006 , 2010, 2012, 2013  
*(Joint Human Language Technology Conference / North American Chapter of the ACL meeting)*  
EMNLP-CONLL 2012

**Other conference and Workshop Organization:**

Co-organizer, Workshop on Vision and Language, NAACL-HTL 2013  
Faculty advisor, Student Research Workshop, NAACL-HLT 2013  
Faculty advisor, Student Research Workshop, NAACL-HLT 2010  
Co-organizer, ACL 2007 Workshop on Deep Linguistic Processing  
Co-program chair, Student Research Workshop, EACL '03;

**Reviewing (Journals), regular:**

Computational Linguistics  
Transactions of the Association for Computational Linguistics (TACL)

**Reviewing (Journals), ad-hoc:**

Journal of Logic, Language and Information  
Proceedings of the National Academy of Sciences (PNAS)  
Journal of Computer Speech and Language  
Journal of Natural Language Engineering  
Language Resources and Evaluation  
IEEE Intelligent Systems  
Entropy

**Reviewing (Conferences):**

CVPR 2012  
*(IEEE Conference on Computer Vision and Pattern Recognition)*  
EMNLP 2003, 2006 and 2008  
*(Conference on Empirical Methods in Natural Language Processing)*  
EMNLP-CoNLL 2007  
*(Joint EMNLP and CoNLL)*  
CoNLL 2009 and 2010  
*(Conference on Computational Natural Language Learning.)*  
HLT-EMNLP 2005  
*(Human Language Technology /Conf. on Empirical Methods in Natural Language Processing)*  
ICML 2009  
*(26th International Conference on Machine Learning)*  
AAAI 2008, 2015  
*(AAAI Conference on Artificial Intelligence)*

ICCPOL 2006

*(International Conference on Computer Processing of Oriental Languages)*

IJCNLP 2005

*(International Joint Conference on Natural Language Processing)*

**Reviewing (Grants):**

Israel Science Foundation

Natural Sciences and Engineering Research Council of Canada

Science Foundation Ireland Basic Research Programme review

National Science Foundation Panelist 2008, 2010, 2013

**University and Departmental Service**

Member of the Senate of the Urbana-Champaign Campus,

August 2017– August 2019

Chair of the Artificial Intelligence Area, Dept. of Computer Science, U. of Illinois,  
since August 2018