Christopher David Manning

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A. Education

1990–1994	Ph.D. Stanford University, Dept. of Linguistics, awarded January 1995. Dissertation: *Ergativity: Argument Structure and Grammatical Relations.* Committee: Joan Bresnan (chair), Mary Dalrymple, Ivan Sag, Peter Sells.
1984–1989	B.A. (Hons) with First Class Honours in Linguistics, The Australian National University. Additional majors in Mathematics and Computer Science. Honours Thesis: *The Acquisition of Morphology.* Advisor: Avery D. Andrews.

Scholarships and Honors

Bernard and Julia Bloch Memorial Fellow (student representative on the Linguistic Society of America Executive Committee), 1993–1995.

Stanford Centennial Teaching Assistant (award in honor of outstanding teaching), 1993.

Fellowships, 1991 and 1993 Linguistic Society of America Summer Institutes.

Stanford University Fellowship, 1990–1994.

University Medal, Australian National University, 1989.

(Australian) National Undergraduate Scholarship, 1984–1989.

B. Employment

01/09/2012–now	Professor of Computer Science and Linguistics, Stanford University.
2010–2011	Visiting faculty at Google while on sabbatical from Stanford.
01/09/2006–2012	Associate Professor of Computer Science and Linguistics, Stanford University.
01/09/1999–2006	Assistant Professor of Computer Science and Linguistics, Stanford University.
1996–1999	Lecturer (tenured from 1998), Department of Linguistics, University of Sydney.
1994–1996	Assistant Professor, Computational Linguistics Program, Department of Philosophy, Carnegie Mellon University.
1989–1990	Teacher, Ichihara Chūō Gakkō, Chiba-ken, Japan
1996	Computer Systems Officer, Department of House of Representatives, Canberra, Australia

C. Professional Service

Association for Computational Linguistics
Member of the *Computational Linguistics* Editorial Board 1998–2000, Treasurer for NAACL (the North American chapter), 2006–12. President of the ACL, 2015 (ACL Executive Board 2013–2016).

Linguistic Society of America
Member of Executive Committee (Bernard and Julia Bloch Memorial Fellow), 1993–95, Member of the Interim Committee on the Status of Minorities in Linguistics 1993–94, Member of Committee on Endangered Languages and Their Preservation, 2003–06.

Refereeing (since 2011)

2016	NAACL 2016, *Journal of Artificial Intelligence Research*, ACL 2016, ICLR 2016, LREC 2016.
2015	NAACL 2015, ICLR 2015, EMNLP 2015.
2014	*Artificial Intelligence*, *Journal of Machine Learning Research*, LREC 2014, NIPS 2014, ICLR 2014, Allen Distinguished Investigators in Artifical Intelligence.
2013	Coling 2012, DepLing 2013, ICLR 2013 program co-chair, NIPS 2013, NSF CAREER grants.
2012	WWW 2012, NAACL HLT 2012, ACL 2012, Coling 2012
2011	EMNLP 2011, ACL HLT 2011, co-program chair for CoNLL 2011, ICML 2011 *Journal of Machine Learning Research*, NSF Robust Intelligence program grant reviewer, *Machine Learning*, *Machine Translation*.

D. Post-degree honors

Best new data set or resource award at EMNLP 2015 for the paper "A large annotated corpus for learning natural language inference" (with Samuel R. Bowman, Gabor Angeli, and Christopher Potts).

Best paper award at EMNLP 2014 for the paper "Modeling Biological Processes for Reading Comprehension" (with Jonathan Berant, Vivek Srikumar, Pei-Chun Chen, Abby Vander Linden, Brittany Harding, Brad Huang, and Peter Clark).

Fellow of the Association for Computing Machinery, 2013.

Best paper award at ACM Human Factors in Computing Systems (CHI), 2013 for the paper "The Efficacy of Human Post-Editing for Language Translation" (with Spence Green and Jeffrey Heer).

Fellow of the Association for Computational Linguistics (ACL), 2011.

Distinguished paper award at the 25th International Conference on Machine Learning (ICML 2011) for the paper "Parsing Natural Scenes and Natural Language with Recursive Neural Networks" (with Richard Socher, Cliff Chiung-Yu Lin, and Andrew Ng).

American Association for Artificial Intelligence (AAAI) Fellow, 2010.

Springer best paper award at the 22nd International Conference on Computational Linguistics (Coling 2008) for the paper "Modeling semantic containment and exclusion in natural language inference" (with Bill MacCartney).

Sony Faculty Scholar in the School of Engineering, Stanford, 2007–2011.

Best paper award at the 2004 Conference on Empirical Methods in Natural Language Processing for the paper "Max-Margin Parsing" (with Ben Taskar, Dan Klein, Michael Collins, and Daphne Koller).

Best paper award at the 2003 Association for Computational Linguistics Annual Meeting for the paper "Accurate Unlexicalized Parsing" (with Dan Klein).

IBM Faculty Partnership Award, Stanford University, 2001, 2002, 2003, 2005.

Frederick E. Terman Fellowship, Stanford University, 1999–2002.

Membership in Professional Organizations

Association for Computational Linguistics

American Association for Artificial Intelligence

Association for Computing Machinery (including SIGIR and SIGKDD)

E. Publications

Books

Christopher D. Manning, Prabhakar Raghavan, and Hinrich Schütze. 2008. *Introduction to Information Retrieval*. Cambridge: Cambridge University Press. pp. xxi+482.

Christopher D. Manning and Hinrich Schütze. 1999. *Foundations of Statistical Natural Language Processing*. Cambridge, MA: MIT Press. pp. xxvii+680.

Avery D. Andrews and Christopher D. Manning. 1999. *Complex Predicates and Information Spreading in LFG*. Stanford, CA: CSLI Publications. pp. ix+153.

Christopher D. Manning. 1996. *Ergativity: Argument Structure and Grammatical Relations*. Stanford, CA: CSLI Publications. pp. xiii+222.

Journal Articles

Christopher D. Manning. 2015. Computational linguistics and deep learning. *Computational Linguistics* 41:701–707. [Invited contribution].

Spence Green, Jeffrey Heer, and Christopher D. Manning. 2015. Natural language translation at the intersection of AI and HCI. *Communications of the ACM* 58:46–53.

Julia Hirschberg and Christopher D. Manning. 2015. Advances in natural language processing. *Science* 349:261–266. [Review article].

Sonal Gupta, Diana L. MacLean, Jeffrey Heer, and Christopher D. Manning. 2014. Induced lexico-syntactic patterns improve information extraction from online medical forums. *Journal of the American Medical Informatics Association (JAMIA)* 21:902–909.

Mengqiu Wang and Christopher D. Manning. 2014. Cross-lingual projected expectation regularization for weakly supervised learning. *Transactions of the Association for Computational Linguistics* 2:55–66.

Richard Socher, Andrej Karpathy, Quoc V. Le, Christopher D. Manning, and Andrew Y. Ng. 2014. Grounded compositional semantics for finding and describing images with sentences. *Transactions of the Association for Computational Linguistics* pp. 207–218.

Daniel A. McFarland, Daniel Ramage, Jason Chuang, Jeffrey Heer, Christopher D. Manning, and Daniel Jurafsky. 2013. Differentiating language usage through topic models. *Poetics* 41:607–625.

Spence Green, Marie-Catherine de Marneffe, and Christopher D. Manning. 2013. Parsing models for identifying multiword expressions. *Computational Linguistics* 39:195–227.

Jason Chuang, Christopher D. Manning, and Jeffrey Heer. 2012. "Without the clutter of unimportant words": Descriptive keyphrases for text visualization. *ACM Transactions on Computer-Human Interaction* 19:1–29.

Marie-Catherine de Marneffe, Christopher D. Manning, and Christopher Potts. 2012. Did it happen? The pragmatic complexity of veridicality assessment. *Computational Linguistics* 38:301–333.

David McClosky, Sebastian Riedel, Mihai Surdeanu, Andrew McCallum, and Christopher D. Manning. 2012. Combining joint models for biomedical event extraction. *BMC Bioinformatics* 13 (Suppl 11).

Sharon Goldwater, Dan Jurafsky, and Christopher D. Manning. 2010. Which words are hard to recognize? Prosodic, lexical, and disfluency factors that increase speech recognition error rates. *Speech Communication* 52:181–200.

Sebastian Padó, Daniel Cer, Michel Galley, Dan Jurafsky, and Christopher D. Manning. 2009. Measuring machine translation quality as semantic equivalence: A metric based on entailment features. *Machine Translation* 23: 181–193.

Kristina Toutanova, Aria Haghighi, and Christopher D. Manning. 2008. A global joint model for semantic role labeling. *Computational Linguistics* 34: 161–191.

Nick Chater and Christopher D. Manning. 2006. Probabilistic models of language processing and acquisition. *TRENDS in Cognitive Sciences* 10:335–344.

Kristina Toutanova, Christopher D. Manning, Dan Flickinger, and Stephan Oepen. 2005. Stochastic HPSG parse disambiguation using the Redwoods corpus. *Research on Language & Computation* 3:83–105. Based on the paper: Kristina Toutanova, Christopher D. Manning, Stuart M. Shieber, Dan Flickinger, and Stephan Oepen, Parse Disambiguation for a Rich HPSG Grammar, appearing in *Proceedings of The First Workshop on Treebanks and Linguistic Theories (TLT2002)*, Sozopol, Bulgaria, 2002, pp. 253–263.

Dan Klein and Christopher D. Manning. 2005. Natural language grammar induction with a generative constituent-context model. *Pattern Recognition* 38:1407–1419.

Shipra Dingare, Malvina Nissim, Jenny Finkel, Christopher Manning, and Claire Grover. 2005. A system for identifying named entities in biomedical text: How results from two evaluations reflect on both the system and the evaluations. *Comparative and Functional Genomics* 6:77–85.

Jenny Finkel, Shipra Dingare, Christopher Manning, Malvina Nissim, Beatrice Alex, and Claire Grover. 2005. Exploring the boundaries: Gene and protein identification in biomedical text. *BMC Bioinformatics* 6 (Suppl 1):S5 (9 pp). Original version in the *Proceedings of the BioCreative Workshop*, Granada.

Stephan Oepen, Dan Flickinger, Kristina Toutanova, and Christopher D. Manning. 2004. LinGO Redwoods: A rich and dynamic treebank for HPSG. *Research on Language & Computation* 2:575–596. Originally appeared in *Proceedings of The First Workshop on Treebanks and Linguistic Theories (TLT2002)*, Sozopol, Bulgaria, 2002, pp. 139–149.

Miriam Corris, Christopher Manning, Susan Poetsch, and Jane Simpson. 2004. How useful and usable are dictionaries for speakers of Australian Indigenous languages? *International Journal of Lexicography* 17:33–68.

Christopher D. Manning, Kevin Jansz, and Nitin Indurkhya. 2001. Kirrkirr: Software for browsing and visual exploration of a structured Warlpiri dictionary. *Literary and Linguistic Computing* 16:135–151.

Christopher D. Manning and Ivan A. Sag. 1998. Argument structure, valence, and binding. *Nordic Journal of Linguistics* 21:107–144.

Edited volumes

Annie Zaenen, Jane Simpson, Tracy Holloway King, Jane Grimshaw, Joan Maling, and Chris Manning (eds.). 2007. *Archictectures, Rules, and Preferences: Variations on Themes by Joan W. Bresnan.* Stanford, CA: CSLI Publications.

Book chapters/sections

Bill MacCartney and Christopher D. Manning. 2014. Natural logic and natural language inference. In Harry Bunt, Johan Bos, and Stephen Pulman (eds.), *Computing Meaning*, volume 4, pp. 129–147. Springer.

Pi-Chuan Chang, Michel Galley, Niyu Ge, and Christopher D. Manning. 2011. Customizing Chinese word segmentation for improved machine translation. In Joseph Olive, Caitlin Christianson, and John McCary (eds.), *Handbook of Natural Language Processing and Machine Translation: DARPA Global Autonomous Language Exploitation*, pp. 145–152. New York, NY: Springer.

Marie-Catherine de Marneffe, Anna N. Rafferty, and Christopher D. Manning. 2011. Identifying conflicting information in texts. In Joseph Olive, Caitlin Christianson, and John McCary (eds.), *Handbook of Natural Language Processing and Machine Translation: DARPA Global Autonomous Language Exploitation*, pp. 683–690. New York, NY: Springer.

Sebastian Pado, Michel Galley, and Christopher Manning. 2011. The Stanford RTE-based metrics (RTE and RTE+MT). In Joseph Olive, Caitlin Christianson, and John McCary (eds.), *Handbook of Natural Language Processing and Machine Translation: DARPA Global Autonomous Language Exploitation*, pp. 835–837. New York, NY: Springer.

Dan Klein and Christopher D. Manning. 2004. Parsing and hypergraphs. In Harry Bunt, John Carroll, and Giorgio Satta (eds.), *New Developments in Parsing Technology*, pp. 351–372. Dordrecht: Kluwer Academic Publishers. Originally appeared in the *Proceedings of the 7th International Workshop on Parsing Technologies (IWPT-2001)*, pp. 123–134.

Christopher D. Manning. 2003. Probabilistic syntax. In Rens Bod, Jennifer Hay, and Stefanie Jannedy (eds.), *Probabilistic Linguistics*, pp. 289–341. Cambridge, MA: MIT Press.

Miriam Corris, Christopher Manning, Susan Poetsch, and Jane Simpson. 2002. Dictionaries and endangered languages. In David Bradley and Maya Bradley (eds.), *Language Endangerment and Language Maintenance*, pp. 329–347. London: RoutledgeCurzon. Previously presented at the Endangered Languages Workshop, La Trobe University, 1999, and the 1999 Perth Congress of the Applied Linguistics Association of Australia.

Christopher D. Manning and Bob Carpenter. 2000. Probabilistic parsing using left corner language models. In Harry Bunt and Anton Nijholt (eds.), *Advances in Probabilistic and Other Parsing Technologies*, pp. 105–124. Dordrecht: Kluwer Academic Publishers. Originally appeared in the *Proceedings of the Fifth International Workshop on Parsing Technologies (IWPT-97)*, pp. 147–158, 1997.

Christopher David Manning, Ivan A. Sag, and Masayo Iida. 1999. The lexical integrity of Japanese causatives. In Robert D. Levine and Georgia M. Green (eds.), *Studies in Contemporary Phrase Structure Grammar*, pp. 39–79. Cambridge: Cambridge University Press.

Christopher D. Manning and Ivan A. Sag. 1999. Dissociations between argument structure and grammatical relations. In Gert Webelhuth, Jean-Pierre Koenig, and Andreas Kathol (eds.), *Lexical And Constructional Aspects of Linguistic Explanation*, pp. 63–78. Stanford, CA: CSLI Publications.

Christopher D. Manning. 1997. Grammatical relations versus binding: On the distinctness of argument structure. In F. Corblin, D. Godard, and J.-M. Marandin (eds.), *Empirical Issues in Formal Syntax and Semantics*, pp. 79–102. Bern: Peter Lang.

Christopher D. Manning. 1993. Analyzing the verbal noun: Internal and external constraints. In Soonja Choi (ed.), *Japanese/Korean Linguistics*, volume 3, pp. 236–253. Stanford, CA: Stanford Linguistics Association.

Refereed Full Papers in Conference Proceedings

Gabor Angeli, Neha Nayak, and Christopher D. Manning. 2016. Combining

natural logic and shallow reasoning for question answering. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 442–452.

Kevin Clark and Christopher D. Manning. 2016. Improving coreference resolution by learning entity-level distributed representations. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 643–653.

Minh-Thang Luong and Christopher D. Manning. 2016. Achieving open vocabulary neural machine translation with hybrid word-character models. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 1054–1063.

Samuel R. Bowman, Jon Gauthier, Abhinav Rastogi, Raghav Gupta, Christopher D. Manning, and Christopher Potts. 2016. A fast unified model for parsing and sentence understanding. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 1466–1477.

Danqi Chen, Jason Bolton, and Christopher D. Manning. 2016. A thorough examination of the CNN/Daily Mail reading comprehension task. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 2358–2367.

Sida I. Wang, Percy Liang, and Christopher D. Manning. 2016. Learning language games through interaction. In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 2368–2378.

Abigail See, Minh-Thang Luong, and Christopher D. Manning. 2016. Compression of neural machine translation models via pruning. In *Proceedings of The 20th SIGNLL Conference on Computational Natural Language Learning*, pp. 291–301.

Thang Luong, Hieu Pham, and Christopher D. Manning. 2015. Effective approaches to attention-based neural machine translation. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, pp. 1412–1421.

Samuel R. Bowman, Gabor Angeli, Christopher Potts, and Christopher D. Manning. 2015. A large annotated corpus for learning natural language inference. In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*, pp. 632–642.

Natalia Silveira and Christopher Manning. 2015. Does universal dependencies need a parsing representation? an investigation of English. In *Proceedings of the Third International Conference on Dependency Linguistics (Depling 2015)*, pp. 310–319.

Minh-Thang Luong and Christopher D. Manning. 2015. Stanford neural machine translation systems for spoken language domains. In *Proceedings of*

the 12th International Workshop on Spoken Language Translation (IWSLT 2015).

Keenon Werling, Arun Chaganty, Percy Liang, and Christopher D. Manning. 2015. On-the-job learning with bayesian decision theory. In *Advances in Neural Information Processing Systems 28*.

Neha Nayak, Gabor Angeli, and Christopher D. Manning. 2016. Evaluating word embeddings using a representative suite of practical tasks. In *Proceedings of the 1st Workshop on Evaluating Vector-Space Representations for NLP*, pp. 19–23.

Thang Luong, Michael Kayser, and Christopher D. Manning. 2015. Deep neural language models for machine translation. In *Proceedings of the Nineteenth Conference on Computational Natural Language Learning*, pp. 305–309.

Diana MacLean, Sonal Gupta, Anna Lembke, Christopher Manning, and Jeffrey Heer. 2015. Forum77: An analysis of an online health forum dedicated to addiction recovery. In *Proceedings of the 18th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2015)*.

Manolis Savva, Angel X. Chang, Gilbert Bernstein, Christopher D. Manning, and Pat Hanrahan. 2014. On being the right scale: Sizing large collections of 3D models. In *SIGGRAPH Asia 2014 Workshop on Indoor Scene Understanding: Where Graphics meets Vision*.

Spence Green, Jason Chuang, Jeffrey Heer, and Christopher D. Manning. 2014. Predictive translation memory: A mixed-initiative system for human language translation. In *ACM User Interface Software & Technology (UIST)*.

Angel Chang, Will Monroe, Manolis Savva, Christopher Potts, and Christopher D. Manning. 2015. Text to 3d scene generation with rich lexical grounding. In *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*, pp. 53–62.

Gabor Angeli, Melvin Jose Johnson Premkumar, and Christopher D. Manning. 2015. Leveraging linguistic structure for open domain information extraction. In *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*, pp. 344–354.

Keenon Werling, Gabor Angeli, and Christopher D. Manning. 2015. Robust subgraph generation improves abstract meaning representation parsing. In *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*, pp. 982–991.

Kevin Clark and Christopher D. Manning. 2015. Entity-centric coreference resolution with model stacking. In *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*, pp. 1405–1415.

Kai Sheng Tai, Richard Socher, and Christopher D. Manning. 2015. Improved semantic representations from tree-structured long short-term memory networks. In *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*, pp. 1556–1566.

Hieu Pham, Thang Luong, and Christopher Manning. 2015. Learning distributed representations for multilingual text sequences. In *Proceedings of the 1st Workshop on Vector Space Modeling for Natural Language Processing*, pp. 88–94.

Thang Luong, Hieu Pham, and Christopher D. Manning. 2015. Bilingual word representations with monolingual quality in mind. In *Proceedings of the 1st Workshop on Vector Space Modeling for Natural Language Processing*, pp. 151–159.

Sebastian Schuster, Ranjay Krishna, Angel Chang, Li Fei-Fei, and Christopher D. Manning. 2015. Generating semantically precise scene graphs from textual descriptions for improved image retrieval. In *Proceedings of the Fourth Workshop on Vision and Language*, pp. 70–80.

Samuel R. Bowman, Christopher Potts, and Christopher D. Manning. 2015. Recursive neural networks can learn logical semantics. In *Proceedings of the 3rd Workshop on Continuous Vector Space Models and their Compositionality*, pp. 12–21.

Sonal Gupta and Christopher D. Manning. 2015. Distributed representations of words to guide bootstrapped entity classifiers. In *Proceedings of the 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, pp. 1215–1220.

Romain Paulus, Richard Socher, and Christopher D Manning. 2014. Global belief recursive neural networks. In Z. Ghahramani, M. Welling, C. Cortes, N. D. Lawrence, and K. Q. Weinberger (eds.), *Advances in Neural Information Processing Systems 27*, pp. 2888–2896.

Roy Frostig, Sida Wang, Percy S Liang, and Christopher D Manning. 2014. Simple map inference via low-rank relaxations. In Z. Ghahramani, M. Welling, C. Cortes, N. D. Lawrence, and K. Q. Weinberger (eds.), *Advances in Neural Information Processing Systems 27*, pp. 3077–3085.

Vivek Srikumar and Christopher D Manning. 2014. Learning distributed representations for structured output prediction. In Z. Ghahramani, M. Welling, C. Cortes, N. D. Lawrence, and K. Q. Weinberger (eds.), *Advances in Neural Information Processing Systems 27*, pp. 3266–3274.

Danqi Chen and Christopher D Manning. 2014. A fast and accurate dependency parser using neural networks. In *Empirical Methods in Natural Language Processing (EMNLP)*.

Gabor Angeli and Christopher D. Manning. 2014. Naturalli: Natural logic inference for common sense reasoning. In *Proceedings of the 2014 Conference*

on Empirical Methods in Natural Language Processing (EMNLP), pp. 534–545.

Spence Green, Sida I. Wang, Jason Chuang, Jeffrey Heer, Sebastian Schuster, and Christopher D. Manning. 2014. Human effort and machine learnability in computer aided translation. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 1225–1236.

Jonathan Berant, Vivek Srikumar, Pei-Chun Chen, Abby Vander Linden, Brittany Harding, Brad Huang, Peter Clark, and Christopher D. Manning. 2014. Modeling biological processes for reading comprehension. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 1499–1510.

Jeffrey Pennington, Richard Socher, and Christopher Manning. 2014. Glove: Global vectors for word representation. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 1532–1543.

Gabor Angeli, Julie Tibshirani, Jean Wu, and Christopher D. Manning. 2014. Combining distant and partial supervision for relation extraction. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 1556–1567.

Angel Chang, Manolis Savva, and Christopher D. Manning. 2014. Learning spatial knowledge for text to 3d scene generation. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pp. 2028–2038.

Manolis Savva, Angel X. Chang, Christopher D. Manning, and Pat Hanrahan. 2014. TransPhoner: Automated mnemonic keyword generation. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI 2014)*, pp. 3725–3734.

Julie Tibshirani and Christopher D. Manning. 2014. Robust logistic regression using shift parameters. In *Proceedings of the Association for Computational Linguistics*.

Kenneth Heafield, Michael Kayser, and Christopher D. Manning. 2014. Faster Phrase-Based decoding by refining feature state. In *Proceedings of the Association for Computational Linguistics*, Baltimore, MD, USA.

Mengqiu Wang, Rob Voigt, and Christopher D. Manning. 2014. Two knives cut better than one: Chinese word segmentation with dual decomposition. In *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (ACL 2014): Short Papers*.

Will Monroe, Spence Green, and Christopher D. Manning. 2014. Word segmentation of informal arabic with domain adaptation. In *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (ACL 2014): Short Papers*.

Sonal Gupta and Christopher D. Manning. 2014. Improved pattern learning for bootstrapped entity extraction. In *Proceedings of the Eighteenth Conference on Computational Natural Language Learning (CoNLL)*.

Spence Green, Daniel Cer, and Christopher D. Manning. 2014a. An empirical comparison of features and tuning for phrase-based machine translation. In *Proceedings of the ACL 2014 Ninth Workshop on Statistical Machine Translation*.

Spence Green, Daniel Cer, and Christopher D. Manning. 2014b. Phrasal: A toolkit for new directions in statistical machine translation. In *Proceedings of the ACL 2014 Ninth Workshop on Statistical Machine Translation*.

Richard Socher, Milind Ganjoo, Christopher D. Manning, and Andrew Y. Ng. 2013a. Zero-shot learning through cross-modal transfer. In *Advances in Neural Information Processing Systems 26 (NIPS 2013)*, pp. 935–943.

Richard Socher, Danqi Chen, Christopher D Manning, and Andrew Ng. 2013b. Reasoning with neural tensor networks for knowledge base completion. In *Advances in Neural Information Processing Systems 26 (NIPS 2013)*, pp. 926–934.

Sida Wang, Mengqiu Wang, Stefan Wager, Percy Liang, and Christopher D. Manning. 2013. Feature noising for log-linear structured prediction. In *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing*, pp. 1170–1179.

Richard Socher, Alex Perelygin, Jean Wu, Jason Chuang, Christopher D. Manning, Andrew Ng, and Christopher Potts. 2013. Recursive deep models for semantic compositionality over a sentiment treebank. In *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing*, pp. 1631–1642.

Will Y. Zou, Richard Socher, Daniel Cer, and Christopher D. Manning. 2013. Bilingual word embeddings for phrase-based machine translation. In *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing*, pp. 1393–1398.

Aju Thalappillil Scaria, Jonathan Berant, Mengqiu Wang, Peter Clark, Justin Lewis, Brittany Harding, and Christopher D. Manning. 2013. Learning biological processes with global constraints. In *Proceedings of EMNLP*.

Gabor Angeli and Christopher Manning. 2013. Philosophers are mortal: Inferring the truth of unseen facts. In *Proceedings of the Seventeenth Conference on Computational Natural Language Learning*, pp. 133–142.

Thang Luong, Richard Socher, and Christopher Manning. 2013. Better word representations with recursive neural networks for morphology. In *Proceedings of the Seventeenth Conference on Computational Natural Language Learning*, pp. 104–113.

Mengqiu Wang, Wanxiang Che, and Christopher D. Manning. 2013. Effective bilingual constraints for semi-supervised learning of named entity recognizers. In *Proceedings of AAAI*.

Spence Green, Jeffrey Heer, and Christopher D. Manning. 2013. The efficacy of human post-editing for language translation. In *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*, pp. 439–448.

Richard Socher, John Bauer, Christopher D. Manning, and Andrew Y. Ng. 2013. Parsing with compositional vector grammars. In *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 455–465.

Marie-Catherine de Marneffe, Miriam Connor, Natalia Silveira, Samuel R. Bowman, Timothy Dozat, and Christopher D. Manning. 2013. More constructions, more genres: Extending Stanford dependencies. In *Proceedings of the Second International Conference on Dependency Linguistics (DepLing 2013)*, pp. 187–196.

Daniel Cer, Christopher D. Manning, and Dan Jurafsky. 2013. Positive diversity tuning for machine translation system combination. In *Proceedings of the Eighth Workshop on Statistical Machine Translation*, pp. 320–328.

Spence Green, Daniel Cer, Kevin Reschke, Rob Voigt, John Bauer, Sida Wang, Natalia Silveira, Julia Neidert, and Christopher D. Manning. 2013. Feature-rich phrase-based translation: Stanford University's submission to the WMT 2013 translation task. In *Proceedings of the Eighth Workshop on Statistical Machine Translation*, pp. 148–153.

Jason Chuang, Sonal Gupta, Christopher D. Manning, and Jeffrey Heer. 2013. Topic model diagnostics: Assessing domain relevance via topical alignment. In *International Conference on Machine Learning (ICML)*.

Mengqiu Wang, Wanxiang Che, and Christopher D. Manning. 2013. Joint word alignment and bilingual named entity recognition using dual decomposition. In *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 1073–1082.

Spence Green, Sida Wang, Daniel Cer, and Christopher D. Manning. 2013. Fast and adaptive online training of feature-rich translation models. In *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 311–321.

Sida Wang and Christopher Manning. 2013a. Fast dropout training. In *Proceedings of the 30th International Conference on Machine Learning (ICML-13)*, pp. 118–126.

Mengqiu Wang and Christopher D. Manning. 2013b. Learning a product of experts with elitist lasso. In *Proceedings of the 6th International Joint Conference on Natural Language Processing (IJCNLP)*.

Mengqiu Wang and Christopher D. Manning. 2013c. Effect of non-linear deep architecture in sequence labeling. In *Proceedings of the 6th International Joint Conference on Natural Language Processing (IJCNLP)*.

Wanxiang Che, Mengqiu Wang, Christopher D. Manning, and Ting Liu. 2013. Named entity recognition with bilingual constraints. In *Proceedings of NAACL HLT*, pp. 52–62.

Richard Socher and Brody Huval and Bharath Bhat and Christopher D. Manning and Andrew Y. Ng. 2012. Convolutional-Recursive Deep Learning for 3D Object Classification. In *Advances in Neural Information Processing Systems 25*.

Richard Socher, Brody Huval, Christopher D. Manning, and Andrew Y. Ng. 2012. Semantic compositionality through recursive matrix-vector spaces. In *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning*, pp. 1201–1211.

Mengqiu Wang and Christopher D. Manning. 2012. Probabilistic finite state machines for regression-based MT evaluation. In *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning*, pp. 984–994.

David McClosky and Christopher D. Manning. 2012. Learning constraints for consistent timeline extraction. In *Proceedings of the 2012 Joint Conference on Empirical Methods in Natural Language Processing and Computational Natural Language Learning*, pp. 873–882.

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Recent invited talks

Understanding Human Language: Can NLP and Deep Learning Help. Invited talk at the 39th International ACM SIGIR conference (SIGIR 2016)

The Case for Universal Dependencies. Invited talk at the 2015 International Conference on Dependency Linguistics (DepLing 2015)

Computational Linguistics and Deep Learning. Presidential Address at the 2015 Annual Meeting of the Association for Computational Linguistics

Compositional Deep Learning. Invited talk at the NAACL 2015 Workshop on Vector Space Modeling for NLP.

Distributed representations of language are back. Invited talk at BayLearn 2014.

Grants (since 2011)

Deep Models of Compositionality and Context. DARPA CwC (Communicating with Computers), Oct 1, 2015–Sept 30, 2020. With Percy Liang and Dan Jurafsky. Funded.

Deep Understanding: Integrating Neural and Symbolic Models of Meaning. NSF RI Medium. July 1, 2015–June 30, 2018. Funded.

Question Answering Using Linguistic Features and Textual Inference. Sponsored Project funded by Vulcan, Inc. For second and third year, transferred to Allen Institute for Artificial Intelligence. Aug 1, 2012–Apr 30, 2016. Funded.

Robust Deep Semantics for Language Understanding. DARPA DEFT (Deep Exploration and Filtering of Text), Oct 2012–Mar 2017. With Dan Jurafsky and Percy Liang. Funded.

DELPHI MT System. DARPA BOLT: Broad Operational Language Translation program. Subcontractor to IBM. Oct 19, 2011–Dec. 30, 2014. With Dan Jurafsky.

Machine Reading: FAUST: Flexible Acquisition and Understanding System for Text. 2009-2014. Subcontractor to SRI. With Dan Jurafsky and Andrew Ng.

GALE Phase 4-5: Rosetta: An Analyst Co-Pilot. DARPA GALE program. 2009–2011. Subcontractor to IBM. With Dan Jurafsky.

Distributed Open Source Software

GloVe: Global Vectors for Word Representation.
https://nlp.stanford.edu/projects/glove/

Stanford CoreNLP.
http://nlp.stanford.edu/software/corenlp.shtml

Stanford Phrasal: A Phrase-Based Translation System.
http://nlp.stanford.edu/phrasal/

Stanford Parser.
http://nlp.stanford.edu/software/lex-parser.shtml

Stanford Part-of-Speech Tagger.
http://nlp.stanford.edu/software/tagger.shtml

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http://nlp.stanford.edu/software/CRF-NER.shtml

Stanford Word Segmenter.
http://nlp.stanford.edu/software/segmenter.shtml

Stanford Classifier.
http://nlp.stanford.edu/software/classifier.shtml

Tregex, Tsurgeon, and Semgrex.
http://nlp.stanford.edu/software/tregex.shtml

Stanford Temporal Tagger (SUTime).
http://nlp.stanford.edu/software/sutime.shtml

Kirrkirr.
http://nlp.stanford.edu/kirrkirr/

University Committees

2012–13   Committee on Academic Computing and Information Systems (C-ACIS)

Stanford, March 20, 2017