John DeNero

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Research Interests	Statistical machine translation, natural language processing, machine learning, and computer science education	
Position	Senior research scientist for Google Translate, Mountain View, CA	*2010-present*
Education	**University of California, Berkeley** Ph.D., Computer Science *Advisor*: Dan Klein	*2005-2010*
	Stanford University Master of Arts, Philosophy	*2001-2002*
	Bachelor of Science, with distinction *Major*: Mathematical and Computational Science *Secondary Major*: Symbolic Systems	*1998-2002*
Awards	Google Global Intern Scholarship	*2009*
	Teaching Effectiveness Award, UC Berkeley	*2008*
	Outstanding Graduate Student Instructor, CS Division	*2007*
	Outstanding Graduate Student Instructor, UC Berkeley	*2007*
Teaching	**Instructor** CS 61A: Structure and Interpretation of Computer Programs, an introductory computer science course at UC Berkeley.	*2011-2013*
	Instructor CS 188: Introduction to Artificial Intelligence, an advanced undergraduate course.	*2009*
	Tutorial Organizer Lecturer and project designer for a tutorial in machine translation during the Summer Workshop of the Center for Language and Speech Processing at Johns Hopkins University, co-taught with Adam Lopez.	*2009-2010*
	Graduate Student Instructor Support staff for CS 188 in charge of discussion sections, labs, review sessions, and project development.	*2005-2007*

PUBLICATIONS

John DeNero. *Composing Programs.* Online textbook, http://www.composingprograms.com, 2013.

John DeNero. *Phrase Alignment Models for Statistical Machine Translation.* Ph.D. Dissertation in Computer Science, UC Berkeley, 2010.

Refereed Publications

Karl Pichotta and John DeNero. "Identifying Phrasal Verbs Using Many Bilingual Corpora," in *Proceedings of the Conference on Empirical Methods in Natural Language Processing*, 2013.

Greg Durrett and John DeNero. "Supervised Learning of Complete Morphological Paradigms," in *Proceedings of the North American Association of Computational Linguistics*, 2013.

John DeNero and Aditi Muralhindaran. "Twitter Trends," in *Nifty Assignments track of the ACM Special Interest Group on Computer Science Education*, 2013.

David Golland, John DeNero, and Jakob Uszkoreit. "A Feature-Rich Constituent Context Model for Grammar Induction," in *Proceedings of the Association of Computational Linguistics*, 2012.

Spence Green and John DeNero. "A Class-Based Agreement Model for Generating Accurately Inflected Translations," in *Proceedings of the Association of Computational Linguistics*, 2012.

Mohit Bansal, John DeNero, and Dekang Lin. "Unsupervised Translation Sense Clustering," in *Proceedings of the North American Association of Computational Linguistics*, 2012.

Robert Moore and John DeNero. "L1 and L2 Regularization for Multiclass Hinge Loss Models," in *Proceedings of the Symposium on Machine Learning in Speech and Language Processing*, 2011.

John DeNero and Jakob Uszkoreit. "Inducing Sentence Structure from Parallel Corpora for Reordering," in *Proceedings of the Conference on Empirical Methods in Natural Language Processing*, 2011.

John DeNero and Klaus Machery. "Model-Based Aligner Combination Using Dual Decomposition," in *Proceedings of the Association of Computational Linguistics*, 2011.

John DeNero and Dan Klein. "Discriminative Modeling of Extraction Sets for Machine Translation," in *Proceedings of the Association of Computational Linguistics*, 2010.

John DeNero, Shankar Kumar, Ciprian Chelba, and Franz Och. "Model Combination for Machine Translation," in *Proceedings of the North American Association of Computational Linguistics*, 2010.

John DeNero and Dan Klein. "Teaching Introductory Artificial Intelligence with Pac-Man," in *Proceedings of the Symposium on Educational Advances in Artificial Intelligence*, 2010.

John DeNero and Dan Klein. "The Pac-Man Projects Software Package for Introductory Artificial Intelligence," in *Proceedings of the Symposium on Educational Advances in Artificial Intelligence, Model Assignments Track*, 2010.

Taylor Berg-Kirkpatrick, Alexandre Bouchard-Ct, John DeNero, and Dan Klein. "Painless Unsupervised Learning with Features," in *Proceedings of the North American Association of Computational Linguistics*, 2010.

John DeNero, David Chiang, and Kevin Knight. "Fast Consensus Decoding over Translation Forests," in *Proceedings of the Association of Computational Linguistics*, 2009.

Adam Pauls, John DeNero, and Dan Klein. "Consensus Training for Consensus Decoding in Ma-

chine Translation," in *Proceedings of the Conference on Empirical Methods in Natural Language Processing*, 2009.

John DeNero, Adam Pauls, and Dan Klein. "Asynchronous Binarization for Synchronous Grammars," in *Proceedings of the Association of Computational Linguistics, Short Paper Track*, 2009.

Aria Haghighi, John Blitzer, John DeNero, and Dan Klein. "Better Word Alignments with Supervised ITG Models," in *Proceedings of the Association of Computational Linguistics*, 2009.

John DeNero, Mohit Bansal, Adam Pauls, and Dan Klein. "Efficient Parsing for Transducer Grammars," in *Proceedings of the North American Association of Computational Linguistics*, 2009.

John DeNero, Alex Bouchard-Ct, and Dan Klein. "Sampling Alignment Structure under a Bayesian Translation Model," in *Proceedings of the Conference on Empirical Methods in Natural Language Processing*, 2008.

John DeNero and Dan Klein. "The Complexity of Phrase Alignment Models," in *Proceedings of the Association of Computational Linguistics, Short Paper Track*, 2008.

John DeNero and Alexandre Bouchard. "A Hierarchical Dirichlet Process Prior for a Conditional Model of Phrase Alignment," in *the Workshop on Unsupervised Models in NLP, Neural and Information Processing Systems*, 2008.

Aria Haghighi, John DeNero, and Dan Klein. "A* Search via Approximate Factoring," in *Proceedings of American Association of Artificial Intelligence, Nectar Track*, 2007.

John DeNero and Dan Klein. "Tailoring Word Alignments to Syntactic Machine Translation," in *Proceedings of the Association of Computational Linguistics*, 2007.

Aria Haghighi, John DeNero, and Dan Klein. "Approximate Factoring for A* Search," in *Proceedings of the North American Association of Computational Linguistics*, 2007.

John DeNero, Dan Gillick, James Zhang, and Dan Klein. "Why Generative Phrase Models Underperform Surface Heuristics," in *Proceedings of the Workshop on Statistical MT*, 2006.

Activities

Organizing Committee: EAAI '13, NACLO/ELCLO '13, NACLO/ELCLO '14

Conference Reviewer: EMNLP '08, NAACL '09, ACL '09, EMNLP '09, MT Summit '09, NAACL '10, ACL '10, COLING '10, ACL '11, AAAI '11, EMNLP '11, NAACL '12, ACL '12, EMNLP '12, EAAI '12, NAACL '13, ACL '13, EMNLP '13

Invited Talks

Invited Research Talk, Google Research *2010*
Host: Jay Ponte

Invited Research Talk, Yahoo! Research *2010*
Host: Patrick Pantel

Invited Research Talk, Microsoft Research *2010*
Host: Robert Moore

Invited Research Talk, Toyota Technological Institute, Chicago *2010*
Host: Karen Livescu

Invited Research Talk, New York University *2010*
Host: Richard Cole

Invited Research Talk, Johns Hopkins University *2010*
Host: Mark Dredze

Invited Research Talk, University of Maryland *2010*
Host: Jimmy Lin

Guest Lecture, UC Berkeley, Applied Natural Language Processing *2009*
Host: Barbara Rosario

Invited Research Talk, Yahoo! Research *2008*
Host: Patrick Pantel

Invited Research Talk, Information Sciences Institute *2008*
Host: Kevin Knight

Invited Research Talk, International Computer Science Institute *2008*
Host: Dilek Hakkani-Tür

Invited Research Talk, Microsoft Research Asia *2008*
Host: Mu Li

Invited Research Talk, SRI International *2008*
Host: Jing Zheng

Experience

Google Research, Mountain View, CA *Summer 2009*
Research intern for Google Translate. Developed a method for combining heterogeneous machine translation models.
Hosts: Jay Ponte and Shankar Kumar

Information Sciences Institute, Marina del Rey, CA *Summer 2008*
Research intern in machine translation. Developed a forest-based consensus decoding technique for hierarchical machine translation systems.
Hosts: David Chiang and Kevin Knight

McKinsey & Company, San Francisco, CA *2003-2004*
Business analyst for general management consulting projects in sourcing, human resources, risk-based pricing, and product strategy.