

# Yonatan Bisk

*Natural Language Processing  
Computer Science*

Information Sciences Institute  
4676 Admiralty Way, Suite 1001  
Marina del Rey, CA 90292  
☎ 713.568.8868  
✉ [ybisk@isi.edu](mailto:ybisk@isi.edu)

## Positions

Current **Postdoctoral Scholar**, *Information Sciences Institute, University of Southern California*.  
Advisor: Daniel Marcu

## Education

- 2015 **PhD in Computer Science**, *The University of Illinois at Urbana-Champaign*,  
Thesis: Unsupervised Grammar Induction with Combinatory Categorical Grammars [🔗](#).  
Advisor: Julia Hockenmaier  
Committee: Jason Eisner, Dan Roth, ChengXiang Zhai
- 2009 **BS in Computer Science**, *The University of Texas at Austin*, Turing Scholar,  
Thesis: The Necessity of Separating Control and Logic When Grounding Language using Neuroevolution.  
Advisor: Risto Miikkulainen      Second Reader: Raymond Mooney

## Students

- Spring 2016 **Master's Student**, Junpeng Xiao devised an interactive interface to our AI agent for use in DARPA meetings, USC.
- Summer 2016 **Ph.D. Intern**, Ke Tran, a Ph.D. student at the University of Amsterdam, published a workshop paper with an invited talk on the unsupervised use of Neural Networks with Bayesian models, ISI.
- Fall 2016 **Master's Student**, Kai Jiang is working on a new data collection paradigm for dialogue based AI systems. Anticipated publication and data release in Mid 2017, USC.

## Conference and Journal Publications

- 2016 [Yonatan Bisk](#), Siva Reddy, John Blitzer, Julia Hockenmaier and Mark Steedman, **Evaluating Induced CCG Parsers on Grounded Semantic Parsing**, *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pp 2022 – 2027 [🔗](#).
- [Yonatan Bisk](#), Deniz Yuret and Daniel Marcu, **Natural Language Communication with Robots**, *Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics*, pp 751 – 761 [🔗](#).
  - Ashish Vaswani, [Yonatan Bisk](#), Kenji Sagae and Ryan Musa, **Supertagging With LSTMs**, *Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics*, pp 232–237 [🔗](#).
- 2015 [Yonatan Bisk](#) and Julia Hockenmaier, **Probing the Linguistic Strengths and Limitations of Unsupervised Grammar Induction**, *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 1395 – 1404 [🔗](#).
- [Yonatan Bisk](#), Christos Christodoulopoulos and Julia Hockenmaier, **Labeled Grammar Induction with Minimal Supervision**, *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 2: Short Papers)*, pp 870 – 876 [🔗](#).

- 2013 Yonatan Bisk and Julia Hockenmaier, **An HDP Model for Inducing Combinatory Categorical Grammars**, *Transactions of the Association for Computational Linguistics*, Vol 1, pp 75-88 [🔗](#).
- 2012 Yonatan Bisk and Julia Hockenmaier, **Simple Robust Grammar Induction with Combinatory Categorical Grammars**, *Proceedings of the Twenty-Sixth Conference on Artificial Intelligence (AAAI-12)*, pp 1643–1649 [🔗](#).
  - Tim Weninger, Yonatan Bisk and Jiawei Han, **Document-Topic Hierarchies from Document Graphs**, *Proceedings of the 21st ACM International Conference on Information and Knowledge Management (CIKM 2012)* [🔗](#).
- 2010 Julia Hockenmaier and Yonatan Bisk, **Normal-form parsing for Combinatory Categorical Grammars with generalized composition and type-raising**, *Proceedings of the 23rd International Conference on Computational Linguistics (Coling 2010)*, pp 465–473 [🔗](#).

## Workshop Publications

- 2016 Ke Tran, Yonatan Bisk, Ashish Vaswani, Daniel Marcu and Kevin Knight, **Unsupervised Neural Hidden Markov Models**, *Proceedings of the Workshop on Structured Prediction for NLP*, pp 63–71 [🔗](#).
  - Yonatan Bisk, Daniel Marcu and William Wong, **Towards a Dataset for Human Computer Communication via Grounded Language Acquisition**, *Proceedings of the AAAI 2016 Workshop on Symbiotic Cognitive Systems*, pp 729 – 732 [🔗](#).
- 2012 Yonatan Bisk and Julia Hockenmaier, **Induction of Linguistic Structure with Combinatory Categorical Grammars**, *NAACL HLT Workshop on Inducing Linguistic Structure*, pp 90–95 [🔗](#).

## Conference Organization / Area-Chair

- 2017 **Conference Organizer**, *Student Scholarship Chair and Student Volunteer Coordinator*, Conference on Empirical Methods in Natural Language Processing.
  - **Workshop Organizer**, *Language Grounding for Robotics*, Conference of the Association for Computational Linguistics.
- 2016 **Area-Chair**, *Semantic Parsing and Semantic Role Labeling*, Conference on Lexical and Computational Semantics (\*SEM).

## Reviewer

**Association for Computational Linguistics**, 2017.  
**Natural Language Engineering Journal**, 2016.  
**Empirical Methods in Natural Language Processing**, 2013, 2014, 2015, 2016.  
**European Chapter of the Association for Computational Linguistics**, 2014, 2017.  
**North American Chapter of the Association for Computational Linguistics**, 2016.  
**Conference on Computational Natural Language Learning**, 2016.  
**International Conference on Computational Linguistics**, 2016.  
**NAACL Student Research Workshop**, 2013, 2015.  
**EACL Student Research Workshop**, 2017.  
**PC Member 2012 Vol 1. & PC Co-Chair 2013, 2015 Vol 2./Vol 3., @TinyToCS**,  
 Papers describing significant research contributions to CS in 140 characters or less.

## Teaching

- 2014 **Teaching Assistant**, Graduate Machine Learning in NLP (# Students: 27), UIUC.
- 2011 **Teaching Assistant**, Artificial Intelligence (# Students: 97), UIUC.
- 2010 **Teaching Assistant**, Artificial Intelligence (# Students: 63), UIUC.

## Outreach

- 2016 **NCWIT Collegiate Award**, Review applications for the National Center for Women & Information Technology's Collegiate Award honoring college women, ISI *Ongoing.*
- 2009 **NCWIT Aspirations in Computing**, Review applications for the National Center for Women & Information Technology's Award for Aspirations in Computing which supports high-school girls interested in CS, UIUC, ISI *Ongoing.*
  - **Tech Junket/Women in CS**, CS outreach (presentations and recruitment) for local Urbana-Champaign pre-college students, UIUC *2yrs.*
- 2008 **Freshman Research Mentor**, Mentored students to perform research, UTexas *1yr.*
  - **First Bytes**, Helped organize a summer camp for girls interested in CS, UTexas.
  - **Co-Founded Breakfast Bytes**, Professor talks for pre-college students, UTexas *1yr.*
  - **CS Roadshow**, CS presentations at Austin middle and high schools, UTexas *1yr.*

## Departmental Service

- 2015 **USC Postdoc Association Representative**, *1yr.*
- 2013 **Fellowships, Assistantships, and Admissions Committee**,  
Decide which students are admitted to the CS PhD and MS programs *1yr.*
  - **Departmental Graduate Academic Council**, Vet departmental seminars and policies in addition to creating new useful resources and seminars for students *1yr.*
  - **Departmental Grievance Committee**,  
Evaluate validity of complaints filed by students against professors *2yrs.*
- 2011 **Engineering Graduate Student Advisory Committee**,  
Advise the engineering dean on graduate matters and organize events for students *1yr.*
- 2010 **Organize Artificial Intelligence & Information Systems Seminar**,  
Coordinate with professors to invite and host speakers to the department *5yrs.*
- 2009 **PhD Ambassador & Mentor**, Introduce students to the department and graduate school both during visits and adjustment to the department upon entry *4yrs.*

## Awards, Honors, and Fellowships

- 2014 **Andrew and Shana Laursen Fellow**, University of Illinois.
- 2013 **State Farm Companies Foundation Doctoral Scholarship**, University of Illinois.
- 2013 **Graduate Student Outstanding Ambassador Award**, University of Illinois.
- 2012 **Cognitive Science / Artificial Intelligence Award**, *Beckman Institute.*
- 2011 **Honorable Mention for NSF Graduate Research Fellowship Program.**
- 2009 **Honorable Mention for NSF Graduate Research Fellowship Program.**
- 2008 **College of Natural Science Summer Research Fellowship**, UTexas.
- 2007 **Departmental Summer Research Fellowship**, UTexas.

## Industry Employment

- 2014 **NLP Research Intern**, *Google, Inc.*, Mountain View, CA.  
Informing grammar induction with semantics under John Blitzer
- 2013 **NLP Research Intern**, *Google, Inc.*, Mountain View, CA.  
Leveraged syntactic information in question answering with John Blitzer
- 2009 **iPhone Development Intern**, *Apple, Inc.*, Cupertino, CA.  
Create robust metrics for evaluating keyboard and auto-correction performance
- 2006 **SQL Server Intern**, *Microsoft Corporation*, Redmond, WA.  
Created data-mining ribbon for Excel 2007 and UI test cases for SQL server

## References

**John Blitzer**, *Senior Research Scientist at Google Inc.*

[blitzer@google.com](mailto:blitzer@google.com)

**Julia Hockenmaier**, *Associate Professor at the University of Illinois at Urbana-Champaign.*

[juliahmr@illinois.edu](mailto:juliahmr@illinois.edu)

**Kevin Knight**, *Professor at the University of Southern California.*

[knight@isi.edu](mailto:knight@isi.edu)

**Daniel Marcu**, *Research Associate Professor at the Information Sciences Institute of the University of Southern California.*

[marcu@isi.edu](mailto:marcu@isi.edu)

**Dan Roth**, *Professor at the University of Illinois at Urbana-Champaign.*

[danr@illinois.edu](mailto:danr@illinois.edu)