

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

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

Computational Linguistics Journal ,	2017.
Association for Computational Linguistics ,	2017.
Natural Language Engineering Journal ,	2016.
Empirical Methods in Natural Language Processing ,	2013 – 2017.
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.
Workshop on Ethics in NLP ,	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

Julia Hockenmaier, *Associate Professor at the University of Illinois at Urbana-Champaign.*
juliahmr@illinois.edu

Kevin Knight, *Professor at the University of Southern California.*
knight@isi.edu

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

Dan Roth, *Professor at the University of Illinois at Urbana-Champaign.*
danr@illinois.edu