

Yonatan Bisk

Natural Language Processing
Computer Science

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Positions

- Current **Postdoctoral Scholar**, *University of Washington*.
Advisor: Yejin Choi
- 2015 **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

Conference and Journal Publications

- 2018 Yonatan Bisk, Kevin Shih, Daniel Marcu, and Yejin Choi, **Discovering Interpretable Neural Functions for Spatial Reasoning in Action Grounding**, *Proceedings of the Thirty-Second Conference on Artificial Intelligence (AAAI-18)*.
- 2017 Alice Lai, Yonatan Bisk, Julia Hockenmaier, **Natural Language Inference from Multiple Premises**, *Proceedings of the Eighth International Joint Conference on Natural Language Processing*.
- 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

- 2018 **Conference Organizer**, *Social Media Chair*, North American Chapter of the Association for Computational Linguistics.
- 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).

Invitations and Talks

- 2017 **Invited Talk**, *University of Notre Dame NLP Seminar*.
Invited Talk, *University of California, Irvine AI/ML Seminar*.
Invited Talk, *Pacific Northwest National Laboratory*.
- 2016 **Invited Poster**, *The Impact of Computing in Our Physical World session of the CRA's Computing Community Consortium (CCC) Symposium on Computing Research*.
- 2015 **Colloquium Talk**, *Toyota Tech. Inst. of Chicago's Midwest Speech & Language Days*.
- 2013 **Colloquium Talk**, *Toyota Tech. Inst. of Chicago's Midwest Speech & Language Days*.

Community Service

- 2017 **Association for Computing Machinery Future of Computing Academy Member**,
“... a platform that enables the next generation of researchers, ... to develop a coherent and influential voice that addresses challenging issues facing the field and society in general”.
- 2017 **NSF review panel**,
Scholarships in the Division of Undergraduate Education.
- 2017 **Intel International Science and Engineering Fair**,
Pre-college science competition in May 2017 for the Association for the Advancement of Artificial Intelligence (AAAI).

Reviewer

Association for the Advancement of Artificial Intelligence, 2018.
International Journal of Robotics Research, 2017.
Computational Linguistics Journal, 2017.
Association for Computational Linguistics, 2017.
International Joint Conference on Natural Language Processing, 2017.
Natural Language Engineering Journal, 2016.
Empirical Methods in Natural Language Processing, 2013 – 2017.
European Chapter of the Association for Computational Linguistics, 2014, 2017.
N. American Chapter of the Association for Computational Ling, 2016, 2017.
Conference on Computational Natural Language Learning, 2016, 2017.
International Conference on Computational Linguistics, 2016.
NAACL Student Research Workshop, 2013, 2015, 2018.
EACL Student Research Workshop, 2017.
Workshop on Ethics in NLP, 2017.
AAAI Symp. on Natural Communication for Human-Robot Collaboration, 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.

University 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.

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.

Students & Interns

- 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.

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.*

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.

Yejin Choi,

Associate Prof at the University of Washington,

yejin@cs.washington.edu.

Yolanda Gil,

Research Prof at the University of Southern California,

gil@isi.edu.

Julia Hockenmaier,

Associate Prof at the University of Illinois at Urbana-Champaign, juliahmr@illinois.edu.

Kevin Knight,

Prof at the University of Southern California,

knight@isi.edu.

Daniel Marcu,

Research Associate Prof at USC's Information Sciences Institute &

Senior Research Scientist at Amazon Inc,

marcu@isi.edu.

Dan Roth,

Prof at the University of Illinois at Urbana-Champaign,

danr@illinois.edu.