

# Yonatan Bisk

Natural Language Processing  
Computer Science

Paul G. Allen School  
of Computer Sci & Eng  
185 E Stevens Way NE  
Seattle, WA 98195  
✉ [ybisk@yonatanbisk.com](mailto:ybisk@yonatanbisk.com)

## 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, Yejin Choi and Daniel Marcu, **Learning Interpretable Spatial Operations in a Rich 3D Blocks World**, *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.
  - **Workshop Organizer**, *Generalization in the Age of Deep Learning*, 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, 2018.
- 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

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## References

**John Blitzer**,

*Senior Research Scientist at Google Inc,*

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

**Yejin Choi**,

*Associate Prof at the University of Washington,*

[yejin@cs.washington.edu](mailto:yejin@cs.washington.edu).

**Yolanda Gil**,

*Research Prof at the University of Southern California,*

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

**Julia Hockenmaier**,

*Associate Prof at the University of Illinois at Urbana-Champaign,* [juliahmr@illinois.edu](mailto:juliahmr@illinois.edu).

**Kevin Knight**,

*Prof at the University of Southern California,*

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

**Daniel Marcu**,

*Research Associate Prof at USC's Information Sciences Institute &*

*Senior Research Scientist at Amazon Inc,*

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

**Dan Roth**,

*Prof at the University of Illinois at Urbana-Champaign,*

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