

# Yonatan Bisk

Natural Language Processing  
Computer Science

Paul G. Allen School  
of Computer Sci & Eng  
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## Positions

- ... **Postdoctoral Scholar**, *University of Washington*  
Advisor: Yejin Choi
- 2017 **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 **Synthetic and Natural Noise Both Break Neural Machine Translation**  
Yonatan Belinkov and Yonatan Bisk,  
*Proceedings of the 6th International Conference on Learning Representations (ICLR)*
  - **Learning Interpretable Spatial Operations in a Rich 3D Blocks World**  
Yonatan Bisk, Kevin Shih, Yejin Choi and Daniel Marcu,  
*Proceedings of the Thirty-Second Conference on Artificial Intelligence (AAAI-18)*
- 2017 **Natural Language Inference from Multiple Premises**  
Alice Lai, Yonatan Bisk, Julia Hockenmaier,  
*Proceedings of the Eighth International Joint Conference on Natural Language Processing*
- 2016 **Evaluating Induced CCG Parsers on Grounded Semantic Parsing**  
Yonatan Bisk, Siva Reddy, John Blitzer, Julia Hockenmaier and Mark Steedman,  
*Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing*, pp 2022 – 2027
  - **Natural Language Communication with Robots**  
Yonatan Bisk, Deniz Yuret and Daniel Marcu,  
*Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics*, pp 751 – 761
  - **Supertagging With LSTMs**  
Ashish Vaswani, Yonatan Bisk, Kenji Sagae and Ryan Musa,  
*Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics*, pp 232–237
- 2015 **Probing the Linguistic Strengths and Limitations of Unsupervised Grammar Induction**  
Yonatan Bisk and Julia Hockenmaier,  
*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
  - **Labeled Grammar Induction with Minimal Supervision**  
Yonatan Bisk, Christos Christodoulopoulos and Julia Hockenmaier,  
*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 **An HDP Model for Inducing Combinatory Categorical Grammars**  
Yonatan Bisk and Julia Hockenmaier,  
*Transactions of the Association for Computational Linguistics*, Vol 1, pp 75–88

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

## Workshop Publications & Tech Reports

- 2018 **CHALET: Cornell House Agent Learning Environment**  
 Claudia Yan, Dipendra Misra, Andrew Bennet, Aaron Walsman, Yonatan Bisk and Yoav Artzi,  
*ArXiv*
- 2016 **Unsupervised Neural Hidden Markov Models**  
 Ke Tran, Yonatan Bisk, Ashish Vaswani, Daniel Marcu and Kevin Knight,  
*Proceedings of the Workshop on Structured Prediction for NLP*, pp 63–71
- **Towards a Dataset for Human Computer Communication via Grounded Language Acquisition**  
 Yonatan Bisk, Daniel Marcu and William Wong,  
*Proceedings of the AAAI 2016 Workshop on Symbiotic Cognitive Systems*, pp 729 – 732
- 2012 **Induction of Linguistic Structure with Combinatory Categorical Grammars**  
 Yonatan Bisk and Julia Hockenmaier,  
*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
- **Area Chair**, International Conference on 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*

## Reviewer

- Neural Information Processing Systems (NIPS)**, 2018  
**Association for the Advancement of Artificial Intelligence (AAAI)**, 2018  
**International Journal of Robotics Research**, 2017

<b>Computational Linguistics Journal,</b>	2017
<b>Association for Computational Linguistics,</b>	2017, 2018
<b>Association for Computational Linguistics – Demos,</b>	2018
<b>International Joint Conference on Natural Language Processing,</b>	2017
<b>Natural Language Engineering Journal,</b>	2016
<b>Empirical Methods in Natural Language Processing,</b>	2013 – 2018
<b>Empirical Methods in Natural Language Processing – Demos,</b>	2018
<b>European Chapter of the Association for Computational Linguistics,</b>	2014, 2017
<b>N. American Chapter of the Association for Computational Ling,</b>	2016 – 2018
<b>Conference on Computational Natural Language Learning,</b>	2016 – 2018
<b>International Conference on Computational Linguistics,</b>	2016
<b>NAACL Student Research Workshop,</b>	2013, 2015, 2018
<b>EACL Student Research Workshop,</b>	2017
<b>Spatial Language Understanding (SpLU) Workshop,</b>	2018
<b>Workshop on Ethics in NLP,</b>	2017, 2018
<b>AAAI Symp. on Natural Communication for Human-Robot Collaboration,</b>	2017
<b>PC Member 2012 Vol 1. &amp; PC Co-Chair 2013, 2015 Vol 2./Vol 3., @TinyToCS, Papers describing significant research contributions to CS in 140 characters or less</b>	

## Diversity and Inclusion

- 2018 **ACM Council on Diversity & Inclusion**, Investigating and initiating institutional change within ACM on behalf of underrepresented groups., *Ongoing*
- **Grace Hopper PC member**, Review submissions to AI Technical Track, *1yr*
- 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*

## 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)

## University Service

- 2017 **Organize UW NLP Seminar**, Coordinate with professors to invite and host speakers to the department *2yrs*
- 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

- 2018 **Finalist, UW Postdoc Mentoring Award,** University of Washington
- 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

- 2016 **Master's Student,** Junpeng Xiao devised an interactive interface to our AI agent for use in DARPA meetings, USC
- 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
- 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

## 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

<b>John Blitzer,</b> <i>Senior Research Scientist at Google Inc,</i>	<a href="mailto:blitzer@google.com">blitzer@google.com</a>
<b>Yejin Choi,</b> <i>Associate Prof at the University of Washington,</i>	<a href="mailto:yejin@cs.washington.edu">yejin@cs.washington.edu</a>
<b>Yolanda Gil,</b> <i>Research Prof at the University of Southern California,</i>	<a href="mailto:gil@isi.edu">gil@isi.edu</a>
<b>Julia Hockenmaier,</b> <i>Associate Prof at the University of Illinois at Urbana-Champaign,</i>	<a href="mailto:juliahmr@illinois.edu">juliahmr@illinois.edu</a>
<b>Kevin Knight,</b> <i>Prof at the University of Southern California,</i>	<a href="mailto:knight@isi.edu">knight@isi.edu</a>
<b>Daniel Marcu,</b> <i>Research Associate Prof at USC's Information Sciences Institute &amp; Senior Research Scientist at Amazon Inc,</i>	<a href="mailto:marcu@isi.edu">marcu@isi.edu</a>
<b>Dan Roth,</b> <i>Prof at the University Pennsylvania,</i>	<a href="mailto:danroth@seas.upenn.edu">danroth@seas.upenn.edu</a>