

# He H<sub>E</sub>

## PERSONAL

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## RESEARCH INTERESTS

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Natural language processing and interactive learning, with a focus on dialogue, machine simultaneous translation, imitation learning, and reinforcement learning

## EDUCATION

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2011–2016 **University of Maryland, College Park**  
Ph.D. in Computer Science  
Advisors: Hal Daumé III, Jordan Boyd-Graber  
M.Sc. in Computer Science received in 2013

2007–2011 **The Hong Kong Polytechnic University**  
B.Eng. in Electronic and Information Engineering

## WORK EXPERIENCE

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2018– **Amazon Web Services**, Palo Alto, CA  
Applied scientist

2016–2018 **Stanford University**, Stanford, CA  
Post-doc researcher      Supervisor: Percy Liang

Summer 2015 **Microsoft Cloud Information and Service Lab**, Redmond, WA  
Research Intern      Mentors: Paul Mineiro, Nikos Karampatziakis

Summer 2013 **Microsoft Research**, Redmond, WA  
Research Intern      Mentors: Lihong Li, Jason Williams

## AWARDS AND HONORS

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2016 Larry S. Davis Dissertation Award  
2016 Board of Visitors Graduate Student Award, UMD  
2015 Best Demonstration Award, NIPS  
2011–2012 Dean's Fellowship, UMD  
2008–2010 HSBC Scholarship  
2008–2010 CMA & Donors Scholarship

## PUBLICATIONS

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Refereed conference papers

Urvashi Khandelwal, **He He**, Peng Qi and Dan Jurafsky.

**Sharp Nearby, Fuzzy Far Away: How Neural Language Models Use Context.**

Association for Computational Linguistics (ACL), 2018

Juncen Li, Robin Jia, **He He** and Percy Liang.

**Delete, Retrieve, Generate: a Simple Approach to Sentiment and Style Transfer.**

North American Association for Computational Linguistics (NAACL), 2018.

**He He**, Anusha Balakrishnan, Mihail Eric and Percy Liang.

**Learning Symmetric Collaborative Dialogue Agents with Dynamic Knowledge Graph Embeddings.**

Association for Computational Linguistics (ACL), 2017

**He He**, Jordan Boyd-Graber, Kevin Kwok and Hal Daumé III.

**Opponent Modeling in Deep Reinforcement Learning.**

International Conference on Machine Learning (ICML), 2016.

Kai-Wei Chang, **He He**, Hal Daumé III, John Langford and Stéphane Ross.

**A Credit Assignment Compiler for Joint Prediction.**

Neural Information Processing Systems (NIPS), 2016.

**He He**, Jordan Boyd-Graber and Hal Daumé III.

**Interprete vs. Translationese: The Uniqueness of Human Strategies in Simultaneous Interpretation.** (Short paper)

North American Association for Computational Linguistics (NAACL), 2016.

Xi Chen, **He He**, Larry Davis.

**Object Detection in 20 Questions.**

IEEE Winter Conference on Applications of Computer Vision (WACV), 2016.

**He He**, Alvin Grissom II, Jordan Boyd-Graber and Hal Daumé III.

**Syntax-based Rewriting for Simultaneous Machine Translation.**

Empirical Methods in Natural Language Processing (EMNLP), 2015.

Jordan Boyd-Graber, Mohit Iyyer, **He He**, and Hal Daumé III.

**Interactive Incremental Question Answering.** (Demonstration track)

Neural Information Processing Systems (NIPS), 2015. Best demonstration award.

Xiangyang Liu, **He He** and John Baras.

**Crowdsourcing with Multi-Dimensional Trust.**

International Conference on Information Fusion (Fusion), 2015. Tammy L. Blair Award 2nd runner-up.

Xiangyang Liu, **He He** and John Baras.

**Trust-Aware Optimal Crowdsourcing With Budget Constraint.**

IEEE International Conference on Communications (ICC), 2015.

**He He**, Hal Daumé III and Jason Eisner.

**Learning to Search in Branch and Bound Algorithms.**

Neural Information Processing Systems (NIPS), 2014.

Alvin Grissom II, **He He**, Jordan Boyd-Graber, John Morgan, and Hal Daumé III.  
**Don't Until the Final Verb Wait: Reinforcement Learning for Simultaneous Machine Translation.**  
Empirical Methods in Natural Language Processing (EMNLP), 2014.

Lihong Li, **He He** and Jason D. Williams.  
**Temporal Supervised Learning for Inferring a Dialog Policy from Example Conversations.**  
IEEE Workshop on Spoken Language Technology (SLT), 2014.

**He He**, Hal Daumé III and Jason Eisner.  
**Dynamic Feature Selection for Dependency Parsing.**  
Empirical Methods in Natural Language Processing (EMNLP), 2013.

**He He**, Hal Daumé III and Jason Eisner.  
**Imitation Learning by Coaching.**  
Neural Information Processing Systems (NIPS), 2012.

Jordan Boyd-Graber, Brianna Satinoff, **He He** and Hal Daumé III.  
**Besting the Quiz Master: Crowdsourcing Incremental Classification Games.**  
Empirical Methods in Natural Language Processing (EMNLP), 2012.

**He He** and Wan-Chi Siu.  
**Image Super-resolution using Gaussian Process Regression.**  
Computer Vision and Pattern Recognition Conference (CVPR), 2011.

**He He** and Ali Ghodsi.  
**Rare Class Classification by Support Vector Machines.**  
International Conference on Pattern Recognition (ICPR), 2010.

Workshop papers and manuscripts

**He He**, Paul Mineiro and Nikos Karampatziakis.  
**Active Information Acquisition.**  
Machine Learning From and For Adaptive User Technologies: From Active Learning & Experimentation to Optimization & Personalization, NIPS, 2015.

Kai-Wei Chang, **He He**, Hal Daumé III and John Langford.  
**Learning to Search for Dependencies.**  
Arxiv 1503.05615, 2015.

**He He**, Hal Daumé III and Jason Eisner.  
**Cost-sensitive Dynamic Feature Selection.**  
Workshop on Inferning, ICML, 2012.

## **TEACHING EXPERIENCE**

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Fall 2011    University of Maryland, College Park  
Teaching Assistant, Object-oriented Programming

## **INVITED TALKS**

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- 2017   Learning Agents that Interact with Humans  
USC ISI, UC Berkeley, Allen Institute for AI, Salesforce, SJTU, Amazon
- 2017   Understanding Natural Language: Chatbots and Beyond  
WECode (women in computer science conference)
- 2016   Decision-making in Incremental Question Answering  
Stanford Data Science Initiative Retreat
- 2015   Sequential Decision-making for Natural Language Processing  
UPenn, UC Boulder, Microsoft Research

## **SERVICE**

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Reviewer: ACL, NAACL, EMNLP, NIPS, ICML, AAAI, AISTATS  
Co-chair, First Workshop for Women and Underrepresented Minorities in NLP, ACL 2017  
Co-chair, Student Research Workshop, ACL 2016  
Organizing Committee, Workshop on Human-computer Question Answering, NAACL 2016  
Organizing Committee, Tutorial on Learning to Search for Structured Prediction, NAACL 2015  
Organizing Committee, Mid-Atlantic Student Colloquium on Speech, Language and Learning, 2015  
Contributor, Challenge Problem on NLP for DARPA Program Probabilistic Programming for Advancing Machine Learning, 2015