

Ben Hixon

Computer Science & Engineering
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Education

- 2012–present **Ph.D, Computer Science & Engineering**, *University of Washington*, Seattle, WA.
Supported by a Graduate Research Fellowship from the National Science Foundation
- 2008–2012 **B.A., Computer Science**, *Hunter College of the City University of New York (CUNY)*, New York, NY.

Research Interests

- In general Natural language processing, machine learning, machine reading
- In particular Information extraction from social texts. Dialogue interfaces for open-domain machine reading. Challenges include semantic parsing, dialogue management, and reasoning over extracted information.

Publications

Ben Hixon, Peter Clark, and Hannaneh Hajishirzi. Learning knowledge graphs for question answering through conversational dialog. In *The 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL 2015)*, 2015.

Ben Hixon and Rebecca Passonneau. Open dialogue management for relational databases. In *The 2013 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL 2013)*, 2013.

Susan Epstein, Eric Osisek, Ben Hixon, and Rebecca Passonneau. Similarity and plausible recommendations. *Advances in Cognitive Systems: Proceedings of the First Annual Conference on Advances in Cognitive Systems*, 2(1):185–202, December 2012.

Ben Hixon, Rebecca Passonneau, and Susan Epstein. Semantic specificity in spoken dialogue requests. In *Proceedings of the 13th Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGdial 2012)*, pages 257–260, 2012.

Ben Hixon, Eric Schneider, and Susan Epstein. Phonemic similarity metrics to compare pronunciation methods. In *Proceedings of the 12th Annual Conference of the International Speech Communication Association (Interspeech 2011)*, 2011.

Research Experience

- Summer 2014 **Research Intern**, *Dr. Peter Clark*, Allen Institute for Artificial Intelligence.
I designed and implemented a knowledge acquisition system which uses conversational interaction about a complex reasoning question to construct a knowledge graph that represents the question's pertinent concepts and relations. This research will be presented at NAACL 2015.
- 2012–2014 **Graduate Research Assistant**, *Professor Oren Etzioni*, University of Washington.
Dialogue interfaces for conversational search with open information extraction (Open IE).
Semantic search over Yelp restaurant attribute-value pair representations collected with Open IE
- Summer 2012 **Research Intern**, *Dr. Rebecca Passonneau*, Columbia University, Center for Computational Learning Systems.
I designed and implemented an *open dialogue manager* for arbitrary relational databases. It automatically chooses which tables in a RDB a user will want to talk about, which attributes to use to talk about it, and builds an efficient strategy without a developer in the loop. This research was presented at NAACL 2013.
- 2010–2012 **Undergraduate Research Assistant (REU)**, *Professor Susan Epstein*, Hunter College of the City University of New York.
I worked on a number of projects as an REU for the Loqui Project directed by Dr. Epstein and Dr. Passonneau. Its goal is a robust spoken dialogue system for the Heiskell Library.
- Conversational Recommendation System (with Eric Osisek): We built a graph-clustering recommendation system to make book recommendations in dialogue.
 - Semantic Specificity: I developed a measurement of the ambiguity of spoken dialogue requests for arbitrary relational database tables.
 - Weighted Phonemic Voice Search (with Eric Schneider): I used phoneme substitution weights to find books matching spoken titles and authors in a large-vocabulary database.
 - Phoneme Substitution Matrix (with Eric Schneider): I automatically generated phoneme substitution weights to evaluate grapheme-to-phoneme pronunciation algorithms.

References

Professor Susan Epstein, *Department of Computer Science*, Hunter College of the City University of New York, New York, NY.
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Dr. Rebecca Passonneau, *Center for Computational Learning Systems*, Columbia University, New York, NY.
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Professor Oren Etzioni, *Department of Computer Science & Engineering*, University of Washington, Seattle, WA.
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Dr. Peter Clark, *Allen Institute for Artificial Intelligence*, Seattle, WA.
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Dr. Hannaneh Hajishirzi, *Department of Electrical Engineering*, University of Washington, Seattle, WA.
hannaneh@washington.edu

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<http://homes.cs.washington.edu/~bhixon/BenHixonCV.pdf>