

# Dan Garrette

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http://dhg.ai

## EDUCATION

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*The University of Texas at Austin*, Austin, TX

Ph.D., Computer Science

Aug 2009 - Apr 2015

M.S., Computer Science

Aug 2009 - Dec 2011

Advisors: Jason Baldridge and Raymond Mooney

*Illinois Wesleyan University*, Bloomington, IL

B.S., Computer Science, *with Research Honors*

Aug 2003 - Apr 2006

Minor: Cognitive Science

(completed in 3 years)

## SELECTED RESEARCH EXPERIENCE

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*University of Washington*

Post-Doctoral Research Associate. Supervisor: Luke Zettlemoyer

May 2015 - Present

· Semi-supervised/low-resource learning for NLP, and the intersections of syntax and semantics.

*University of Texas at Austin*

Research Assistant. Supervisor: Jason Baldridge

Aug 2011 - May 2015

· Bayesian models of CCG parser induction from varieties of weak supervision.

Research Assistant. Supervisors: Katrin Erk and Ray Mooney

Aug 2009 - Aug 2011

· Unifying logical and distributional semantics for natural language representation and inference.

*Google*

Intern. Supervisors: Jiwoon Jeon and Hang Cui

May 2013 - Aug 2013

· Machine learning and natural language processing research related to Google News.

*University of Maryland Institute for Advanced Computer Studies*

Research Assistant. Supervisor: Philip Resnik

May 2012 - Aug 2012

· Bayesian models of syntactic framing in political writing.

## PUBLICATIONS

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- [12] [Dan Garrette](#) and Hannah Alpert-Abrams. “An Unsupervised Model of Orthographic Variation for Historical Document Transcription”. In *Proc. of NAACL*, 2016.
- [11] [Dan Garrette](#), Chris Dyer, Jason Baldridge, and Noah A. Smith. “A Supertag-Context Model for Weakly-Supervised CCG Parser Learning”. In *Proc. of CoNLL*, 2015.
- [10] [Dan Garrette](#), Hannah Alpert-Abrams, Taylor Berg-Kirkpatrick, and Dan Klein. “Unsupervised Code-Switching for Multilingual Historical Document Transcription”. In *Proc. of NAACL*, 2015.
- [9] [Dan Garrette](#), Chris Dyer, Jason Baldridge, and Noah A. Smith. “Weakly-Supervised Grammar-Informed Bayesian CCG Parser Learning”. In *Proc. of AAAI*, 2015.
- [8] [Dan Garrette](#), Chris Dyer, Jason Baldridge, and Noah A. Smith. “Weakly-Supervised Bayesian Learning of a CCG Supertagger”. In *Proc. of CoNLL*, 2014.
- [7] [Dan Garrette](#), Jason Mielens, and Jason Baldridge. “Real-World Semi-Supervised Learning of POS-Taggers for Low-Resource Languages”. In *Proc. of ACL*, 2013.
- [6] [Dan Garrette](#) and Jason Baldridge. “Learning a Part-of-Speech Tagger from Two Hours of Annotation”. In *Proc. of NAACL*, 2013.  
★ **Best Talk Award** Finalist
- [5] [Dan Garrette](#), Katrin Erk, and Raymond Mooney. “A Formal Approach to Linking Logical Form and Vector-Space Lexical Semantics”. Harry Bunt, Johan Bos, and Stephen Pulman (eds) *Computing Meaning, Vol. 4*, 2013.
- [4] Islam Beltagy, Cuong Chau, Gemma Boleda, [Dan Garrette](#), Katrin Erk, and Raymond Mooney. “Montague Meets Markov: Deep Semantics with Probabilistic Logical Form”. In *Proc. of \*SEM*, 2013.
- [3] [Dan Garrette](#) and Jason Baldridge. “Type-Supervised Hidden Markov Models for Part-of-Speech Tagging with Incomplete Tag Dictionaries”. In *Proc. of EMNLP*, 2012.

- [2] Dan Garrette, Katrin Erk, and Raymond Mooney. “Integrating Logical Representations with Probabilistic Information using Markov Logic”. In *Proc. of the Intl. Conference on Computational Semantics (IWCS)*, 2011.
- [1] Dan Garrette and Ewan Klein. “An Extensible Toolkit for Computational Semantics”. In *Proc. of the International Conference on Computational Semantics (IWCS)*, 2009.

## INVITED TALKS

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- *University of Edinburgh*. “Learning CCGs from Weak Supervision”. June 2016.
- *Workshop on Multilingual and Crosslingual Methods in NLP (at NAACL-2016)*. “Unsupervised Modeling of Code-Switching and Orthographic Variation”. June 2016.
- *Microsoft Research*. “Unsupervised Modeling of Code-Switching and Orthographic Variation”. May 2016.
- *University of Washington*. “Learning CCGs from Weak Supervision”. February 2015.
- *Carnegie Mellon University*. “Learning CCGs from Weak Supervision”. April 2014.

## SELECTED TEACHING EXPERIENCE

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### *The University of Texas at Austin*

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|---|-----------------------------|
| Instructor, Natural Language Processing (CS 378 / LIN 353N) <ul style="list-style-type: none"> <li>· Upper-division undergraduate Computer Science and Linguistics course</li> <li>· <a href="http://www.dhgarrette.com/nlpclass/">http://www.dhgarrette.com/nlpclass/</a></li> </ul> | Fall 2013                   |
| Guest Lecturer, Graduate Computational Linguistics (LIN 386M)   | Fall 2011                   |
| Undergraduate Research Advising <ul style="list-style-type: none"> <li>Kelsey Taylor Ball</li> <li>Brianna Connelly</li> <li>Matthew Ebeweber</li> </ul>  | 2014 - 2015<br>2014<br>2014 |

### *The United States Peace Corps*

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|--|-------------|
| Volunteer, Ghana, West Africa <ul style="list-style-type: none"> <li>· Taught math and English in an underperforming rural junior secondary school.</li> <li>· Planned and performed HIV/AIDS presentations in rural communities and schools.</li> </ul> | 2006 - 2007 |
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### *Illinois Wesleyan University*

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|---|-------------|
| Teaching Assistant <ul style="list-style-type: none"> <li>· Courses on algorithms (in C and Haskell), data structures (in C), and computer architecture.</li> <li>· Ran study sessions for classes and tutored students.</li> </ul> | 2004 - 2006 |
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## HONORS AND AWARDS

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### *Post-Graduate*

- Best Reviewers List: NAACL-2016

### *Graduate*

- Best Talk Award Finalist, NAACL 2013  
 National Defense Science and Engineering Graduate Fellowship (NDSEG) - 2010-2013, approx \$155,000  
 Student Travel Grants: EMNLP-2012 (\$800), CoNLL-2014 (\$500)

### *Undergraduate*

- Alumni Academic Scholarship  
 Jennings Music Scholarship  
 Upsilon Phi Epsilon - Computer Science Honor Society  
 Dean's List - 6 of 6 semesters

## ACADEMIC SERVICE

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- Conference reviewing: EMNLP (2013, 2014, 2015, 2016), ACL (2012, 2016), NAACL (2016), EACL (2014), COLING (2014, 2016), IWCS (2013, 2015), Texas Linguistic Society (2012)  
 Journal reviewing: Computational Linguistics (4), Language Resources and Evaluation (1)  
 Conference website developer/maintainer: IWCS-2013  
 UTCS Admissions Committee – Master's Degree Program, Spring 2015

## PROGRAMMING LANGUAGES

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Skilled: Scala, Python, Java (ordered by frequency of use)

Previous Experience: C, C++, Haskell, MATLAB, Prolog, R, SQL (ordered alphabetically)

## OTHER WRITING

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- [3] Hannah Alpert-Abrams and Dan Garrette. "Automatic Transcription in Colonial Contexts: OCR for the *Primeros Libros*". Texas Digital Humanities Conference, 2015.
- [2] Hannah Alpert-Abrams and Dan Garrette. "Reading the *Primeros Libros*: from Archive to OCR". American Comparative Literature Association Conference, 2015.
- [1] Hannah Alpert-Abrams with Dan Garrette. "Some thoughts on the relationship between computational linguistics and literary scholarship". Language Log, Sept 12, 2013.

## SELECTED OPEN SOURCE PROJECTS

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Numerous projects at <http://github.com/dhgarrette>

Natural Language Toolkit (NLTK) – <http://www.nltk.org/> Feb 2007 - Present

- Toolkit for natural language processing in Python
- Authored most *semantics* code: first-order logic,  $\lambda$ -calculus, DRT, inference, etc

Ocular – <https://github.com/tberg12/ocular> Aug 2014 - Present

- State-of-the-art OCR system for transcribing historical texts.
- Authored extensions/features used in our publications.

Spring Batch – <http://projects.spring.io/spring-batch/> Oct 2008 - Sep 2009

- Application framework for batch processing in Java

## OTHER SELECTED PROFESSIONAL EXPERIENCE

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Accenture

Consultant

Sep 2008 - Aug 2009

- Served as one of four committers to the open-source Spring Batch framework.
  - Designed and developed new functionality. Identified and fixed bugs.
  - Wrote reference documentation and answered questions on the public forum.
- Assisted Accenture projects as a Subject Matter Expert for Spring Batch.
- Designed Spring Batch training curriculum and led on-site training in the US and India.
- Wrote documentation on Accenture's approach to Java development for use company-wide.
- Certified by Accenture as a Technology Architect.

Analyst

May 2007 - Sep 2008

- Developed large-scale applications in Java.
- After just four months, was made a sub-team leader, formally leading a group of developers.
- After 15 months, promoted to Consultant. (Normal requirement is 2 to 3 years).

TransUnion

Intern

Summers 2001-2005

- Added features to the application that interacts with the credit database. Coded in C.

## ACTIVITIES

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Post-Graduate

Seattle ScienceSlam - Presenter: *Learning to read 16th century books* (Voted **Best Talk** of the event) Jan 2016

Graduate

Organizer of the Natural Language Learning reading group 2011 - 2015

Undergraduate

John Wesley Powell Student Research Conference - Presenter

Symphonic Winds - Member, Percussion Section Leader for 5 semesters

Civic Orchestra, Opera Orchestra, Titan Band, Percussion Ensemble - Member