Dan Garrette

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Education

The University of Texas at Austin, Austin, TX
Ph.D., Computer Science — Aug 2009 - Apr 2015
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

Google Research, New York, NY
Research Scientist — Oct 2016 - Present
· Machine learning and natural language processing.

University of Washington, Seattle, WA
Post-Doctoral Research Associate. Supervisor: Luke Zettlemoyer — May 2015 - Oct 2016
· Semi-supervised/low-resource learning for NLP.

University of Texas at Austin, Austin, TX
Research Assistant. Supervisor: Jason Baldridge — Aug 2011 - May 2015
· Learning NLP models 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 inference.

Google, Mountain View, CA
Intern — May 2013 - Aug 2013
· Machine learning and natural language processing research for Google News.

University of Maryland Institute for Advanced Computer Studies, College Park, MD
Research Assistant. Supervisor: Philip Resnik — May 2012 - Aug 2012
· Bayesian models of syntactic framing in political writing.

Selected Publications

[29] Gemini Team. "Gemini 2.5: Pushing the Frontier with Advanced Reasoning, Multimodality, Long Context, and Next Generation Agentic Capabilities". 2025.

[28] Gemini Team. "Gemini 1.5: Unlocking multimodal understanding across millions of tokens of context". 2024.

[27] Jackson Petty, Sjoerd van Steenkiste, Ishita Dasgupta, Fei Sha, Dan Garrette, Tal Linzen. "The Impact of Depth on Compositional Generalization in Transformer Language Models". In *Proc. of NAACL*, 2024.

[26] Gemini Team. "Gemini: A Family of Highly Capable Multimodal Models". 2023.

[25] Rochelle Choenni, Ekaterina Shutova, Dan Garrette. "Examining Modularity in Multilingual LMs via Language-Specialized Subnetworks". In *Proc. of Findings of NAACL*, 2024.

[24] Rochelle Choenni, Dan Garrette, Ekaterina Shutova. "How do languages influence each other? Studying cross-lingual data sharing during LLM fine-tuning". In *Proc. of EMNLP*, 2023.

[23] Rosanne Liu*, Dan Garrette*, Chitwan Saharia, William Chan, Adam Roberts, Sharan Narang, Irina Blok, RJ Mical, Mohammad Norouzi, Noah Constant*. "Character-Aware Models Improve Visual Text Rendering". In *Proc. of ACL*, 2023.

[22] Rochelle Choenni, Dan Garrette, Ekaterina Shutova. "Cross-Lingual Transfer with Language-Specific Subnetworks for Low-Resource Dependency Parsing". Computational Linguistics, 2023.

[21] Parker Riley, Timothy Dozat, Jan A. Botha, Xavier Garcia, Dan Garrette, Jason Riesa, Orhan Firat, Noah Constant. "FRMT: A Benchmark for Few-Shot Region-Aware Machine Translation". TACL, 2023.

[20] Jonathan H. Clark, Dan Garrette, Iulia Turc, and John Wieting. "CANINE: Pre-training an Efficient Tokenization-Free Encoder for Language Representation". TACL, 2022.

[19] "BLOOM: A 176B-Parameter Open-Access Multilingual Language Model". 2022.

[18] Jason Wei, Dan Garrette, Tal Linzen, and Ellie Pavlick. "Frequency Effects on Syntactic Rule Learning in Transformers". EMNLP, 2021.

[17] Hyung Won Chung, Dan Garrette, Kiat Chuan Tan, and Jason Riesa. "Improving Multilingual Models with Language-Clustered Vocabularies". In *Proc. of EMNLP*, 2020.

[16] Jonathan H. Clark, Eunsol Choi, Michael Collins, Dan Garrette, Tom Kwiatkowski, Vitaly Nikolaev, and Jennimaria Palomaki. "TyDi QA: A Benchmark for Information-Seeking Question Answering in Typologically Diverse Languages". TACL, 2020.

[15] Telmo Pires, Eva Schlinger, and Dan Garrette. "How multilingual is Multilingual BERT?" In *Proc. of ACL*, 2019.

[14] Kelsey Ball and Dan Garrette. "Part-of-Speech Tagging for Code-Switched, Transliterated Texts without Explicit Language Identification". In *Proc. of EMNLP*, 2018.

[13] Maria Ryskina, Hannah Alpert-Abrams, Dan Garrette, and Taylor Berg-Kirkpatrick. "Automatic Compositor Attribution in the First Folio of Shakespeare". In *Proc. of ACL*, 2017.

[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

· *Brown University - Translation Across Disciplines Conference*. "Multilingual Language Models". March 2024.
· *University of North Texas*. "Unsupervised Modeling for Historical Document Transcription". February 2018.
· *NEH Reading the First Books Symp.*. "How to get a computer scientist involved in your DH project". May 2017.
· *Ohio State University*. "Exploiting Universal Grammatical Properties to Induce CCGs". March 2017.
· *Google Research*. "Exploiting Universal Grammatical Properties to Induce CCGs". August 2016.
· *Amazon*. "Exploiting Universal Grammatical Properties to Induce CCGs". August 2016.
· *Apple*. "Exploiting Universal Grammatical Properties to Induce CCGs". August 2016.
· *Lawrence Livermore National Lab*. "Exploiting Universal Grammatical Properties to Induce CCGs". August 2016.
· *Allen Institute for AI*. "Exploiting Universal Grammatical Properties to Induce CCGs". August 2016.
· *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.

Academic Service

Conference reviewing: ACL, EMNLP, NAACL, EACL, ACL Rolling Review, COLING, and various workshops.
Senior Area Chair: NAACL-2022 (Multilinguality).
Area Chair: ACL, EMNLP, NAACL, COLING.
Journal reviewing: TACL, Computational Linguistics, Language Resources and Evaluation.

Honors and Awards

Graduate

Best Talk Award Finalist, NAACL-2013
National Defense Science and Engineering Graduate Fellowship (NDSEG) - 2010–2013

Undergraduate

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

Other Selected Professional Experience

Accenture, Chicago, IL

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).

Selected Teaching Experience

The University of Texas at Austin

Instructor, *Natural Language Processing* — Fall 2013

- Upper-division undergraduate Computer Science and Linguistics course.

The United States Peace Corps

Volunteer, Ghana, West Africa — 2006 - 2007

- Taught math and English in an underperforming rural junior secondary school.
- Planned and taught HIV/AIDS presentations in rural communities and schools.

Illinois Wesleyan University

Teaching Assistant — 2004 - 2006

- Courses on algorithms (in C and Haskell), data structures (in C), and computer architecture.

Activities

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