

Jordan Boyd-Graber
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Personal Information

University Appointments

University of Colorado Boulder, Department of Computer Science 2014–Present
Assistant Professor College Park, MD

University of Maryland, College of Information Studies 2010–2014
Assistant Professor College Park, MD

University of Maryland, Institute for Advanced Computer Studies 2011–2014
Assistant Professor (joint appointment) College Park, MD

University of Maryland, Department of Computer Science 2011–2014
Affiliate Professor College Park, MD

University of Maryland 2009–2010
Postdoc College Park, MD

Education

Princeton University 2004–2009
Computer Science Ph.D. Princeton, NJ

Princeton University 2004–2006
Computer Science M.A. Princeton, NJ

California Institute of Technology 2000–2004
B.S. in Computer Science and History Pasadena, CA

Other Employment

Princeton University
Writing Fellow

February 2007–May 2008
Princeton, NJ

I helped upper-level graduate students in mathematics and engineering to plan and complete their dissertations.

Google
Software Engineering Intern

May 2007–September 2007
New York, NY

I was a part of a data mining project using the Google Books corpus.

University of California at Los Angeles
Computer Consultant

June 2004–July 2004
Los Angeles, CA

I worked with historians to develop a computational model to automatically cluster family groups from the *Polypitque of St. Germain*, a medieval landholding record, based on morphological similarities of family names.

Einstein Papers Project
Student Research Assistant

April 2003–July 2004
Pasadena, CA

I helped design and implement web-based (JSP and SQL) interface for project's database system, assured backwards compatibility of www.alberteinstein.info, assisted in editing volumes, and researched Weimar-era newspapers.

Hixon Writing Center
Peer Tutor

October 2001–June 2004
Pasadena, CA

I helped implement Caltech's online evaluation of incoming students during its first four years and assisted students in improving their writing. I was also a "conversation partner" for non-native speakers of English.

Caltech Digital Media Center
Lab Technician

August 2001–April 2003
Pasadena, CA

I interacted with researchers to help prepare presentations and to analyze their data, maintained a Cumulus media database, and digitized film collected during research.

Berlin-Brandenburgische Akademie der Wissenschaften
Praktikant

June 2002–September 2002
Berlin, Germany

I created a system to classify idioms of interest to a team of linguists at the academy, supervised the work of a junior researcher, and developed German language software for the group.

Immigration status: U.S. citizen

Publications

Students directly advised or co-advised in underline.

Chapters in Books

1. Sonya S. Nikolova, **Jordan Boyd-Graber**, and Christiane Fellbaum. **Collecting Semantic Similarity Ratings to Connect Concepts in Assistive Communication Tools**. *Modeling, Learning and Processing of Text Technological Data Structures*, 2011.

Articles in Refereed Journals

1. Kenneth R. Fleischmann, Clay Templeton, **Jordan Boyd-Graber**, An-Shou Cheng, Douglas W. Oard, Emi Ishita, Jes A. Koepfler, and William A. Wallace. **Explaining Sentiment Polarity: Automatic Detection of Human Values in Texts**. In Preparation.
2. Viet-An Nguyen, **Jordan Boyd-Graber**, and Stephen Altschul. **Dirichlet Mixtures, the Dirichlet Process, and the Structure of Protein Space**. *Journal of Computational Biology*, 2013.
3. Yuening Hu, **Jordan Boyd-Graber**, Brianna Satinoff, and Alison Smith. **Interactive Topic Modeling**. *Machine Learning*, 2013.
4. Viet-An Nguyen, **Jordan Boyd-Graber**, Philip Resnik, Deborah Cai, Jennifer Midberry, and Yuanxin Wang. **Modeling Topic Control to Detect Influence in Conversations using Nonparametric Topic Models**. *Machine Learning*, 2013.
5. Alexander Geyken and **Jordan Boyd-Graber**. **Automatic classification of multi-word expressions in print dictionaries**. *Linguisticae Investigationes*, 2003.

Refereed Conferences

1. Yuening Hu, Ke Zhai, Vlad Eidelman, and **Jordan Boyd-Graber**. **Polylingual Tree-Based Topic Models for Translation Domain Adaptation**. *Association for Computational Linguistics*, 2014.
2. Mohit Iyyer, Philip Resnik, and **Jordan Boyd-Graber**. **Political Ideology Detection Using Recursive Neural Networks**. *Association for Computational Linguistics*, 2014.
3. Yuening Hu, Thang Nguyen, and **Jordan Boyd-Graber**. **Anchors Regularized: Adding Robustness and Extensibility to Scalable Topic-Modeling Algorithms**. *Association for Computational Linguistics*, 2014.
4. Kimberly Glasgow, Clay Fink, and **Jordan Boyd-Graber**. **Our grief is unspeakable: Measuring the community impact of a tragedy**. *The International AAAI Conference on Weblogs and Social Media*, 2014.
5. Viet-An Nguyen, **Jordan Boyd-Graber**, and Philip Resnik. **Lexical and Hierarchical Topic Regression**. *Neural Information Processing Systems*, 2013 (25% Acceptance Rate).
6. Yuening Hu, **Jordan Boyd-Graber**, Hal Daume III, and Z. Irene Ying. **Bayesian Hierarchical Clustering with Beta Coalescents**. *Neural Information Processing Systems*, 2013 (25% Acceptance Rate).
7. Naho Orita, Rebecca McKeown, Naomi H. Feldman, Jeffrey Lidz, and **Jordan Boyd-Graber**. **Discovering Pronoun Categories using Discourse Information**. *Proceedings of the Cognitive Science Society*, 2013.
8. Viet-An Nguyen, Yuening Hu, **Jordan Boyd-Graber**, and Philip Resnik. **Argviz: Interactive Visualization of Topic Dynamics in Multi-party Conversations**. *North American Association for Computational Linguistics*, 2013 (50% Acceptance Rate).
9. Ke Zhai and **Jordan Boyd-Graber**. **Online Topic Models with Infinite Vocabulary**. *International Conference on Machine Learning*, 2013 (20% Acceptance Rate).

10. **Jordan Boyd-Graber**, Kimberly Glasgow, and Jackie Sauter Zajac. **Spoiler Alert: Machine Learning Approaches to Detect Social Media Posts with Revelatory Information.** *ASIST 2013: The 76th Annual Meeting of the American Society for Information Science and Technology*, 2013.
11. **Jordan Boyd-Graber**, Brianna Satinoff, He He, and Hal Daume III. **Besting the Quiz Master: Crowdsourcing Incremental Classification Games.** *Empirical Methods in Natural Language Processing*, 2012 (25% Acceptance Rate).
12. Yuening Hu and **Jordan Boyd-Graber**. **Efficient Tree-Based Topic Modeling.** *Association for Computational Linguistics*, 2012 (21% Acceptance Rate).
13. Asad B. Sayeed, **Jordan Boyd-Graber**, Bryan Rusk, and Amy Weinberg. **Grammatical structures for word-level sentiment detection.** *North American Association of Computational Linguistics*, 2012 (31% Acceptance Rate).
14. Yuening Hu, Ke Zhai, Sinead Williamson, and **Jordan Boyd-Graber**. **Modeling Images using Transformed Indian Buffet Processes.** *International Conference of Machine Learning*, 2012 (27% Acceptance Rate).
15. Vladimir Eidelman, **Jordan Boyd-Graber**, and Philip Resnik. **Topic Models for Dynamic Translation Model Adaptation.** *Association for Computational Linguistics*, 2012 (21% Acceptance Rate).
16. Ke Zhai, **Jordan Boyd-Graber**, Nima Asadi, and Mohamad Alkhoulja. **Mr. LDA: A Flexible Large Scale Topic Modeling Package using Variational Inference in MapReduce.** *ACM International Conference on World Wide Web*, 2012 (12% Acceptance Rate).
17. Viet-An Nguyen, **Jordan Boyd-Graber**, and Philip Resnik. **SITS: A Hierarchical Non-parametric Model using Speaker Identity for Topic Segmentation in Multiparty Conversations.** *Association for Computational Linguistics*, 2012 (19% Acceptance Rate).
18. Clay Templeton, Kenneth R. Fleischmann, and **Jordan Boyd-Graber**. **Comparing Values and Sentiment Using Mechanical Turk.** *iConference*, 2011.
19. Yuening Hu, **Jordan Boyd-Graber**, and Brianna Satinoff. **Interactive Topic Modeling.** *Association for Computational Linguistics*, 2011 (25% Acceptance Rate).
20. Kenneth R. Fleischmann, Clay Templeton, and **Jordan Boyd-Graber**. **Modeling Diverse Standpoints in Text Classification: Learning to Be Human by Modeling Human Values.** *iConference*, 2011.
21. Clay Templeton, Kenneth R. Fleischmann, and **Jordan Boyd-Graber**. **Simulating Audiences: Automating Analysis of Values, Attitudes, and Sentiment.** *IEEE International Conference on Social Computing*, 2011 (10% Acceptance Rate).
22. **Jordan Boyd-Graber** and Philip Resnik. **Holistic Sentiment Analysis Across Languages: Multilingual Supervised Latent Dirichlet Allocation.** *Empirical Methods in Natural Language Processing*, 2010 (25% Acceptance Rate).
23. Eric Hardisty, **Jordan Boyd-Graber**, and Philip Resnik. **Modeling Perspective using Adaptor Grammars.** *Empirical Methods in Natural Language Processing*, 2010 (25% Acceptance Rate).
24. Sonya S. Nikolova, **Jordan Boyd-Graber**, Christiane Fellbaum, and Perry Cook. **Better Vocabularies for Assistive Communication Aids: Connecting Terms using Semantic Networks and Untrained Annotators.** *ACM Conference on Computers and Accessibility*, 2009 (31% Acceptance Rate).
25. Jonathan Chang, **Jordan Boyd-Graber**, and David M. Blei. **Connections between the Lines: Augmenting Social Networks with Text.** *Refereed Conference on Knowledge Discovery and Data Mining*, 2009 (9% Acceptance Rate).
26. **Jordan Boyd-Graber** and David M. Blei. **Multilingual Topic Models for Unaligned Text.** *Uncertainty in Artificial Intelligence*, 2009 (31% Acceptance Rate).
27. Jonathan Chang, **Jordan Boyd-Graber**, Chong Wang, Sean Gerrish, and David M. Blei. **Reading Tea Leaves: How Humans Interpret Topic Models.** *Neural Information Processing Systems*, 2009 (24% Acceptance Rate).

28. Xiaojuan Ma, **Jordan Boyd-Graber**, Sonya S. Nikolova, and Perry Cook. **Speaking Through Pictures: Images vs. Icons**. *ACM Conference on Computers and Accessibility*, 2009 (31% Acceptance Rate).
29. **Jordan Boyd-Graber** and David M. Blei. **Syntactic Topic Models**. *Neural Information Processing Systems*, 2008 (25% Acceptance Rate).
30. **Jordan Boyd-Graber**, David M. Blei, and Xiaojin Zhu. **A Topic Model for Word Sense Disambiguation**. *Empirical Methods in Natural Language Processing*, 2007 (27% Acceptance Rate).
31. **Jordan Boyd-Graber**, Christiane Fellbaum, Daniel Osherson, and Robert Schapire. **Adding Dense, Weighted, Connections to WordNet**. *Proceedings of the Global WordNet Conference*, 2006.
32. **Jordan Boyd-Graber**, Sonya S. Nikolova, Karyn A. Moffatt, Kenrick C. Kin, Joshua Y. Lee, Lester W. Mackey, Marilyn M. Tremaine, and Maria M. Klawe. **Participatory design with proxies: Developing a desktop-PDA system to support people with aphasia**. *Computer-Human Interaction*, 2006 (23% Acceptance Rate).

Refereed Workshops

1. Yuening Hu and **Jordan Boyd-Graber**. **Bayesian Hierarchical Clustering with Beta Coalescents**. *Mid-Atlantic Student Colloquium on Speech, Language, and Learning*, 2012.
2. Ke Zhai and **Jordan Boyd-Graber**. **Online Topic Model with Infinite Vocabulary**. *Mid-Atlantic Student Colloquium on Speech, Language, and Learning*, 2012.
3. Yuening Hu and **Jordan Boyd-Graber**. **Suggesting Constraints for Interactive Topic Modeling**. *ICML Workshop on Machine Learning in Human Computation and Crowdsourcing*, 2012.
4. Viet-An Nguyen, **Jordan Boyd-Graber**, and Philip Resnik. **“I Want to Talk About, Again, My Record On Energy ...”: Modeling Topic Control in Conversations using Speaker-centric Nonparametric Topic Models**. *Mid-Atlantic Student Colloquium on Speech, Language, and Learning*, 2012.
5. Pranav Anand, Joseph King, **Jordan Boyd-Graber**, Earl Wagner, Craig Martell, Douglas W. Oard, and Philip Resnik. **Believe Me: We Can Do This!**. *The AAAI 2011 workshop on Computational Models of Natural Argument*, 2011.
6. **Jordan Boyd-Graber**. **Linguistic Resource Creation in a Web 2.0 World**. *NSF Workshop on Collaborative Annotation*, 2011.
7. Clay Templeton, Travis Brown, Sayan Battacharyya, and **Jordan Boyd-Graber**. **Mining the Dispatch under Supervision: Using Casualty Counts to Guide Topics from the Richmond Daily Dispatch Corpus**. *Chicago Colloquium on Digital Humanities and Computer Science*, 2011.
8. Brianna Satinoff and **Jordan Boyd-Graber**. **Trivial Classification: What features do humans use for classification?**. *Workshop on Crowdsourcing Technologies for Language and Cognition Studies*, 2011.
9. Nitin Madnani, **Jordan Boyd-Graber**, and Philip Resnik. **Measuring Transitivity Using Untrained Annotators**. *Creating Speech and Language Data With Amazon’s Mechanical Turk*, 2010.
10. Sonya S. Nikolova, **Jordan Boyd-Graber**, and Perry Cook. **The Design of ViVA: A Mixed-initiative Visual Vocabulary for Aphasia**. *Proceedings of the 27th international conference extended abstracts on Human factors in computing systems*, 2009.
11. Jonathan Chang, **Jordan Boyd-Graber**, and David M. Blei. **Discovering social networks from free text**. *3rd Annual Machine Learning Symposium*, 2008.
12. **Jordan Boyd-Graber** and David M. Blei. **Multilingual Topic Models**. *NIPS Workshop on Unsupervised Latent Variable Models*, 2008.
13. **Jordan Boyd-Graber** and David M. Blei. **PUTOP: Turning Predominant Senses into a Topic Model for WSD**. *4th International Workshop on Semantic Evaluations*, 2007.

Contracts and Grants

Active Funding

Sentiment Analysis in Social Media: Political Spin and Cultural Biases CASL
8/2013-8/2014

Role: co-PI
Award: \$100,000
Share: \$50,000

RI: Small: Bayesian Thinking on Your Feet—Embedding Generative Models in Reinforcement Learning for Sequentially Revealed Data NSF
8/2013-7/2016

Role: PI
Award: \$500,000
Share: \$250,000

Cross-Language Bayesian Models for Web-Scale Text Analysis NSF
9/2009-8/2014

Role: co-PI
Award: \$350,000
Share: \$175,000

Completed Funding

iOPENER: A Flexible Framework to Support Rapid Learning NSF
8/2007-7/2011

Role: Senior personnel
Award: \$720,000
Share: \$100,000

Language Evidence for Social Goals IARPA
8/2009-10/12

Role: Senior personnel
Award: \$1,454,439
Share: \$15,000

Center for Language and Cultural Analysis Army Research Laboratory
9/2009-8/2012

Role: Senior personnel
Award: \$735,050
Share: \$150,000

Advanced Open Source Exploitation Models

Lockheed Martin

4/2011-12/2011

Role: co-PI

Award: \$60,000

Share: \$30,000

Social Media Scanning

Optimal Solutions Group

5/2011-12/2011

Role: co-PI

Award: \$29,849

Share: \$14,925

Fellowships, Prizes, and Awards

- American Association for Artificial Intelligence student award, International Science and Engineering Fair 2000
- Caltech Jorgensen Scholarship 2001-2004
- Richter Undergraduate Research Fellowship, 2001 and 2002
- Computing Innovation Postdoctoral Fellowship 2009 (declined)
- Honorable Mention, Best Student Paper, NIPS 2009

Reviewing and Editing for Journals

- Reviewer for *Transactions of the Association of Computational Linguistics* (2011,2012,2012,2013,2013,2013)
- Reviewer for *IEEE Transactions on Pattern Analysis and Machine Intelligence* (2013)
- Reviewer for *Computational Linguistics* (2013)
- Reviewer for *Scientometrics* (2012)
- Reviewer for *Information Visualization* (2012)
- Reviewer for *Transactions on Knowledge Discovery from Data* (2011)
- Reviewer for *Annals of Applied Statistics* (2011)
- Reviewer for *Journal of Machine Learning Research* (2011,2012)
- Reviewer for *Elsivier Computer Speech and Language* (2007)

Teaching, Mentoring and Advising**Courses Taught****INST 737: Digging into Data***Spring 2014*

UMD

*29 students***CMSC/LING 723 / INST 735: Computational Linguistics I***Fall 2013*

UMD

45 students

LING 848B / CMSC 828B: Bayesian Nonparametrics
Spring 2013

UMD
15 students

INST 737: Digging into Data
Spring 2013

UMD
30 students

LBSC 690: Introduction to Information Technology
Fall 2012

UMD
30 students

INST728C / CMSC 773 / LING 773: Computational Linguistics II
Spring 2012

UMD
11 Students

LBSC 690: Introduction to Information Technology
Fall 2011

UMD
30 students

INFM 718G: Web Scale Information Processing Applications
Spring 2011

UMD
12 students

LBSC 690: Introduction to Information Technology
Fall 2010

UMD
30 students

COS/LIN 280: Computational Linguistics
Fall 2008

Princeton
40 students

Course or Curriculum Development

- Significant revisions to *LBSC 690: Information Technology* (Fall 2012)
- Chair of committee developing new undergraduate Information Science program at Universities at Shady Grove (2011-2013)
- Developed new course *INST 737: Digging into Data* (Spring 2013)
- Redesigned both elements of Computational Linguistics I-II sequence (2012 and 2013)

Advising: Research Direction**Master's****Chair or Co-Chair**

1. Brianna Satinoff (CMSC): Incremental Models for Text Classification [First position: Well-point]
2. Alison Smith (CMSC): Evaluating Interfaces for Interactive Topic Modeling

On Committee

1. Bradley Skaggs (CMSC) [First position: US Government]

Doctoral**Chair or Co-chair**

1. Kim Glasgow (iSchool): Social Action in Social Media
2. Alvin Grissom II (iSchool): Reinforcement Learning for Feature-wise Language Tasks
3. Yuening Hu (CMSC): Interactive Topic Modeling
4. Ke Zhai (CMSC): Large Scale Bayesian Inference
5. Viet-An Nguyen (CMSC): Detecting Influence in Text
6. Thang Nguyen (iSchool): Evaluation of Topic Models

On committee

1. Asad Sayeed (CMSC, 2011) [First position: Universität des Saarlandes]
2. Elena Zheleva (CMSC, 2011) [First position: Living Social]
3. Arvind Agarwal (CMSC, 2012) [First position: Xerox Research]
4. Amit Goyal (CMSC, 2013) [First position: Yahoo!]
5. Jagadeesh Jagarlamudi (CMSC, 2013) [First position: IBM Research]
6. Piyush Rai (External: Utah, Computer Science, 2012) [First position: University of Texas]
7. Irene Eleta (INFO)
8. Kevin Dayaratna (STAT)
9. Jiarong Jiang (CMSC)
10. Ben London (CMSC)

Service

Professional Service

Offices and committee memberships in professional organizations

- Program Committee *ACL 2014*
- Program Committee *ICWSM 2014*
- Program Committee *ICML 2014*
- Program Committee *WWW 2014*
- Program Committee *EMNLP 2013*
- Program Committee *AISTATS 2012*
- Program Committee *NIPS 2012*
- Program Committee *EMNLP 2012*
- Program Committee *ICML 2012*
- Program Committee *ACL 2012*
- Program Committee *NAACL 2012*
- Program Committee *AISTATS 2011*
- Program Committee *NIPS 2011*
- Program Committee *EMNLP 2011*
- Program Committee *ACL 2011*
- Reviewer for *ICML 2011*
- Program Committee *NIPS 2010 Workshop on Computational Social Science and the Wisdom of Crowds*
- Reviewer for *NIPS 2010*
- Program Committee *NAACL 2010 Workshop on Creating Speech and Text Language Data With Amazon's Mechanical Turk*
- Reviewer for *COLING 2010*
- Program Committee *ACL 2010 (Lexical Semantics)*
- Reviewer for *ICML 2010*
- Program Committee *2010 Global WordNet Association Conference*
- Reviewer for *NIPS 2009*
- Reviewer for *ICML 2009*
- Reviewer for *EMNLP 2008*
- Program Committee *2008 Global WordNet Association Conference*
- Assistant Reviewer for *UAI 2007*
- Reviewer, Works in Progress *2006 SIGCHI*
- Program Committee *2006 Global WordNet Association Conference*

Reviewing activities for agencies

- NSF RI Review Panel (2012)
- NSF BIGDATA Review Panel (2012)

Other unpaid services to local, state, and federal agencies

- Consultant for *Interactive Topic Modeling*, National Institute of Food and Agriculture (2013)
- Consultant for *Interactive Topic Modeling*, National Institutes for Health (2010)
- Collaboration on *Dirichlet Process Protein Clustering*, National Institutes for Health (2012)
- Collaboration on *Nonparametric Beta Coalescent Clustering*, US Department of Agriculture (2013)

Other non-University committees, commissions, panels, etc.

- **Co-organizer** for *NIPS 2013 Workshop on Topic Models*
- **Organizer** Association for Computational Linguistics 2014 Doctoral Workshop
- Computational Committee *North American Computational Linguistics Olympiad 2012*
- **Area Chair** for Document Classification and Topic Clustering, *NAACL 2012*
- **Co-organizer** for *NIPS 2009 Workshop on Topic Model Applications: Text and Beyond*

Paid consultancies

- Consultant Barquin International, 2013-
- Consultant New Brand Analytics, 2012-

Campus Service**Departmental Service**

- Coordinator: Computational Linguistics and Information Processing Lab Colloquium (2010-2012)
- Data Czar: Computational Linguistics and Information Processing Lab (2011-)

College Service

- Chair: College of Information Studies Undergraduate Education Committee (2011-2013)
- Member: College of Information Studies Undergraduate Education Committee (2011-)
- Secretary: College of Information Studies Assembly (2011-2012)
- Member: College of Information Studies Programs, Courses, Curriculum Committee (2011-2013)
- Member: College of Information Studies Research Committee (2010-2013)
- Coordinator: Computational Linguistics and Information Processing Lab Colloquium (2010-2012)

University Service

- Faculty Advisor: Maryland Academic Quiz Team (2010-)