

Jonathan Gordon

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RESEARCH INTERESTS

My research is on artificial intelligence: I study how to automatically learn common-sense knowledge from large-scale text and how reasoning with this knowledge supports natural language understanding.

EDUCATION

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| 2009–2014 | PhD, Computer Science
<i>Inferential Commonsense Knowledge from Text.</i>
Advisor: Lenhart K. Schubert.
Committee: James F. Allen, Daniel Gildea, Gregory Carlson. | <i>University of Rochester</i> |
| 2007–2009 | MS, Computer Science
Advisor: Lenhart K. Schubert. | <i>University of Rochester</i> |
| 2003–2007 | BA, Computer Science
Advisor: Nancy Ide. | <i>Vassar College</i> |

RESEARCH EXPERIENCE

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| 2014–present | Postdoctoral Researcher
Engaged in DARPA-, IARPA-, and NIH-funded research on natural language understanding. This includes (1) acquiring abstract, symbolic knowledge to support communication with computers, (2) the multilingual, knowledge-based interpretation of metaphors, and (3) modeling the concepts in scientific publications and video lectures to support generation of pedagogical reading lists. <i>Supervisor: Jerry R. Hobbs.</i> | <i>USC Information Sciences Institute</i> |
| 2007–2014 | Research Assistant
Performed NSF- and DARPA-funded research in natural-language processing (NLP) and knowledge representation & reasoning (KRR). This research focused on the creation of tools to learn knowledge bases suitable for reasoning from large collections of text, but also included creating and evaluating lexical resources and directing junior students. <i>Supervisor: Lenhart K. Schubert.</i> | <i>University of Rochester</i> |

Summer 2008 **Visiting Research Assistant** *USC Inst. for Creative Technologies*
 Planned and created tools using latent semantic analysis (LSA) to automatically evaluate student essays for an intelligent tutoring system; ran experiments to train the system and test automated feedback. *Supervisor: H. Chad Lane.*

PUBLICATIONS

Democratizing Data Science through Data Science Training.

John Van Horn, Lily Fierro, Jeana Kamdar, **Jonathan Gordon**, Crystal Stewart, Avnish Bhattra, Sumiko Abe, Xiaoxiao Lei, Caroline O'Driscoll, Aakanchha Sinha, Priyambada Jain, Gully Burns, Kristina Lerman, and José Luis Ambite. In Proc. of the Pacific Symposium on Biocomputing, 2018.

Structured Generation of Technical Reading Lists.

Jonathan Gordon, Stephen Aguilar, Emily Sheng, and Gully Burns. In Proc. of the 12th Workshop on Innovative Use of NLP for Building Educational Applications (BEA), 2017.

An Investigation into the Pedagogical Features of Documents.

Jonathan Gordon, Stephen Aguilar, Emily Sheng, and Gully Burns. In Proc. of the 12th Workshop on Innovative Use of NLP for Building Educational Applications (BEA), 2017.

BD2K ERuDIte: the Educational Resource Discovery Index for Data Science.

José Luis Ambite, Lily Fierro, Florian Geigl, **Jonathan Gordon**, Gully A.P.C. Burns, Kristina Lerman, and John D. Van Horn. In Proc. of the Fourth www Workshop on Big Scholarly Data: Towards the Web of Scholars (BigScholar), 2017.

Modeling Concept Dependencies in a Scientific Corpus.

Jonathan Gordon, Linhong Zhu, Aram Galstyan, Prem Natarajan, and Gully A.P.C. Burns. In Proc. of the 54th Annual Meeting of the Association for Computational Linguistics (ACL), 2016.

A Corpus of Rich Metaphor Annotation.

Jonathan Gordon, Jerry R. Hobbs, Jonathan May, Michael Mohler, Fabrizio Morbini, Bryan Rink, Marc Tomlinson, and Suzanne Wertheim. In Proc. of the Third Workshop on Metaphor in NLP, 2015.

High-Precision Abductive Mapping of Multilingual Metaphors.

Jonathan Gordon, Jerry R. Hobbs, Jonathan May, and Fabrizio Morbini. In Proc. of the Third Workshop on Metaphor in NLP, 2015.

Inferential Commonsense Knowledge from Text.

Jonathan Gordon. PhD Thesis. University of Rochester, 2014.

Reporting Bias and Knowledge Acquisition.

Jonathan Gordon and Benjamin Van Durme. In Proc. of the CIKM Workshop on Automated Knowledge Base Construction (AKBC), 2013. (Best Paper Award)

WordNet Hierarchy Axiomatization and the Mass-Count Distinction.

Jonathan Gordon and Lenhart Schubert. In Proc. of the IEEE International Conference on Semantic Computing (ICSC), 2013.

Using Textual Patterns to Learn Expected Event Frequencies.

Jonathan Gordon and Lenhart Schubert. In Proc. of the NAACL Workshop on Automatic Knowledge Base Construction and Web-Scale Knowledge Extraction (AKBC-WEKEX), 2012.

Towards Adequate Knowledge and Natural Inference.

Lenhart Schubert, **Jonathan Gordon**, Karl Stratos, and Adina Rubino. In Proc. of the AAAI Fall Symposium on Advances in Cognitive Systems, 2011.

Episodic Logic: Natural Logic + Reasoning.

Karl Stratos, Lenhart Schubert, and **Jonathan Gordon**. In Proc. of the IEEE International Conference on Knowledge Engineering and Ontology Development (KEOD), 2011.

Discovering Commonsense Entailment Rules Implicit in Sentences.

Jonathan Gordon and Lenhart Schubert. In Proc. of the EMNLP Workshop on Textual Entailment (TextInfer), 2011.

Quantificational Sharpening of Commonsense Knowledge.

Jonathan Gordon and Lenhart Schubert. In Proc. of the AAAI Fall Symposium on Commonsense Knowledge, 2010.

Learning from the Web: Extracting General World Knowledge from Noisy Text.

Jonathan Gordon, Benjamin Van Durme, and Lenhart Schubert. In Proc. of the AAAI Workshop on Collaboratively-built Knowledge Sources and Artificial Intelligence (WikiAI), 2010.

Evaluation of Commonsense Knowledge with Mechanical Turk.

Jonathan Gordon, Benjamin Van Durme, and Lenhart Schubert. In Proc. of the NAACL Workshop on Creating Speech and Language Data with Amazon's Mechanical Turk, 2010.

Weblogs as a Source for Extracting General World Knowledge.

Jonathan Gordon, Benjamin Van Durme, and Lenhart Schubert. In Proc. of the Fifth International Conference on Knowledge Capture (K-CAP), 2009.

PRESENTATIONS

Distribution and Inference.

With Jerry Hobbs. DSALT: Workshop on Distributional Semantics and Linguistic Theory at ESSLLI, 15–26 August 2016. Submitted.

Towards Learning World Knowledge Suitable for Inference.

Reasoning with Text Workshop, 18–19 February 2011, USC Institute for Creative Technologies. Invited.

TEACHING EXPERIENCE

2008–9, 2013	Teaching Assistant	<i>University of Rochester</i>
	Assisted with graduate and undergraduate Computer Science classes, including lecturing, writing programming projects and labs, supervising undergraduate TAs, and grading homework and exams.	
Fall 2004	Lab Coach	<i>Vassar College</i>
	Ran introductory Computer Science labs, helping students program in Java and holding weekly office hours for questions.	

PROFESSIONAL ACTIVITIES

Program committee, Workshop on Innovative Use of NLP for Building Educational Applications (BEA), 2018.

Program committee, Cognitum Workshop on Cognitive Knowledge Acquisition and Applications, 2015.

Program committee, AHA! Workshop on Information Discovery in Text, 2014.

Reviewer, AAAI Fall Symposium on Commonsense Knowledge (CSK 2010).

Site organizer, North American Computational Linguistics Olympiad (NACLO), 2017.

SKILLS

Programming	Especially in Python and Common Lisp on Linux and macOS.
NLP tools	NLTK, MALLET, parsing, large-scale distributed processing.
Publication	Online (HTML and CSS) and print (\LaTeX).