

Joel R. Tetreault

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EDUCATION

	University of Rochester, Rochester, NY
Dec 2004	Ph.D. in Computer Science Dissertation title: <i>Empirical Evaluations in Pronoun Resolution</i> Adviser: James Allen
May 2000	M.S. in Computer Science
	Harvard University, Cambridge, MA
June 1998	B.A. in Computer Science

RESEARCH INTERESTS

Natural Language Processing, Spoken Dialog Systems, Reference Resolution, Information Retrieval, Affective Computing, Reinforcement Learning in Dialogue, Tutoring Systems

RESEARCH EXPERIENCE

2004-Present	Postdoctoral Research Fellow, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA; Dr. Diane Litman Researching using Reinforcement Learning techniques to improve the ITSPOKE spoken dialogue tutoring system. Currently looking at what features should be used to best represent the student state in our tutoring domain. Also assisting with corpora development and data collection.
1999-2004	Thesis Research, University of Rochester, Rochester, NY; Dr. James Allen Researched factors that contribute to proper interpretation of pronouns and implicit roles in a natural language system. Built a reference resolution system that can compare different pronoun resolution methods. Also developed a refined reference model that works well computationally and is psycholinguistically plausible. Currently investigating how detecting discourse structure in written and spoken texts and how to use that to improve pronoun resolution.
2002-2004	Worked on the reference resolution module of a natural language understanding system (TRIPS). It helps interpret utterances from human speakers by resolving anaphoric expressions. Currently building a probabilistic version that works by choosing between different interpretations dependent on salience of candidates in the context, syntax tree, and logical form.
2003-2004	Supervised 8 undergraduates performing the tasks of corpus annotation, creation of annotation tools, and data collection for use in the TRIPS system and for research on discourse structure and reference resolution.
2002-2004	Research Assistant, University of Rochester, Rochester, NY; Dr. James Allen Improved the speed and accuracy of the TRIPS parser by querying the reference module in an incremental fashion to determine if constituents are plausible or not.
Summer 2002	Research Assistant, Institute for Creative Technologies Los Angeles, CA; Dr. David Traum Worked on building a reference resolution module in the Mission Rehearsal Exercise (MRE) natural language system. Investigated tools and methods for transcribing and annotating dialogs and trained annotators.
1999-2000	Research Assistant, University of Rochester, Rochester, NY; Dr. James Allen Worked on a project for the Future Health Group (Rochester, NY) using information extraction techniques to automatically tag medical dialog transcripts for psychologists.

PUBLICATIONS

Journal Articles and Book Chapters

N. Chambers, J. R. Tetreault, and J. F. Allen. *Approaches for Automatically Tagging Affect*. Book chapter in “Computing Attitude and Affect in Text: Theory and Applications” Edited by James G. Shanahan, Yan Qu, Janyce Wiebe. Springer, 2005.

J. R. Tetreault. *Decomposing Discourse*. Book chapter in “Anaphora Processing.” Edited by Antonio Branco, Tony McEnery, and Ruslan Mitkov. John Benjamins Publishing, 2005.

J. R. Tetreault. *A Corpus-Based Evaluation of Centering and Pronoun Resolution*. Computational Linguistics, Volume 27-4, December 2001.

Conference and Workshop Proceedings

J. R. Tetreault and D. Litman. *Comparing the Utility of State Features in Spoken Dialogue Using Reinforcement Learning*. To appear in the Proceedings of the Human Language Technology/North American Association for Computational Linguistics (HLT/NAACL '06). New York City. June 5-7, 2006.

K. Forbes-Riley, D. Litman, S. Silliman and J. R. Tetreault. *Comparing Synthesized versus Pre-Recorded Tutor Speech in an Intelligent Tutoring Spoken Dialogue System*. To appear in Proceedings 19th International Conference of the Florida Artificial Intelligence Research Society (FLAIRS), Melbourne Beach, Florida. May 11-13, 2006.

J. R. Tetreault and D. Litman. *Using Reinforcement Learning to Build a Better Model of Dialogue State*. In Proceedings of the 11th Conference of the European Association for Computational Linguistics (EACL). Trento, Italy. April 5-7, 2006.

J. R. Tetreault, M. D. Swift, P. Prithviraj, M. O. Dzikovska and J. F. Allen. *Discourse Annotation in the Monroe Corpus* In Proceedings of the ACL workshop on Discourse Annotation. Barcelona, Spain. July 25-26, 2004.

J. R. Tetreault and J. F. Allen. *Semantics, Dialogue, and Pronoun Resolution* In Proceedings of the 8th Workshop on the Semantics and Pragmatics of Dialogue (CATALOG '04) Barcelona, Spain. July 19-21, 2004.

S. Stoness, J. R. Tetreault and J. F. Allen. *Incremental Parsing with Reference Interaction* In Proceedings of the ACL Workshop on Incremental Parsing. Barcelona, Spain. July 25-26, 2004.

J. R. Tetreault and J. F. Allen. *Dialogue Structure and Pronoun Resolution* In Proceedings of the Discourse Anaphora and Anaphora Resolution Colloquium (DAARC'04) Azores. September 23-24, 2004.

S. Garg, B. Martinovski, S. Robinson, J. R. Tetreault, D. Traum. *Evaluation of Transcription and Annotation tools for a Multi-modal, Multi-party dialogue corpus*. In Proceedings of Language Resources and Evaluation Conference (LREC). Lisbon, Portugal. May 26-28, 2004.

M. D. Swift, M. O. Dzikovska, J. R. Tetreault and J. F. Allen. *Semi-automatic Syntactic and Semantic Corpus Annotation with a Deep Parser*. In Proceedings of Language Resources and Evaluation Conference (LREC). Lisbon, Portugal. May 26-28, 2004.

N. Chambers, J. R. Tetreault, and J. F. Allen. *Approaches for Automatically Tagging Affect* In Proceedings of the 2004 AAAI Symposium of Exploring Affect and Attitude in Text Stanford, USA, March 25-27, 2004.

J. R. Tetreault and J. Allen. *An Empirical Evaluation of Pronoun Resolution and Clausal Structure* In Proceedings of the 2003 International Symposium on Reference Resolution and its Applications to Question Answering and Summarization Venice, Italy, June 23-24, 2003. p. 1-8.

J. R. Tetreault. *Clausal Structure and Pronoun Resolution*, In Proceedings of the 4th Discourse Anaphora and Anaphora Resolution Colloquium (DAARC). Lisbon, Portugal, September 18-20, 2002, p.217-220.

J. R. Tetreault. *Implicit Role Reference* In Proceedings of 2002 International Symposium on Reference Resolution for Natural Language Processing. Alicante, Spain, June 3 - 4, 2002, p.109-115.

J. R. Tetreault. *Tense and Implicit Role Reference* In Proceedings of the LREC Workshop on Annotation Standards for Temporal Information in Natural Language, Las Palmas de Gran Canaria, May 27, 2002, p.61-64.

D. K. Byron and J. R. Tetreault. *A Flexible Architecture for Reference Resolution* In Proceedings of the Ninth Conference of the European Chapter of the Association for Computational Linguistics (EACL-99).

J. R. Tetreault. *Analysis of Syntax Based Pronoun Resolution Methods*. In Proceedings of the 37th Annual Meeting of the Association for Computational Linguistics (ACL'99) student session.

TEACHING EXPERIENCE

2003 **Teaching Assistant, University of Rochester**
CSC240: The Computational Brain, an undergraduate computational and neuroscience writing course.

1998-2001, **Teaching Assistant, University of Rochester**
CSC242: Introduction to Artificial Intelligence

1999 **Teaching Assistant, University of Rochester**
CSC484: Parallel Algorithms - graduate course in algorithm theory and design.

COMPUTER SKILLS

Languages: Proficient in Lisp, C/C++, Perl, Matlab; familiar with Prolog

Platforms: User level knowledge of Linux, Solaris, MS Windows

SERVICE

Manager of University of Rochester Computer Science corpora resources (2000-2004)

Reviewer, NAACL '06, ACL '06, IJCAI '06, EMNLP '05, ICJAI '05 KR in Dialogue Wkshp., The Seventh Pacific Rim International Conference on Artificial Intelligence (PRIJCAI-2002)

Department representative to University of Rochester graduate committee (1999-2000)

5 years Assistant Coach for the University of Rochester Mens Cross Country and Track teams (1998-2003)

REFERENCES

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