

DIANE J. LITMAN

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RESEARCH INTERESTS

Artificial intelligence, particularly computational linguistics, intelligent tutoring systems, knowledge representation and reasoning, plan recognition, spoken dialogue agents, user modeling, and applications of machine learning.

EDUCATION

Ph.D. 1986

Computer Science, University of Rochester, Rochester, NY

Thesis: *Plan Recognition and Discourse Analysis: An Integrated Approach for Understanding Dialogues*; Advisor: James F. Allen

M.S. 1982

Computer Science, University of Rochester, Rochester, NY

A.B. 1980

Mathematics and Computer Science (double major), The College of William and Mary, Williamsburg, VA

EMPLOYMENT

2008 to present: Senior Scientist, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA

2007 to 2008: Leverhulme Visiting Professor, School of Informatics, University of Edinburgh, Scotland, UK

2005 to present: Professor, Computer Science Department, University of Pittsburgh, Pittsburgh, PA

2001 to present: Faculty, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA

2001 to 2008: Research Scientist, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA

2001 to 2005: Associate Professor, Computer Science Department, University of Pittsburgh, Pittsburgh, PA

1996 to 2001: Principal Technical Staff Member, Artificial Intelligence Principles Research Department, AT&T Labs - Research, Florham Park, NJ

1992 to 1996: Member of Technical Staff, Artificial Intelligence Principles Research Department, AT&T Bell Laboratories, Murray Hill, NJ

1990 to 1992: Assistant Professor, Computer Science Department, Columbia University, New York, NY

1985 to 1990: Member of Technical Staff, Artificial Intelligence Principles Research Department, AT&T Bell Laboratories, Murray Hill, NJ

HONORS

Best Paper Award (Late-Breaking News) at Human Language Technology Conference: Annual Meeting of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT) for "Exploring Affect-Context Dependencies for Adaptive System Development" by Forbes-Riley, Rotaru, Litman, and Tetreault, Rochester, New York, 2007.

People's Choice Best Paper Award for "Discourse Structure and Speech Recognition Problems" (with M. Rotaru), Ninth International Conference on Spoken Language Processing (Interspeech/ICSLP), 2006

Speech Communications Best Paper Award 2003-2004 for "Prosodic and Other Cues to Speech Recognition Failures" (with J. Hirschberg and M. Swerts), European Association for Signal Processing (Eurasip), 2005

Plenary System Demonstration of "ITSPROKE: An Intelligent Tutoring Spoken Dialogue System," Human Language Technology Conference: 4th Meeting of the North American Chapter of the Association for Computational Linguistics (HLT/NAACL), 2004.

Best Paper Award for "Evaluating Spoken Language Systems" (with C. Kamm, M. Walker), American Voice Input/Output Society (AVIOS), 1999

AT&T Recognition Award, 1998

Excellence in Innovation Award, AT&T Network Services Division, 1994

Individual Performance Award, AT&T Bell Laboratories, 1989

Linguistic Society of America Fellowship, 1983

High Honors in Computer Science for Senior Research, 1980

Phi Beta Kappa, 1979

RESEARCH SUPPORT

Principal Investigator, "RI: Small: An Affect-Adaptive Spoken Dialogue System that Responds Based on User Model and Multiple Affective States" (with K. Forbes-Riley (Co-PI)), National Science Foundation, pending, \$499,719.

Co-Principal Investigator, "RI: Small: Detecting and Repairing Late Stage Misunderstandings in Dialogue Systems" (with P. Jordan (PI)), National Science Foundation, pending, \$499,083.

Principal Investigator, "Improving Learning from Peer Review with NLP and ITS Techniques" (with Christian Schunn and Kevin Ashley (Co-PIs)), LRDC RDF Internal Grant Competition, July 2009-June 2011, \$150,000.

Principal Investigator, Amendment to "Adapting to Student Uncertainty over and above Correctness in a Spoken Tutoring Dialogue System," National Science Foundation Research Experiences for Undergraduates Program, 2008 - present, \$12,000.

Visiting Professorship Award (with J. Moore, University of Edinburgh (Applicant Institution)), The Leverhulme Trust, August 2007-May 2008, 60,492 British Pounds.

Co-Principal Investigator, "Cohesion in Tutorial Dialogue and its Impact on Learning" (with S. Katz (PI)), Office of Naval Research, October 16 2006 - September 30 2009, \$761,625.

Principal Investigator, "Does Treating Student Uncertainty as a Learning Impasse Improve Learning in Spoken Dialogue Tutoring?" (with K. Forbes-Riley (Co-PI)), Pittsburgh Science of Learning Center (funded by the National Science Foundation), October 1 2006 - May 31 2007, \$72,156.

Principal Investigator, "Adapting to Student Uncertainty over and above Correctness in a Spoken Tutoring Dialogue System" (with K. Forbes-Riley (Co-PI)), National Science Foundation Advanced Learning Technologies Program, September 1 2006 - August 31 2009, \$480,000.

Principal Investigator, Amendment to "Collaborative Research: Monitoring Student State in Tutorial Spoken Dialogue", National Science Foundation Research Experiences for Undergraduates Program, September 1 2005 - August 31 2007, \$10,800.

Co-Principal Investigator, "Tutalk: Infrastructure for Authoring and Experimenting with Natural Language Dialogue in Tutoring Systems and Learning Research" (with P. Jordan (PI) and C. Rose (PI at Carnegie Mellon University)), Pittsburgh Science of Learning Center (funded by the National Science Foundation), December 1 2004 - November 30 2006, \$430,761 (\$270,388 to University of Pittsburgh).

Senior Personnel, "SLC Center: Pittsburgh Science of Learning Center: Studying Robust Learning with Learning Experiments in Real Classrooms" (K. Koedinger, Carnegie Mellon University (PI), D. Klahr, C. Perfetti and K. VanLehn (Co-PIs)), National Science Foundation Science of Learning Centers Program, October 1 2004 - September 30 2009, \$25,000,000 to Carnegie Mellon University and the University of Pittsburgh.

Co-Principal Investigator, "ITR: Natural Language Processing Technology for Guided Study of Bioinformatics" (with D. Roth, University of Illinois at Urbana-Champaign (PI), J. Pellegrino, S. Rodriguez-Zas, and C. Zhai), National Science Foundation Information Technology Research (ITR) for National Priorities Program, September 15 2004-August 31 2008, \$1,025,002 (\$107,000 to University of Pittsburgh).

Co-Principal Investigator, "ITR: Tutoring Scientific Explanations via Natural Language Dialogue" (with K. VanLehn (PI), M. Chi, P. Jordan, and C. Rose), National Science Foundation ITR Medium Grants Program, January 1 2004-December 31 2007, \$2,500,000.

Principal Investigator, "Adding Spoken Language to a Text-Based Dialogue Tutor," Office of Naval Research, November 17 2003 - September 30 2006, \$389,969.

Principal Investigator, "Collaborative Research: Monitoring Student State in Tutorial Spoken Dialogue" (with J. Hirschberg, Columbia University), National Science Foundation Human Language and Communication Program, September 1 2003 - August 31 2007, \$690,003 (\$420,003 to University of Pittsburgh).

"Extracting Constraints on Word Usage from Text Corpora" (with K. McKeown (PI)), Office of Naval Research and Defense Advanced Research Projects Agency, 1991-1994, \$1,032,247.

PUBLICATIONS

Journal Articles

- (1) Min Chi, Pamela Jordan, Kurt VanLehn, Diane Litman, "Applying Reinforcement Learning To Induce Effective Pedagogical Knowledge-Components Based Tutorial Tactics," *Journal of Educational Data Mining*, submitted January 2009.
- (2) Kate Forbes-Riley and Diane Litman, "Designing and Evaluating an Affect-Adaptive Spoken Dialogue Tutoring System," *Computer Speech and Language*, submitted May 2008.
- (3) Joel R. Tetreault and Diane J. Litman, "A Reinforcement Learning Approach to Evaluating State Representations in Spoken Dialogue Systems," *Speech Communication*, Vol. 50, Issues 8-9, pp. 683-696, 2008.
- (4) Kate Forbes-Riley, Mihai Rotaru, and Diane J. Litman, "The Relative Impact of Student Affect on Performance Models in a Spoken Dialogue Tutoring System," *User Modeling and User-Adapted Interaction*, Vol. 18, Nos. 1-2, pp. 11-43, 2008.
- (5) Diane Litman, Julia Hirschberg, and Marc Swerts, "Characterizing and Predicting Corrections in Spoken Dialogue Systems," *Computational Linguistics*, Vol. 32, No. 3, pp. 417-438, 2006.
- (6) Diane J. Litman, Carolyn P. Rose, Kate Forbes-Riley, Kurt VanLehn, Dumisizwe Bhembe, and Scott Silliman, "Spoken Versus Typed Human and Computer Dialogue Tutoring," *International Journal of Artificial Intelligence in Education (Special Issue: Best of ITS 2004)*, Vol. 16, Number 2, pp. 145-170, 2006.
- (7) Diane Litman and Kate Forbes-Riley, "Correlations between Dialogue Acts and Learning in Spoken Tutoring Dialogues," *Natural Language Engineering*, Vol. 12, Issue 02, pp. 161-176, June 2006.
- (8) Diane J. Litman and Kate Forbes-Riley, "Recognizing Student Emotions and Attitudes on the Basis of Utterances in Spoken Tutoring Dialogues with both Human and Computer Tutors," *Speech Communication*, Vol. 48, No. 5, pp. 559-590, May 2006.
- (9) Julia Hirschberg, Diane Litman, and Marc Swerts, "Prosodic and Other Cues to Speech Recognition Failure," *Speech Communication*, Vol. 43, Nos. 1-2, pp. 155-175, June 2004.
- (10) Diane J. Litman, Peter F. Patel-Schneider, Anil K. Mishra, James M. Crawford, and Daniel L. Dvorkak, "R++: Adding Path-Based Rules to C++," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 14, No. 3, pp. 638-658, May/June 2002.
- (11) Diane J. Litman and Shimei Pan, "Designing and Evaluating an Adaptive Spoken Dialogue System," *User Modeling and User-Adapted Interaction*, Vol. 12, No. 2/3, pp. 111-137, 2002.
- (12) Satinder Singh, Diane Litman, Michael Kearns, and Marilyn Walker, "Optimizing Dialogue Management with Reinforcement Learning: Experiments with the NJFun System," *Journal of Artificial Intelligence Research*, Vol. 16, pp. 105-133, 2002.
- (13) Ingrid Zukerman and Diane Litman, "Natural Language Processing and User Modeling: Synergies and Limitations," *User Modeling and User-Adapted Interaction*, Vol. 11, No. 1/2, pp. 129-158, 2001.
- (14) Marilyn Walker, Candace Kamm, and Diane Litman, "Towards Developing General Models of Usability with PARADISE," *Natural Language Engineering*, Vol. 6, No. 3, 2000.
- (15) Marilyn A. Walker, Diane J. Litman, Candace A. Kamm, and Alicia Abella, "Evaluating Spoken Dialogue Agents with PARADISE: Two Case Studies," *Computer Speech and Language*, Vol. 12, No. 3, pp. 317-347, 1998.
- (16) Rebecca J. Passonneau and Diane J. Litman, "Discourse Segmentation by Human and Automated Means," *Computational Linguistics*, Vol. 23, No. 1, pp. 103-139, 1997.
- (17) Diane J. Litman, "Cue Phrase Classification Using Machine Learning," *Journal of Artificial Intelligence Research*, Vol. 5, pp. 53-94, 1996.

- (18) Premkumar T. Devanbu and Diane J. Litman, "Taxonomic Plan Reasoning," *Artificial Intelligence*, Vol. 84, pp. 1-35, 1996.
- (19) Julia Hirschberg and Diane Litman, "Empirical Studies on the Disambiguation of Cue Phrases," *Computational Linguistics*, Vol. 19, No. 3, pp. 501-530, 1993.
- (20) Bradley A. Goodman and Diane J. Litman, "On the Interaction Between Plan Recognition and Intelligent Interfaces," *User Modeling and User-Adapted Interaction*, Vol. 2, No. 1-2, pp. 83-115, 1992.
- (21) Diane J. Litman and James F. Allen, "A Plan Recognition Model for Subdialogues in Conversation," *Cognitive Science*, Vol. 11, No. 2, pp. 163-200, 1987.
- (22) James F. Allen and Diane J. Litman, "Plans, Goals, and Language," *Proceedings of the IEEE*, Vol. 74, No. 7, pp. 939-947, 1986.

Book Articles

- (1) Kate Forbes-Riley and Diane J. Litman, "Analyzing Dependencies Between Student Certainty States and Tutor Responses in a Spoken Dialogue Corpus," *Recent Trends in Discourse and Dialogue*, Laila Dybkjaer and Wolfgang Minker (eds.), Springer, pp. 275-304, 2008.
- (2) Veselin Stoyanov, Claire Cardie, Diane Litman, and Janyce Wiebe, "Evaluating an Opinion Annotation Scheme Using a New Multi-Perspective Question and Answer Corpus," *Computing Attitude and Affect in Text*, James G. Shanahan, Yan Qu, and Janyce Wiebe (eds.), Springer, Dordrecht, The Netherlands, 2005.
- (3) Claire Cardie, Janyce Wiebe, Theresa Wilson, and Diane Litman, "Low-Level Annotations and Summary Representations of Opinions for Multiperspective QA," *New Directions in Question Answering*, M. Maybury (ed.), MIT Press, pp. 87-98, 2004.
- (4) Amal Ahmed, Diane Litman, Anil Mishra, Peter F. Patel-Schneider, and Johannes P. Ros, "Using Affective Relations and Data-Driven Rules in Modeling Collections of Changing Interdependent Objects," *Implementing Application Frameworks: Object Oriented Frameworks at Work*, Mohamed Fayad, Douglas Schmidt, and Ralph Johnson (eds.), Wiley, 2000.
- (5) Rebecca J. Passonneau and Diane J. Litman, "Empirical Analysis of Three Dimensions of Spoken Discourse: Segmentation, Coherence and Linguistic Devices," *Computational and Conversational Discourse: Burning Issues - An Interdisciplinary Account*, E. Hovy and D. Scott (eds.), Springer-Verlag, Heidelberg, Germany, pp. 161-194, 1996.
- (6) Steven K. Feiner, Diane J. Litman, Kathleen R. McKeown, and Rebecca J. Passonneau, "Towards Coordinated Temporal Multimedia Presentations," *Intelligent Multimedia Interfaces*, M. Maybury (ed.), MIT Press, Cambridge, MA, pp. 139-147, 1993.
- (7) Diane J. Litman and James F. Allen, "Discourse Processing and Commonsense Plans," *Intentions in Communication*, P. Cohen, J. Morgan, and M. Pollack (eds.), MIT Press, Cambridge, MA, pp. 365-388, 1990.

Patents

- (1) Allen Gorin, Irene Langkilde Geary, Diane Litman, Marilyn Walker, and Jeremy Wright, "Method and System for Predicting Problematic Dialog Situations in a Task Classification System," Patent 6941266, issued September 6, 2005.
- (2) James Crawford, Daniel Dvorak, Diane Litman, Anil Mishra, and Peter Patel-Schneider, "Integrating Rules into Object-Oriented Programming Systems," Patent 5768480, issued June 16, 1998.

Conference Proceedings

- (1) Mihai Rotaru and Diane J. Litman, "Discourse Structure and Performane Analysis: Beyond the Correlation", submitted.
- (2) Diane Litman, Mihai Rotaru, and Greg Nicholas, "Classifying Turn-Level Uncertainty Using Word-Level Prosody," submitted.

- (3) Kate Forbes-Riley and Diane Litman, "A User Modeling-based Performance Analysis of a Wizarded Uncertainty-Adaptive Dialogue System Corpus," submitted.
- (4) Hua Ai and Diane Litman, "Setting Up User Action Probabilities in User Simulations for Dialog System Development," *Proceedings Joint conference of the 47th Annual Meeting of the Association for Computational Linguistics and the 4th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP)*, Suntec, Singapore, August 2009.
- (5) Kate Forbes-Riley and Diane Litman, "Adapting to Student Uncertainty Improves Tutoring Dialogues," *Proceedings 14th International Conference on Artificial Intelligence in Education (AIED)*, Brighton, UK, July 2009.
- (6) Diane Litman, Johanna Moore, Myroslava O. Dzikovska and Elaine Farrow, "Using Natural Language Processing to Analyze Tutorial Dialogue Corpora Across Domains and Modalities," *Proceedings 14th International Conference on Artificial Intelligence in Education (AIED)*, Brighton, UK, July 2009.
- (7) Pamela Jordan, Diane Litman, Michael Lipschultz and Joanna Drummond, "Evidence of Misunderstandings in Tutorial Dialogue and their Impact on Learning," *Proceedings 14th International Conference on Artificial Intelligence in Education (AIED)*, Brighton, UK, July 2009.
- (8) Min Chi, Pamela Jordan, Kurt VanLehn and Diane Litman, "To Elicit Or To Tell: Does It Matter?," *Proceedings 14th International Conference on Artificial Intelligence in Education (AIED)*, Brighton, UK, July 2009.
- (9) Kate Forbes-Riley, Diane Litman, and Mihai Rotaru, "Responding to Student Uncertainty during Computer Tutoring: An Experimental Evaluation," *Proceedings 9th International Conference on Intelligent Tutoring Systems (ITS)*, pp. 60-69, Montreal, Canada, June 2008.
- (10) Arthur Ward and Diane Litman, "Semantic Cohesion and Learning," *Proceedings 9th International Conference on Intelligent Tutoring Systems (ITS)*, Montreal, Canada, June 2008.
- (11) Hua Ai and Diane J. Litman, "Assessing Dialog System User Simulation Evaluation Measures Using Human Judges," *Proceedings 46th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (ACL)*, Columbus, OH, June 2008.
- (12) Kate Forbes-Riley, Diane Litman, Scott Silliman and Amruta Purandare, "Uncertainty Corpus: Resource to Study User Affect in Complex Spoken Dialogue Systems," *Proceedings 6th Language Resources and Evaluation Conference (LREC)*, Marrakech, Morocco, May-June 2008.
- (13) Amruta Purandare and Diane Litman, "Analyzing Dialog Coherence using Transition Patterns in Lexical and Semantic Features," *Proceedings 21st International FLAIRS (Florida Artificial Intelligence Research Society) Conference*, Coconut Grove, Florida, May 2008.
- (14) Amruta Purandare and Diane Litman, "Content-Learning Correlations in Spoken Tutoring Dialogs at Word, Turn and Discourse Levels," *Proceedings 21st International FLAIRS (Florida Artificial Intelligence Research Society) Conference*, Coconut Grove, Florida, May 2008.
- (15) Kate Forbes-Riley and Diane Litman, "Investigating Human Tutor Responses to Student Uncertainty for Adaptive System Development," *Proceedings Affective Computing and Intelligent Interaction (ACII)*, pp. 678-689, Lisbon, Portugal, September 2007.
- (16) Hua Ai and Diane J. Litman, "Knowledge Consistent User Simulations for Dialog Systems," *Proceedings Interspeech*, Antwerp, Belgium, August 2007.
- (17) Mihai Rotaru and Diane Litman, "The Utility of a Graphical Representation of Discourse Structure in Spoken Dialogue Systems," *Proceedings 45th Annual Meeting of the Association for Computational Linguistics (ACL)*, pp. 360-367, Prague, Czech Republic, June 2007.
- (18) Arthur Ward and Diane Litman. "Dialog Convergence and Learning," *Proceedings 13th International Conference on Artificial Intelligence in Education (AIED)*, Los Angeles, CA, July 2007.

- (19) Kate Forbes-Riley, Diane Litman, Amruta Purandare, Mihai Rotaru, Joel Tetreault. "Comparing Linguistic Features for Modeling Learning in Computer Dialogue Tutoring," *Proceedings 13th International Conference on Artificial Intelligence in Education (AIED)*, Los Angeles, CA, July 2007.
- (20) Joel R. Tetreault, Dan Bohus, and Diane J. Litman. "Estimating the Reliability of MDP Policies: A Confidence Interval Approach," *Proceedings Human Language Technologies: The Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT)*, Rochester, NY, April 2007.
- (21) Mihai Rotaru and Diane J. Litman. "Discourse Structure and Speech Recognition Problems," *Proceedings of Interspeech*, pp. 53-56, Pittsburgh, PA, September 2006.
- (22) Hua Ai, Diane J. Litman, Kate Forbes-Riley, Mihai Rotaru, Joel Tetreault, and Amruta Purandare. "Using System and User Performance Features to Improve Emotion Detection in Spoken Tutoring Dialogs," *Proceedings of Interspeech*, pp.797-800, Pittsburgh, PA, September 2006.
- (23) Rohit Kumar, Carolyn P. Rose, and Diane J. Litman. "Identification of Confusion and Surprise in Spoken Dialog using Prosodic Features," *Proceedings of Interspeech*, pp. 1842-1845, Pittsburgh, PA, September 2006.
- (24) Amruta Purandare and Diane Litman. "Humor: Prosody Analysis and Automatic Recognition for FRIENDS," *Proceedings Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Sydney, Australia, July 2006.
- (25) Mihai Rotaru and Diane J. Litman. "Exploiting Discourse Structure for Spoken Dialogue Performance Analysis", *Proceedings Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Sydney, Australia, July 2006.
- (26) Mihai Rotaru and Diane J. Litman. "Dependencies between Student State and Speech Recognition Problems in Spoken Tutoring Dialogues," *Proceedings Joint Conference of the International Committee on Computational Linguistics and the Association for Computational Linguistics (Colling/ACL)*, Sydney, Australia, July 2006.
- (27) Joel R. Tetreault and Diane J. Litman. "Comparing the Utility of State Features in Spoken Dialogue Using Reinforcement Learning," *Human Language Technology Conference/North American Chapter of the Association for Computational Linguistics Annual Meeting (HLT-NAACL)*, New York, NY, June 2006.
- (28) Kate Forbes-Riley and Diane J. Litman. "Modelling User Satisfaction and Student Learning in a Spoken Dialogue Tutoring System with Generic, Tutoring, and User Affect Parameters," *Human Language Technology Conference/North American Chapter of the Association for Computational Linguistics Annual Meeting (HLT-NAACL)*, New York, NY, June 2006.
- (29) Kate Forbes-Riley, Diane Litman, Scott Silliman, and Joel Tetreault. "Comparing Synthesized versus Pre-recorded Tutor Speech in an Intelligent Tutoring Spoken Dialogue System," *19th International FLAIRS (Florida Artificial Intelligence Research Society) Conference*, Melbourne Beach, FL, May 2006.
- (30) Arthur Ward and Diane Litman. "Cohesion and Learning in a Tutorial Spoken Dialog System," *19th International FLAIRS (Florida Artificial Intelligence Research Society) Conference*, pp. 533-538, Melbourne Beach, FL, May 2006.
- (31) Joel Tetreault and Diane Litman, "Using Reinforcement Learning to Build a Better Model of Dialogue State", *11th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, pp. 289-296, Trento, Italy, April 2006.
- (32) Mihai Rotaru and Diane J. Litman, "Using Word-level Pitch Features to Better Predict Student Emotions during Spoken Tutoring Dialogues," *9th European Conference on Speech Communication and Technology (Interspeech-2005/Eurospeech)*, Lisbon, Portugal, September 2005.

- (33) Diane Litman and Kate Forbes-Riley, "Speech Recognition Performance and Learning in Spoken Dialogue Tutoring," *9th European Conference on Speech Communication and Technology (Interspeech-2005/Eurospeech)*, Lisbon, Portugal, September 2005.
- (34) Kate Forbes-Riley and Diane Litman, "Correlating Student Acoustic-Prosodic Profiles with Student Learning in Spoken Tutoring Dialogues," *9th European Conference on Speech Communication and Technology (Interspeech-2005/Eurospeech)*, Lisbon, Portugal, September 2005.
- (35) Mihai Rotaru, Diane J. Litman, and Katherine Forbes-Riley, "Interactions between Speech Recognition Problems and User Emotions," *9th European Conference on Speech Communication and Technology (Interspeech-2005/Eurospeech)*, Lisbon, Portugal, September 2005.
- (36) Kate Forbes-Riley, Diane Litman, Alison Huettner, and Arthur Ward, "Dialogue-Learning Correlations in Spoken Dialogue Tutoring," *Proceedings of the 12th International Conference on Artificial Intelligence in Education (AIED-2005)*, Amsterdam, Netherlands, July 2005.
- (37) Diane J. Litman, Carolyn P. Rose, Kate Forbes-Riley, Kurt VanLehn, Dumisizwe Bhembe, and Scott Silliman, "Spoken Versus Typed Human and Computer Dialogue Tutoring," *Proceedings of the Seventh International Conference on Intelligent Tutoring Systems (ITS-2004)*, pp. 368-379, Maceio, Brazil, August-September 2004.
- (38) Diane J. Litman and Kate Forbes-Riley, "Predicting Student Emotions in Computer-Human Tutoring Dialogues," *Proceedings of the 42nd Annual Meeting of the Association for Computational Linguistics (ACL-2004)*, pp. 352-359, Barcelona, Spain, July 2004.
- (39) Kate Forbes-Riley and Diane Litman, "Predicting Emotion in Spoken Dialogue from Multiple Knowledge Sources," *Proceedings of the Human Language Technology Conference: 4th Meeting of the North American Chapter of the Association for Computational Linguistics (HLT/NAACL-2004)*, pp. 201-208, Boston, MA, May 2004.
- (40) Mihai Rotaru and Diane J. Litman, "Exceptionality and Natural Language Learning," *Proceedings of the Seventh Conference on Natural Language Learning (CONLL-2003)*, pp. 63-70, Edmonton, Canada, May 2003.
- (41) Michael Kearns, Charles Isbell, Satinder Singh, Diane Litman, and Jessica Howe, "CobotDS: A Spoken Dialogue System for Chat," *Proceedings of the Eighteenth National Conference on Artificial Intelligence (AAAI-2002)*, pp. 425-430, Edmonton, Canada, July-August 2002.
- (42) Diane Litman, Julia Hirschberg, and Marc Swerts, "Predicting User Reactions to System Error," *Proceedings of the 39th Annual Meeting of the Association for Computational Linguistics (ACL-2001)*, pp. 362-369, Toulouse, France, July 2001.
- (43) Julia Hirschberg, Diane Litman, and Marc Swerts, "Identifying User Corrections Automatically in Spoken Dialogue Systems," *Proceedings of the 2nd Meeting of the North American Chapter of the Association for Computational Linguistics (NAACL-2001)*, pp. 208-215, Pittsburgh, PA, June 2001.
- (44) Marc Swerts, Diane Litman, and Julia Hirschberg, "Corrections in Spoken Dialogue Systems," *Proceedings of the 6th International Conference of Spoken Language Processing (ICSLP-2000)*, Beijing, China, October 2000.
- (45) Julia Hirschberg, Diane Litman, and Marc Swerts, "Generalizing Prosodic Prediction of Speech Recognition Errors," *Proceedings of the 6th International Conference of Spoken Language Processing (ICSLP-2000)*, Beijing, China, October 2000.
- (46) Diane J. Litman, Michael S. Kearns, Satinder Singh, and Marilyn A. Walker, "Automatic Optimization of Dialogue Management," *Proceedings of the 18th International Conference on Computational Linguistics (COLING-2000)*, Saarbrücken, Germany, July-August 2000.
- (47) Satinder Singh, Michael Kearns, Diane J. Litman, and Marilyn A. Walker, "Empirical Evaluation of a Reinforcement Learning Spoken Dialogue System," *Proceedings of the Seventeenth National Conference on Artificial Intelligence (AAAI-2000)*, pp. 645-651, Austin, TX, August 2000.

- (48) Diane J. Litman and Shimei Pan, "Predicting and Adapting to Poor Speech Recognition in a Spoken Dialogue System," *Proceedings of the Seventeenth National Conference on Artificial Intelligence (AAAI-2000)*, pp. 722-728, Austin, TX, August 2000.
- (49) Diane J. Litman, Julia B. Hirschberg, and Marc Swerts, "Predicting Automatic Speech Recognition Performance Using Prosodic Cues," *Proceedings of the 1st Meeting of the North American Chapter of the Association for Computational Linguistics (NAACL-2000)*, pp. 218-225, Seattle, WA, May 2000.
- (50) Marilyn Walker, Irene Langkilde, Jerry Wright, Allen Gorin, and Diane Litman, "Learning to Predict Problematic Situations in a Spoken Dialogue System: Experiments with How May I Help You," *Proceedings of the 1st Meeting of the North American Chapter of the Association for Computational Linguistics (NAACL-2000)*, pp. 210-217, Seattle, WA, May 2000.
- (51) Satinder Singh, Michael Kearns, Diane Litman, and Marilyn Walker, "Reinforcement Learning for Spoken Dialogue Systems," *Proceedings of the 13th Neural Information Processing Systems Meeting (NIPS-99)*, Denver, CO, December 1999.
- (52) Diane J. Litman, Marilyn A. Walker, and Michael S. Kearns, "Automatic Detection of Poor Speech Recognition at the Dialogue Level," *Proceedings of the 37th Annual Meeting of the Association for Computational Linguistics (ACL-99)*, pp. 309-316, College Park, MD, June 1999.
- (53) Diane J. Litman and Shimei Pan, "Empirically Evaluating an Adaptable Spoken Dialogue System," *Proceedings of the 7th International Conference on User Modeling (UM-99)*, pp. 55-64, Banff, Canada, June 1999.
- (54) Candace Kamm, Marilyn Walker, and Diane Litman, "Evaluating Spoken Language Systems," *Proceedings of American Voice Input/Output Society (AVIOS)*, May 1999. (Winner of the Best Paper Award)
- (55) Candace A. Kamm, Diane J. Litman, and Marilyn A. Walker, "From Novice to Expert: The Effect of Tutorials on User Expertise with Spoken Dialogue Systems," *Proceedings of the 5th International Conference on Spoken Language Processing (ICSLP-1998)*, pp. 1211-1214, Sydney, Australia, December 1998.
- (56) Diane J. Litman, Shimei Pan, and Marilyn A. Walker, "Evaluating Response Strategies in a Web-Based Spoken Dialogue Agent," *Proceedings of the 36th Annual Meeting of the Association for Computational Linguistics and the 17th International Conference on Computational Linguistics (COLING-ACL-98)*, pp. 780-786, Montreal, Canada, August 1998.
- (57) Diane Litman, Anil Mishra, and Peter F. Patel-Schneider, "Modeling Dynamic Collections of Interdependent Objects Using Path-Based Rules," *Proceedings of the 12th Annual ACM Conference on Object-Oriented Programming Systems, Languages and Applications (OOPSLA-97)*, pp. 77-92, Atlanta, GA, October 1997.
- (58) Marilyn A. Walker, Diane J. Litman, Candace A. Kamm, and Alicia Abella, "PARADISE: A Framework for Evaluating Spoken Dialogue Agents," *Proceedings of the 35th Annual Meeting of the Association for Computational Linguistics and 8th Conference of the European Chapter of the Association for Computational Linguistics (ACL-97/EACL-97)*, pp. 271-280, Madrid, Spain, July 1997. Reprinted in *Readings in Intelligent User Interfaces*, M. T. Maybury and W. Wahlster (eds.), pp. 631-640, Morgan Kaufmann, 1998.
- (59) Anil Mishra, Johannes P. Ros, Anoop Singhal, Gary Weiss, Diane Litman, Peter F. Patel-Schneider, Daniel Dvorak, and James Crawford, "R++: Using Rules in Object-Oriented Designs," *Addendum to the Proceedings of the 11th Annual ACM Conference on Object-Oriented Programming Systems, Languages and Applications (OOPSLA-96)*, San Jose, CA, October 1996.
- (60) James M. Crawford, Daniel Dvorak, Diane Litman, Anil Mishra, and Peter F. Patel-Schneider, "Path-Based Rules in Object-Oriented Programming," *Proceedings of the 13th National Conference on Artificial Intelligence (AAAI-96)*, pp. 490-497, Portland, Oregon, August 1996.

- (61) James M. Crawford, Daniel L. Dvorak, Diane J. Litman, Anil K. Mishra, and Peter F. Patel-Schneider, "Device Representation and Reasoning with Affective Relations," *Proceedings of the 14th International Joint Conference on Artificial Intelligence (IJCAI-95)*, pp. 1814-1820, Montreal, Canada, August 1995.
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- (63) Diane J. Litman, "Classifying Cue Phrases in Text and Speech Using Machine Learning," *Proceedings of the 12th National Conference on Artificial Intelligence (AAAI-94)*, pp. 806-813, Seattle, WA, August 1994. (Also accepted but withdrawn from *Proceedings of the 32nd Annual Meeting of the Association for Computational Linguistics (ACL-94)*).
- (64) Robert Weida and Diane Litman, "Subsumption and Recognition of Heterogeneous Constraint Networks," *Proceedings of the 10th IEEE Conference on Artificial Intelligence for Applications (CAIA-94)*, pp. 381-388, San Antonio, TX, March 1994.
- (65) Rebecca J. Passonneau and Diane J. Litman, "Intention-Based Segmentation: Human Reliability and Correlation with Linguistic Cues," *Proceedings of the 31st Annual Meeting of the Association for Computational Linguistics (ACL-93)*, pp. 148-155, Columbus, Ohio, June 1993.
- (66) Robert Weida and Diane Litman, "Terminological Reasoning with Constraint Networks and an Application to Plan Recognition," *Proceedings of the 3rd International Conference on Principles of Knowledge Representation and Reasoning (KR-92)*, pp. 282-293, Cambridge, MA, October 1992.
- (67) Premkumar T. Devanbu and Diane J. Litman, "Plan-Based Terminological Reasoning," *Proceedings of the 2nd International Conference on Principles of Knowledge Representation and Reasoning (KR-91)*, pp. 128-138, Cambridge, MA, April 1991.
- (68) Diane Litman and Julia Hirschberg, "Disambiguating Cue Phrases in Text and Speech," *Proceedings of the 13th International Conference on Computational Linguistics (COLING-90)*, pp. 251-256, Helsinki, Finland, Aug. 1990.
- (69) Bradley A. Goodman and Diane J. Litman, "Plan Recognition for Intelligent Interfaces," *Proceedings of the 6th IEEE Conference on AI Applications (CAIA-90)*, pp. 297-303, Santa Barbara, CA, March 1990.
- (70) Diane J. Litman and Bradley A. Goodman, "A Knowledge-Based Interface for Process Design," *Proceedings of the 3rd International Conference on Expert Systems and the Leading Edge in Production and Operations Management*, pp. 675-688, Hilton Head Island, SC, May 1989.
- (71) Bradley A. Goodman and Diane J. Litman, "Plan Recognition for Space Telerobotics," *Proceedings of NASA Conference on Space Telerobotics*, Pasadena, CA, February 1989.
- (72) J. Hirschberg, D. Litman, J. Pierrehumbert, and G. Ward, "Intonation and the Intentional Structure of Discourse," *Proceedings of the 10th International Joint Conference on Artificial Intelligence (IJCAI-87)*, pp. 636-639, Milan, Italy, August 1987.
- (73) Julia Hirschberg and Diane Litman, "Now Let's Talk About Now: Identifying Cue Phrases Intentionally," *Proceedings of the 25th Annual Meeting of the Association for Computational Linguistics (ACL-87)*, pp. 163-171, Stanford, CA, July 1987.
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- (75) Diane J. Litman, "Linguistic Coherence: A Plan-Based Alternative," *Proceedings of the 24th Annual Meeting of the Association for Computational Linguistics (ACL-86)*, pp. 215-223, New York, NY, June 1986.
- (76) Diane J. Litman and James F. Allen, "A Plan Recognition Model for Clarification Subdialogues," *Proceedings of the 10th International Conference on Computational Linguistics (COLING-84)*, pp. 302-311, Stanford, CA, July 1984.

- (77) James F. Allen, Alan M. Frisch, and Diane J. Litman, "ARGOT: The Rochester Dialog System," *Proceedings of The National Conference on Artificial Intelligence (AAAI-82)*, pp. 66-70, Pittsburgh, PA, August 1982.

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- (1) Diane Litman and Kate Forbes-Riley, "Spoken Tutorial Dialogue and the Feeling of Another's Knowing," submitted.
- (2) Pamela Jordan and Diane Litman, "Minimal Feedback During Tutorial Dialogue," *Proceedings 9th International Conference on Intelligent Tutoring Systems (ITS)*, Montreal, Canada, June 2008.
- (3) Hua Ai, Joel R. Tetreault, and Diane J. Litman, "Comparing User Simulation Models for Dialog Strategy Learning," *Proceedings Human Language Technologies: The Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT)*, Rochester, NY, April 2007.
- (4) Kate Forbes-Riley, Mihai Rotaru, Diane J. Litman and Joel Tetreault, "Exploring Affect-Context Dependencies for Adaptive System Development," *Proceedings of Human Language Technologies: The Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT)*, pp. 41-44 (Companion Volume), Rochester, NY, April 2007.
- (5) Beatriz Maeireizo, Diane Litman, and Rebecca Hwa, "Co-training for Predicting Emotions with Spoken Dialogue Data," *Proceedings of the 42nd Annual Meeting of the Association for Computational Linguistics (ACL)*, pp. 203-206 (Companion Volume), Barcelona, Spain, July 2004.
- (6) Diane J. Litman and Scott Silliman, "ITSPOKE: An Intelligent Tutoring Spoken Dialogue System," *Proceedings of the Human Language Technology Conference: 4th Meeting of the North American Chapter of the Association for Computational Linguistics (HLT/NAACL)*, pp. 233-236 (Companion Volume), Boston, MA, May 2004.
- (7) Diane Litman, Kate Forbes, and Scott Silliman, "Towards Emotion Prediction in Spoken Tutoring Dialogues," *Proceedings of Human Language Technology Conference: 3rd Meeting of the North American Chapter of the Association for Computational Linguistics (HLT-NAACL)*, pp. 52-54 (Companion Volume), Edmonton, Canada, May 2003.

Workshop Proceedings

- (1) Arthur Ward, John Connelly, Sandra Katz, Diane Litman, and Christine Wilson, "Cohesion, Semantics and Learning in Reflective Dialog," submitted.
- (2) Kurt VanLehn, Pamela Jordan, Diane Litman, "Developing Pedagogically Effective Tutorial Dialogue Tactics: Experiments and a Testbed", *SLaTE Workshop on Speech and Language Technology in Education (ISCA Tutorial and Research Workshop)*, Farmington, PA, October 2007.
- (3) Arthur Ward and Diane Litman, "Automatically Measuring Lexical and Acoustic/Prosodic Convergence in Tutorial Dialog Corpora", *SLaTE Workshop on Speech and Language Technology in Education (ISCA Tutorial and Research Workshop)*, Farmington, PA, October 2007.
- (4) Hua Ai, Antoine Raux, Dan Bohus, Maxine Eskenazi, and Diane Litman, "Comparing Spoken Dialog Corpora Collected with Recruited Subjects versus Real Users," *Proceedings of 8th SIGdial Workshop on Discourse and Dialogue*, pp. 124-131, Antwerp, Belgium, September 2007.
- (5) Greg Nicholas, Mihai Rotaru, Diane J. Litman, "Exploiting Word-level Features for Emotion Prediction", *Proceedings of IEEE/ACL Workshop on Spoken Language Technology (SLT)*, Aruba, December 2006.
- (6) Swapna Somasundaran, Janyce Wiebe, Paul Hoffmann and Diane Litman, "Manual Annotation of Opinion Categories in Meetings," *Proceedings of the ACL/Coling Workshop on Frontiers in Linguistically Annotated Corpora*, Sydney, Australia, July 2006.
- (7) Hua Ai and Diane Litman, "Comparing Real-Real, Simulated-Simulated, and Simulated-Real Spoken Dialogue Corpora," *Proceedings of the AAAI Workshop on Statistical and Empirical Approaches*

for Spoken Dialogue Systems, Boston, MA, July 2006.

- (8) Kate Forbes-Riley and Diane J. Litman, "Using Bigrams to Identify Relationships Between Student Certainty States and Tutor Responses in a Spoken Dialogue Corpus," *Proceedings of 6th SIGdial Workshop on Discourse and Dialogue*, pp. 87-96, Lisbon, Portugal, September 2005.
- (9) Mihai Rotaru and Diane J. Litman, "Improving Question Answering for Reading Comprehension Tests by Combining Multiple Systems", *Proceedings of the AAAI 2005 Workshop on Question Answering in Restricted Domains*, Pittsburgh, PA, July 2005.
- (10) Arthur Ward and Diane Litman, "Predicting Learning in Tutoring with the Landscape Model of Memory," *Proceedings of the ACL Second Workshop on Building Educational Applications Using Natural Language Processing*, Ann Arbor, Michigan, June 2005.
- (11) Diane J. Litman and Kate Forbes-Riley, "Annotating Student Emotional States in Spoken Tutoring Dialogues," *Proceedings of 5th SIGdial Workshop on Discourse and Dialogue*, pp. 144-153, Boston, MA, April-May 2004.
- (12) Ves Stoyanov, Claire Cardie, Diane Litman, and Janyce Wiebe, "Evaluating an Opinion Annotation Scheme Using a New Multi-Perspective Question and Answer Corpus," *Working Notes - Exploring Attitude and Affect in Text: Theories and Applications (AAAI Spring Symposium Series)*, Stanford, CA, March 2004.
- (13) Diane Litman and Kate Forbes, "Recognizing Emotions from Student Speech in Tutoring Dialogues," *Proceedings of the IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*, St. Thomas, Virgin Islands, November-December, 2003.
- (14) Carolyn P. Rose, Diane Litman, Dumisizwe Bhembe, Kate Forbes, Scott Silliman, Ramesh Srivastava, and Kurt VanLehn, "A Comparison of Tutor and Student Behavior in Speech Versus Text Based Tutoring," *Proceedings of the HLT-NAACL Workshop on Building Educational Applications Using Natural Language Processing*, pp. 30-37, Edmonton, Canada, May 2003.
- (15) Claire Cardie, Janyce Wiebe, Theresa Wilson and Diane Litman, "Combining Low-Level and Summary Representations of Opinions for Multi-Perspective Question Answering," *Working Notes - New Directions in Question Answering (AAAI Spring Symposium Series)*, Stanford, CA, March 2003.
- (16) Janyce Wiebe, Eric Breck, Chris Buckley, Claire Cardie, Paul Davis, Bruce Fraser, Diane Litman, David Pierce, Ellen Riloff, Theresa Wilson, David Day, and Mark Maybury, "Recognizing and Organizing Opinions Expressed in the World Press," *Working Notes - New Directions in Question Answering (AAAI Spring Symposium Series)*, Stanford, CA, March 2003.
- (17) Diane J. Litman, "Adding Spoken Dialogue to a Text-based Tutorial Dialogue System," *Proceedings of the ITS Workshop on Empirical Methods for Tutorial Dialogue Systems*, Biarritz, France, June 2002.
- (18) Julia Hirschberg, Diane Litman, and Marc Swerts, "Detecting Misrecognitions and Corrections in Spoken Dialogue from Predicted 'Aware' Sites," *Proceedings of the International Speech Communication Association (ISCA) Tutorial and Research Workshop on Prosody in Speech Recognition and Understanding*, Red Bank, NJ, October 2001.
- (19) Julia Hirschberg, Marc Swerts and Diane Litman, "Labeling Corrections and Aware Sites in Spoken Dialogue Systems," *Proceedings of the 2nd SIGdial Workshop on Discourse and Dialogue*, Aalborg, Denmark, September 2001.
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- (23) Irene Langkilde, Marilyn A. Walker, Jerry Wright, Allen Gorin, and Diane J. Litman, "Automatic Prediction of Problematic Human-Computer Dialogues in 'How May I Help You?'," *Proceedings of the Automatic Speech Recognition and Understanding Workshop (ASRU'99)*, pp. 369-372, Keystone, CO, December 1999.
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- (25) Diane J. Litman, Marilyn A. Walker, and Michael S. Kearns, "Acquiring Knowledge of System Performance for Spoken Dialogue Adaptation," *Proceedings of the IJCAI'99 Workshop on Knowledge And Reasoning in Practical Dialogue Systems*, pp. 73-80, Stockholm, Sweden, August 1999.
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- (28) M. Walker, D. Litman, C. Kamm, and A. Abella, "A Framework for Evaluating Spoken Dialogue Agents," *Proceedings of the AT&T User Experience Symposium*, 1997.
- (29) Marilyn A. Walker, Diane J. Litman, Candace A. Kamm, and Alicia Abella, "Evaluating Interactive Dialogue Systems: Extending Component Evaluation to Integrated System Evaluation," *Proceedings of the ACL Workshop on Interactive Spoken Dialogue Systems: Bringing Speech and NLP Together in Real Applications*, pp. 1-8, Madrid Spain, July 1997.
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- (31) A. Mishra, W. S. Saba, A. Singhal, J. Crawford, D. Dvorak, D. Litman, and P. Patel-Schneider, "A Model-Based Approach to Network Monitoring," *AT&T Network Management Workshop*, abstract and talk, Holmdel, NJ, June 1995.
- (32) Diane J. Litman and Rebecca J. Passonneau, "Developing Algorithms for Discourse Segmentation," *Working Notes - Empirical Methods in Discourse Interpretation and Generation (AAAI Spring Symposium Series)*, pp. 85-91, Stanford, CA, March 1995. Available as AAAI Press Technical Report SS-95-06.
- (33) James Crawford, Daniel Dvorak, Diane Litman, Anil Mishra, and Peter F. Patel-Schneider, "Path-Based Production Rules," *Proceedings of the OOPSLA-94 Workshop on Embedded Object-Oriented Production Systems (EOOPS)*, Portland, OR, October 1994. Available as Laforia Technical Report 94/24, F. Pachet (ed.), pp. 57-62, Paris, France, December 1994.
- (34) Diane J. Litman and Dan Dvorak, "Research Summary," *Proceedings of AAAI-94 Workshop on Representing and Reasoning About Device Function*, pp. 165-167, Seattle, WA, August 1994.
- (35) Diane Litman, "Terminological Plan Recognition," *Dagstuhl Seminar Report on Deductive Approaches to Plan Generation and Plan Recognition*, Dagstuhl Castle, Germany, October 1993.
- (36) Diane J. Litman and Rebecca J. Passonneau, "Empirical Evidence for Intention-based Discourse Segmentation," *Proceedings of ACL-93 Workshop on Intentionality and Structure in Discourse Relations*, pp. 60-63, Columbus, OH, June 1993.
- (37) Diane J. Litman, "Integrating DL and Plan-Based Paradigms," *Working Notes - Issues in Description Logics: Users Meet Developers (AAAI Fall Symposium Series)*, Boston, MA, October 1992.

- (38) Sandra Carberry and Diane Litman, "Recommendations for Extensions to BGP-MS," *Proceedings of the Workshop on Knowledge Representation and Inference in User Modeling Shell Systems*, Konstanz, Germany, August 1992. Available as *Recommendations for Extensions to BGP-MS*, S. Carberry, D. Litman, R. Kass, H.J. Ohlbach, G. McCalla, J. Self, C. Tasso (eds.), Bericht Nr. 15/93 (WIS-Memo 2), University of Konstanz, pp. 1-8, January 1993.
- (39) Robert Weida and Diane Litman, "Terminological Plan Reasoning and Recognition," *Proceedings of the 3rd International Workshop on User Modeling*, pp. 177-191, Dagstuhl Castle, Germany, August 1992.
- (40) Julia Hirschberg and Diane Litman (eds.), *Working Notes - Discourse Structure in Natural Language Understanding and Generation (AAAI Fall Symposium Series)*, Asilomar, CA, November 1991.
- (41) Diane J. Litman, "Constraints on Representation: Comments on Wahlster and on Coelho," *Proceedings of the NATO ARW on Computational Theories of Communication and their Applications: Problems and Prospects*, Trentino, Italy, November 1990.
- (42) Diane J. Litman and Bradley A. Goodman, "On the Synergy Between Plan Recognition Algorithms and Plan-Based Application Systems," *Proceedings of the Second IJCAI Workshop on Plan Recognition*, Detroit, MI, August 1989.
- (43) Diane J. Litman and Bradley A. Goodman, "Aiding Design with Constructive Plan Recognition," poster, *AAAI Workshop on Plan Recognition*, St. Paul, MN, August 1988.

Magazines

- (1) Brad Goodman, Alfred Kobsa, and Diane Litman, "The Fourth International Conference on User Modeling," *AI Magazine*, Vol. 17, No. 1, p.96, Spring 1996.
- (2) Julia Hirschberg, Diane Litman, Phil Agre, Les Gasser, Alan Frisch, and Avi Kak, "AAAI 91 Fall Symposium Series Reports," *AI Magazine*, Vol. 13, No. 1, pp. 16-21, Spring 1992.

Manuals

- (1) Diane J. Litman and Premkumar T. Devanbu, "CLASP (CLAssification of Scenarios and Plans): User's Guide," AT&T Bell Laboratories, 1990.

Technical Reports

- (1) Daniel L. Dvorak, James M. Crawford, Diane J. Litman, Anil K. Mishra, and Peter F. Patel-Schneider, "R++: Adding Path-Based Rules to C++," AT&T Bell Laboratories Technical Memo, 1996.
- (2) Daniel L. Dvorak, James M. Crawford, Diane J. Litman, Anil K. Mishra, and Peter F. Patel-Schneider, "Evaluation of 'objects+rules' programming languages," AT&T Bell Laboratories Technical Memo, 1996.
- (3) Daniel L. Dvorak, James M. Crawford, David D. Lewis, Diane J. Litman, Christopher A. Rath, and V. Seshadri, "Assessment of Case-Based Reasoning," AT&T Bell Laboratories Technical Memo, 1993.
- (4) Diane J. Litman and Premkumar Devanbu, "CLASP: A Plan and Scenario Classification System," AT&T Bell Laboratories Technical Memo, 1990.
- (5) Bradley Goodman and Diane Litman, "Design Interfaces and Plan Recognition" Report 7103, BBN Labs, Cambridge, MA, July 1989.
- (6) Diane J. Litman and James F. Allen, "A Plan Recognition Model for Subdialogues in Conversation," TR 141, University of Rochester, Rochester, NY, November 1984.
- (7) Diane Litman, "Discourse and Problem Solving," Report 5338, Bolt Beranek and Newman Inc., Cambridge, MA, July 1983; TR 130, University of Rochester, Rochester, NY, September 1983.

Theses

- (1) Diane J. Litman, *Plan Recognition and Discourse Analysis: An Integrated Approach for Understanding Dialogues*, Ph.D. Thesis and TR 170, University of Rochester, Rochester, NY, 1985.
- (2) Diane J. Litman, *A Belief-Driven Belief System*, A.B. Thesis, College of William and Mary, Williamsburg, VA, 1980.

INVITED TALKS

"Speech and Language Processing for Adaptive Training," Army Research Institute Workshop on Adaptive Training Technologies, Charleston, SC, March 2009.

"Spoken Tutorial Dialogue Systems: Opportunities, Challenges, and Results," University of Pittsburgh, Pittsburgh, PA, January 2009.

"User Simulation for Spoken Dialogue Systems," University of Ulster, Belfast, Northern Ireland, April 2008.

"Detecting and Adapting to Student Uncertainty in a Spoken Tutorial Dialogue System," Affective Language in Human and Machine Symposium of the AISB Convention, Aberdeen, Scotland, April 2008.

"Applications of Discourse Structure for Spoken Dialogue Systems," Cambridge University, Cambridge, England, February 2008.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," Dublin City University, Dublin, Ireland, February 2008.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," Distinguished Lecture Series at the University of Edinburgh, Edinburgh, Scotland, February 2008.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," The Open University, Milton-Keynes, England, January 2008.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," Bogazici University, Istanbul, Turkey, December 2007.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," University of Aberdeen, Aberdeen, Scotland, December 2007.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," The University of Sheffield, Sheffield, England, November 2007.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," Oxford University, Oxford, England, November 2007.

"Applications of Discourse Structure for Spoken Dialogue Systems," University of Edinburgh, Edinburgh, Scotland, November 2007.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," University of York, York, England, October 2007.

"Cohesion in Tutorial Dialogue and its Impact on Learning" (with Sandra Katz), Office of Naval Research Cognitive Science and Technology Research Program Review, Arlington, VA, October 2007.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," University of Geneva, Geneva, Switzerland, April 2007.

"Finding Academic Year Funding," CRA-W Graduate Cohort Workshop, San Francisco, CA, March 2007.

"Detecting User Emotions in Spoken Dialogue Systems," Bosch Research and Technology Center North America, Pittsburgh, PA, November 2006.

"Discourse and Dialogue Processing in Spoken Intelligent Tutoring Systems," DFG/ESRC Summer School in Computational Linguistics and Psycholinguistics of the International Graduate College (IGK), Edinburgh, September 2006.

"Discourse and Dialogue Processing in Spoken Intelligent Tutoring Systems," 7th SIGdial Workshop on Discourse and Dialogue, Sydney, Australia, July 2006.

"Learning Optimal Strategies for Spoken Dialogue Systems," Presenter at ACL/HCSNet Advanced Program in Natural Language Processing (Discourse and Dialogue Theme), Melbourne, Australia, July 2006.

"Spoken Dialogue Systems," Lecturer at 1st International PhD School in Language and Speech Technologies, Tarragona, Spain, June 2006.

"Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," Keynote Speaker at Human Language Technology Conference/North American chapter of the Association for Computational Linguistics Annual Meeting, New York, New York, June 2006.

"Optimizing Dialogue Management in an Intelligent Tutoring Spoken Dialogue System," University of Texas El Paso, El Paso, TX, April 2006.

"Speech and Affect in Intelligent Tutoring Dialogue Systems," University of Illinois, Urbana, IL, May 2005.

"Correlations with Learning in Spoken Tutoring Dialogues," Talk and Dialogue: How Discourse Patterns Support Learning (A Festschrift for Lauren Resnick), Pittsburgh, PA, May 2005.

"Learning, Dialogue, Speech Recognition and Text-to-Speech in Spoken Dialogue Tutoring," Office of Naval Research Tutorial Discourse Meeting, Orlando, FL, March 2005.

"Using Prosody to Recognize Student Emotions and Attitudes in Spoken Tutoring Dialogues," Workshop on Analysis and Generation of Prosody, Tilburg University, The Netherlands, December 2004.

"Adaptive Systems and Computational Linguistics," Unilever Change Behaviour Through Automated Dialogue Workshop, Boston, MA, November 2004.

"Experiments with ITSPOKE: An Intelligent Tutoring Spoken Dialogue System," Educational Testing Services, Princeton, NJ, November 2004.

"Experiments with ITSPOKE: An Intelligent Tutoring Spoken Dialogue System," Department of Information Science and Telecommunications, University of Pittsburgh, Pittsburgh, PA, October 2004.

"Spoken Dialogue in Human and Computer Tutoring," Office of Naval Research Tutorial Discourse Meeting, Memphis, TN, May 2004.

"'I Already Told You That': Automatic Detection of Negative Student States in Spoken Tutoring

Dialogues," Microsoft Research, Redmond, WA, November 2003.

"Designing and Evaluating Two Adaptive Spoken Dialogue Systems," General Motors, Warren, MI, May 2003.

"Designing and Evaluating Two Adaptive Spoken Dialogue Systems," University of Delaware, Newark, DE, October 2002.

"Learning, Adaptation, and Personalization in Spoken Dialogue Systems," Carnegie Mellon University, Pittsburgh, PA, March 2002.

"Optimizing Spoken Dialogue Management with Reinforcement Learning," University of Essex, Colchester, United Kingdom, January 2002.

"Looking Back 25 Years from Now: Key Developments in Conversational Systems," panelist, NAACL Workshop on Adaptation in Dialogue Systems, Pittsburgh, PA, June 2001.

"Misrecognitions, Corrections and Prosody in Spoken Dialogue Systems," University of Helsinki, Helsinki, Finland, April 2001.

"Optimizing Dialogue Management with Reinforcement Learning: Experiments with the NJFun Spoken Dialogue System," Helsinki University of Technology, Espoo, Finland, April 2001.

"Optimizing Dialogue Management with Reinforcement Learning: Experiments with the NJFun Spoken Dialogue System," University of Pittsburgh, Pittsburgh, PA, February 2001.

"Misrecognitions, Corrections and Prosody in Spoken Dialogue Systems," University of Maryland, College Park, MD, November 2000.

"Empirical Evaluation of a Reinforcement Learning Spoken Dialogue System," Naval Research Laboratory, Washington, DC, November 2000.

"Empirical Evaluation of a Reinforcement Learning Spoken Dialogue System," University of Antwerp, Antwerp, Belgium, October 2000.

"Misrecognitions and Corrections in Spoken Dialogue Systems," Carnegie Mellon University, Pittsburgh, PA, July 2000.

"Personalizing Spoken Dialogue Agents," Bell Labs, Lucent Technologies, Murray Hill, NJ, March 1999.

"Evaluation of Dialogue Systems," Third International Workshop for Discourse Research Initiative, Chiba University, Japan, May 1998.

"Predicting Speech Recognition Performance from Dialogue Phenomena," AAAI Spring Symposium Series, Palo Alto, CA, March 1998.

"Evaluating Spoken Dialogue Agents," University of Maryland, College Park, MD, September 1997.

"Discourse Analysis Using Machine Learning," University of Illinois, Chicago, IL, April 1996.

"Discourse Analysis Using Machine Learning," University of Delaware, Newark, DE, February 1995.

"Cue Word Classification: Empirical Studies and a Machine Learning Approach," University of New

Hampshire, Durham, NH, October 1994.

"The R++ Language for Rules in C++" (with D. Dvorak, A. Mishra), AT&T NJ/NY Technology Day, Middletown, NJ, May 1994.

"Knowledge Representation," AT&T Operations Technology Center, Middletown, NJ, 1993.

"Network Monitoring and Diagnosis Using a Model of Structure and Function," AT&T Switching Systems Technology Transfer Symposium, Naperville, Illinois, December 1993.

"Outlook: The View from Analysis," ACL Workshop on Intentionality and Structure in Discourse Relations, Columbus, Ohio, June 1993.

"Plan-Based Artificial Intelligence," NCR, Atlanta, Georgia, March 1993.

"Discourse Segment Recognition," University of Rochester, Rochester, NY, February 1993.

"Terminological Reasoning with Plans and an Application to Plan Recognition," AT&T Bell Laboratories, Naperville, Illinois, November 1992.

"Towards Automated Discourse Segmentation," Washington University, St. Louis, Missouri, October 1992.

"Plan-Based Terminological Representation and Reasoning," IBM Thomas J. Watson Research Center, Yorktown Heights, NY, June 1992.

"Plan-Based Terminological Representation and Reasoning," GE Research and Development Center, Schenectady, NY, March 1991.

"Disambiguating Cue Phrases in Text and Speech," University of Rochester, Rochester, NY, October 1990.

"Plan Recognition, Interfaces, and Design: A Case Study," University of Waterloo, Waterloo, Ontario, Canada, May 1989.

"Identifying Cue Phrases Intonationally" (with J. Hirschberg), University of Pittsburgh, Pittsburgh, PA, January 1989.

"Identifying Cue Phrases Intonationally," New York University, New York, NY, November 1988.

"Identifying Cue Phrases Intonationally," University of Illinois, Urbana, IL, October 1987.

"Recognizing and Relating Discourse Interactions and Task-Oriented Plans," Symposium on Intentions and Plans in Communication and Discourse, Monterey, CA, March 1987.

"Plan Recognition and Discourse Analysis: An Integrated Approach for Understanding Dialogues," University of Pennsylvania, Philadelphia, PA, March 1986.

"Plan Recognition and Discourse Analysis: An Integrated Approach for Understanding Dialogues," University of Toronto, Toronto, Ontario, Canada, 1985.

IN THE PRESS

"Teaching Computers to Teach Like Humans: Pitt researchers developing natural language tutors" (by Chris

Zurawsky), *Pitt Chronicle*, June 7, 2004.

"Fancy Footwork" (by Ron Copeland), *Information Week*, October 9, 2000 (Issue 807).

PROFESSIONAL ACTIVITIES

Editorial Positions

Book Review Editor, *User Modeling and User Adapted Interaction*, 1993-2003

Editorial Board, *Computational Linguistics*, 1991-1993

Program and Conference Committees (as Chair or Organizer)

Program Committee Senior Member, 14th International Conference of Artificial Intelligence in Education (AIED), 2009

Organizing Committee, 9th International Conference on Speech and Language Processing (INTER-SPEECH - ICSLP), 2006

Co-Chair, Prosody in Speech Recognition and Understanding (International Speech Communication Association (ISCA) Tutorial and Research Workshop Series), 2001

Area Chair, Discourse, Dialogue and Pragmatics (1st Annual Meeting of the North American Chapter of the ACL (NAACL)), 2000

Co-Chair, Dialogue Management in Interactive Spoken Dialogue Systems (37th Annual Meeting of the Association for Computational Linguistics (ACL), Thematic Session), 1999

Co-Chair, The Next Generation of Plan Recognition Systems: Challenges for and Insight from Related Areas of AI (14th International Joint Conference on Artificial Intelligence (IJCAI), Workshop Series), 1995

Co-Chair, International Conference on User Modeling (UM), 1994

Co-Chair, Discourse Structure in Natural Language Understanding and Generation (American Association for Artificial Intelligence Fall Symposium Series), 1991

Program Committees (as Member)

National Conference on Artificial Intelligence (AAAI), 1994, 1996, 1998, 1999, 2000

International Conference on Affective Computing and Intelligent Interaction (ACII), 2007, 2009

Annual Meeting of the Association for Computational Linguistics (ACL), 1991, 1993, 2001, 2002, 2004, 2005, 2007, 2008, 2009

Conference on Artificial Intelligence in Education (AIED), 2007

Conference on Natural Language Learning (CoNLL), 2002, 2003, 2004, 2005, 2008

Conference on Empirical Methods in Natural Language Processing (EMNLP), 2003

Meeting of the European Chapter of the Association for Computational Linguistics (EACL), 2006.

European Conference on Speech Communication and Technology (Eurospeech), 2001

Innovative Applications of Artificial Intelligence Conference (IAAI), 2004, 2005

International Joint Conference on Artificial Intelligence (IJCAI), 2005

Language Resources and Evaluation Conference (LREC), 2008

Annual Meeting of the North American Chapter of the ACL (NAACL), 2001, 2003, 2004

International Conference on User Modeling (UM), 1992, 1996, 1997, 1999, 2001, 2003, 2005, 2007

SIGdial Workshop (now Conference) on Discourse and Dialogue, 2001, 2008, 2009

Paralinguistic Speech - between models and data (ParaLing), 2007

SLaTE Workshop on Speech and Language Technology in Education (SLaTE), 2007, 2009

Grace Hopper Celebration of Women in Computing, 2007

Modeling and Scaffolding Affective Experiences To Impact Learning (AIED Workshop Series), 2007

First International Workshop on Spoken Language Technology (SLT), 2006

Building Educational Applications Using Natural Language Processing (HLT-NAACL and ACL Workshops), 2003, 2005, 2009

Knowledge and Reasoning in Practical Dialogue Systems (IJCAI Workshop Series), 1999, 2001, 2005

Adaptation to Affective Factors (UM Workshop Series), 2005

Dialog-based Intelligent Tutoring Systems: State of the art and new research directions (ITS Workshop Series), 2004

Analyzing Student-Tutor Interaction Logs to Improve Educational Outcomes (ITS Workshop Series), 2004

ISCA Workshop on Error Handling in Spoken Dialogue Systems, 2003

Effective Tools and Methodologies for Teaching Natural Language Processing and Computational Linguistics (ACL Workshop Series), 2002

Empirical Methods for Tutorial Dialogue Systems (ITS Workshop Series), 2002

Adaptation in Dialogue Systems (NAACL Workshop Series), 2001

Machine Learning and Statistical NLP for Dialogue (ACL Thematic Session), 2000

Workshop on the Semantics and Pragmatics of Dialogue, 2000, 2009

Towards Standards and Tools for Discourse Tagging (ACL Workshop Series), 1999

Applying Machine Learning to Discourse Processing (American Association for Artificial Intelligence Spring Symposium Series), 1998

Offices

Scientific Committee, The International Speech Communication Association Special Interest Group on Speech and Language Technology in Education (SLaTE), 2006-present

Past Chair, North American Chapter of the Association for Computational Linguistics (NAACL), 2004-2005

Chair (elected), North American Chapter of the Association for Computational Linguistics (NAACL), 2000-2001, 2002-2003

Executive Committee, Association for Computational Linguistics (ACL), 2000-2001, 2002-2003

International Advisory Committee, ACL Special Interest Group on Natural Language Learning (SIGNLL), 2002-present

Science Advisory Committee (elected), ACL Special Interest Group on Dialogue and Discourse (SIGdial), 1999-2001

AAAI Liason, ACL Special Interest Group on Dialogue And Discourse (SIGdial), 1999-2001

User Modeling Inc., Advisory Board 2001-present, Director-at-large 2000-2001, Vice-President 1996-1999, Treasurer 1994-1996

Reviewing

Reviewer for books, journals, and conferences in Artificial Intelligence and Natural Language Processing

National Science Foundation, Reviewer and Panelist, 1989-1994, 2000, 2002-2004, 2008

STUDENT ADVISING

Post Doctoral Students

Katherine Forbes-Riley, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA, 2003-present (2003 PhD in Linguistics from University of Pennsylvania).

Joel Tetreault, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA, November 2004-January 2007 (2005 PhD in Computer Science from University of Rochester; now at ETS)

Ph.D. Students

Hua Ai, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, ABD.

Min Chi, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, ABD.

Michael Lipschultz, Computer Science, University of Pittsburgh, Pittsburgh, PA, post-prelims.

Mihai Rotaru, *Applications of Discourse Structure for Spoken Dialogue Systems*, Computer Science,

University of Pittsburgh, Pittsburgh, PA, September 11, 2008.

Arthur Ward, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, post-comps.

Wenting Xiong, Computer Science, University of Pittsburgh, Pittsburgh, PA, pre-prelims.

Robert A. Weida, *Closed Terminologies and Temporal Reasoning in Description Logic for Concept and Plan Recognition*, Computer Science, Columbia University, New York, NY, March 19, 1996.

Ph.D. Thesis Committees

Swapna Somasundaran, Computer Science Department, University of Pittsburgh, Pittsburgh, PA.

Neil McIntyre, *Learning to Tell Tales: Automatic Story Generation from Corpora*, Informatics, University of Edinburgh, Edinburgh, Scotland, PhD Thesis Proposal December 12, 2007.

Theresa Wilson, *Fine-grained Subjectivity and Sentiment Analysis: Recognizing the intensity, polarity, and attitudes of private states*, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, May 4, 2007.

Maria Georgescu, *Automatic Structuring of Dialogs: the Problem of Topic Segmentation*, University of Geneva, Geneva, Switzerland, April 2, 2007.

Tomas Singliar, *Latent Space Approaches to Data Analysis*, Computer Science, University of Pittsburgh, Pittsburgh, PA, PhD Comprehensive, February 5, 2007.

Ali Alanjawi, *Using Coevolution in Complex Domains*, Computer Science, University of Pittsburgh, Pittsburgh, PA, PhD Thesis Proposal February 20, 2006.

Antoine Raux, *Flexible Turn-Taking for Spoken Dialogue Systems*, Language Technologies Institute, Carnegie Mellon University, Pittsburgh, PA, PhD Thesis Proposal January 27, 2006.

Piroska Lendvai, *Extracting Information from Spoken User Input*, Tilburg University, Netherlands, December 20, 2004.

H. Chad Lane, *Natural Language Tutoring and the Novice Programmer*, Computer Science, University of Pittsburgh, Pittsburgh, PA, September 8, 2004.

Amy Soller, *Computational Analysis of Knowledge Sharing in Collaborative Distance Learning*, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, 2002.

Jacques Robin, *Revision-Based Generation of Natural Language Summaries Providing Historical Background*, Computer Science, Columbia University, New York, NY, 1994.

B.L. Raskutti, *A Probabilistic Approach to Plan Recognition and Response Generation during Cooperative Consultations*, Monash University, Australia, 1993.

Doree Seligmann, *Interactive Intent-based Illustration: A Visual Language for 3D Worlds*, Computer Science, Columbia University, New York, NY, 1993.

Masters Students

Amruta Purandare, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, 2008.

Beatriz Maeireizo, *Applying Co-training for Predicting Student Emotions with Spoken Dialogue Data* (MS Project), Computer Science, University of Pittsburgh, Pittsburgh, PA, July 2005.

Lin Ma, *Predicting Medical Reasoning Codings in Pathology Protocols using Natural Language Features* (MS Project), Computer Science, University of Pittsburgh, Pittsburgh, PA, June 2003.

Masters Thesis Committees

Chenhai Xi, *Language Modeling (PhD Comprehensive Exam)*, Computer Science, University of Pittsburgh, Pittsburgh, PA, November 2006.

Paul Hoffmann, *Annotating the Contextual Polarity of Subjective Expressions*, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, May 2006.

Behrang Mohit, *Syntax-Based Named Entity Extraction for English and Arabic*, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, January 2006.

Ilya Goldin, *Labeling, Defining, and Using: Automatic Detection of Discourse Structure in Student Essays*, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, proposal defended December 2004.

Lin Ma, *Effective Computer Access with Plan-Based Intelligent Screen Reader*, Rehabilitation Science and Technology, University of Pittsburgh, Pittsburgh, PA, December 2003.

Ravi Desai, *Teaching with Dialectic Arguments vs. Didactic Explanations*, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, 2002.

Undergraduate Students

Joanna Drummond, Computer Science, University of Pittsburgh, Pittsburgh, PA, junior.

Gregory Nicholas, Computer Science, University of Pittsburgh, Pittsburgh, PA, graduated 2007 (now a PhD student at Brown University). Honorable Mention in the Computing Research Association's Outstanding Undergraduate Award, 2007.

Supervised Employees

Scott Silliman, Programmer, LRDC, 2002-present.

Alison Huettner, Research Associate, LRDC, 2004.

Wade Emrick, Part-Time Transcriber, LRDC, 2004-2005.

Ryan Schultz, Undergraduate Transcriber, LRDC, 2002-2004.

TEACHING EXPERIENCE

Discrete Structures for Computer Science, Department of Computer Science, University of Pittsburgh, Spring 2005, Fall 2006, Spring 2007 (CS 0441). Taught undergraduate course, using the textbook *Discrete Mathematics and Its Applications* by Kenneth Rosen.

Introduction to Artificial Intelligence, Department of Computer Science, University of Pittsburgh, Fall 2008 (CS1571). Taught undergraduate course, using the textbook *Artificial Intelligence: A Modern Approach* by

Stuart Russell and Peter Norvig.

Artificial Intelligence Application Development, Department of Computer Science, University of Pittsburgh, Spring 2003 and 2004 (CS1573). Redesigned and taught undergraduate course.

Foundations of Artificial Intelligence, Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Fall 2006 (CS2710/ISSP2160). Taught graduate course, using the textbook *Artificial Intelligence: A Modern Approach* by Stuart Russell and Peter Norvig.

Introduction to Natural Language Processing, Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Fall 2002, 2003, 2004 (CS2731/ISSP2230). Taught graduate course, using the textbook *Speech and Language Processing* by Daniel Jurafsky and James H. Martin.

Advanced Topics in Artificial Intelligence (Dialog Systems), Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Spring 2002 (CS3710/ISSP3565). Created and taught new graduate seminar course.

Advanced Topics in Artificial Intelligence (Affective Spoken Dialogue Systems), Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Spring 2006 (CS3710/ISSP3565). Created and taught new graduate seminar course.

Advanced Topics in Artificial Intelligence (Speech and Natural Language Processing for Educational Applications), Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Spring 2009 (CS3710/ISSP3565). Created and taught new graduate seminar course.

Natural Language Processing, Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Fall 2001 (CS3730/ISSP3120). Created and taught new graduate course, using the textbook *Speech and Language Processing* by Daniel Jurafsky and James H. Martin.

Research Experience/Computer Science, Department of Computer Science, University of Pittsburgh, Spring 2004, 2006, 2007, 2008, 2009 (CS 2002). Co-supervised exploratory research (related to a module covered in CS 2001 from the previous semester) for Beatriz Maeireizo, Swapna Somasundaran, Roxana Gheorghiu, Michael Lipschultz, Wenting Xiong, Adam Smith.

Advanced Topics in Intelligent Systems, Intelligent Systems Program, University of Pittsburgh, Spring 2005 (ISSP 2030). Supervised exploratory research (related to a module covered in ISSP 2020 from the previous semester) for Hua Ai and Amruta Purandare.

Independent Study, Department of Computer Science and Intelligent Systems Program, University of Pittsburgh, 2002, 2003, 2004, 2005 (CS2990). Designed and supervised graduate student research projects in natural language processing for Hua Ai, Mihai Rotaru, Beatriz Maeireizo, and Arthur Ward.

Knowledge Representation and Reasoning, Department of Computer Science, Columbia University, Fall 1990 (COMSF6998-33), Spring 1992 (COMSW4725). Created and taught new graduate / senior undergraduate course.

Natural Language Processing, Department of Computer Science, Columbia University, Spring 1991 (COMSW4705). Taught graduate / senior undergraduate course, using the textbook *Natural Language Understanding* by James F. Allen.

Projects in Computer Science, Department of Computer Science, Columbia University, Fall 1991 (COMSF6901), Summer 1992 (COMSS6901). Designed and supervised graduate student research projects in knowledge representation and reasoning and in natural language processing.

SERVICE

Departmental Service

Member, LRDC Strategic Planning Committee, 2008-2009

Co-Chair, Computer Science Graduate Program and Evaluation Committee, 2006-2007; Member 2008-2009

Chair, Computer Science Diversity Committee, 2003-2006; Member, 2002-2003

Faculty Advisor, Society for Women in Computing, 2005-2006

Member, Computer Science Faculty Recruiting Committee, 2002-2003

Member, Computer Science Undergraduate Program Committee, 2001-2002

Member, Computer Science Graduate Student Research Award Committee, 2001-2002, 2009

Member, Computer Science Artificial Intelligence Prelims Committee, 2001-present

Member, LRDC Colloquium Committee, 2004-2005

Member, LRDC Faculty Search Committee, 2003-2004

Member, LRDC Computer Resources Committee, 2001-2002

Member, Intelligent Systems Program PhD Admissions Committee, 2001-2002, 2003-2004, 2004-2005

Chair, Computer Science (Columbia University) PhD Admissions Committee, 1992; Member, 1990-1992

Chair, Computer Science (Columbia University) Artificial Intelligence Qualls Committee, 1991-1992; Member, 1990-1991

Member, Computer Science (Columbia University) Academic Committee, 1991-1992

Member, Computer Science (Columbia University) Faculty Recruiting Committee, 1990-1991

Advising, Computer Science (Columbia University) MS Program, 1991-1992

University Service

Member, Arts and Sciences Council, 2008-2011

Member, School of Information Sciences Promotion and Tenure Committee, 2006-2007

Member, Conflict of Interest Committee, 2005-2007

Exhibitor, University of Pittsburgh Booth, Coalition for National Science Funding, Capitol Hill, 2007

Member, Provost's Advisory Committee on Women's Concerns (PACWC), 2002-2005

Member, Faculty of Arts and Sciences Tenure Council, 2003-2005, 2006-2008; Alternate Member,

2002-2003, 2005-2006

Member, Commission on the Status of Women (Columbia University), 1992.

Industrial Service (AT&T)

Supervisor for Jun Huang (University of Illinois), Summer Internship Program, 2000

Supervisor for Fan Jiang (Duke University), Summer Internship Program, 1999

Supervisor for Shimei Pan (Columbia University), Summer Internship Program, 1997, 1998

Supervisor for Steven Correl (University of Texas), University Relations Summer Program, 1994

Co-Chair, Case-Based Reasoning Task Force, 1992-1993

Co-Chair, Women in Research Seminar Series, 1992-1993

Lab Coordinator, Summer Research Program for Undergraduate Women and Minorities, 1989, 1990

Supervisor for Kimberly Claffy (Stanford University), Summer Research Program for Undergraduate Women and Minorities, 1988

Lab Coordinator, Artificial Intelligence Library, 1986-1987