DIANE J. LITMAN

http://www.cs.pitt.edu/~litman
dlitman@pitt.edu

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

2018 to 2020: Co-Director, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA

2016 to 2018: Director, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA

2010 to 2016: Co-Director, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA

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

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 AND AWARDS

Best Paper Awards'

Best Paper Award at Workshop for Undergraduates in Educational Data Mining and Learning Engineering (at EDM) for "Essay Revision and Corresponding Grade Change as Captured by Text Similarity and Revision Purposes" by Sonia Cromp and Diane Litman, 2021

Best Student Paper Award at 29th International Florida Artificial Intelligence Research Society Conference for "Improving Argument Mining in Student Essays by Learning and Exploiting Argument Indicators versus Essay Topics" by Nguyen and Litman, 2016

ISCA Best Paper in *Speech Communication* (2011-2013) for "Benefits and Challenges of Real-time Uncertainty Detection and Adaptation in a Spoken Dialogue Computer Tutor" by Forbes-Riley and Litman, 2014

Best Paper Award at 10th International Conference on Intelligent Tutoring Systems for "Do Micro-Level Tutorial Decisions Matter: Applying Reinforcement Learning To Induce Pedagogical Tutorial Tactics" by Chi, VanLehn and Litman, 2010

James Chen Award for the Best Student Paper at 18th International Conference on User Modelling, Adaptation and Personalization for "Inducing Effective Pedagogical Strategies Using Learning Context Features" by Chi, VanLehn, Litman and Jordan, 2010

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

People's Choice Best Paper Award at Ninth International Conference on Spoken Language Processing for "Discourse Structure and Speech Recognition Problems" by Rotaru and Litman, 2006

Speech Communications Best Paper Award 2003-2004 for "Prosodic and Other Cues to Speech Recognition Failures" by Hirschberg, Litman and Swerts, European Association for Signal Processing, 2005

Best Paper Award for "Evaluating Spoken Language Systems" by Kamm, Walker and Litman, American Voice Input/Output Society, 1999

Best Paper Award Nominations

ISCA Best Student Paper Award Nominee at Interspeech Conference for "Entrainment in Multi-Party Spoken Dialogues at Multiple Linguistic Levels" by Rahimi, Kumar, Litman, Paletz and Yu, 2017

Best Student Paper Award Nominee at 29th International Florida Artificial Intelligence Research Society Conference for "Determining the Quality of a Student Reflective Response" by Luo and Litman, 2016

Best Paper Award Nominee at 15th International Conference on Artificial Intelligence in Education for "When Does Disengagement Correlate with Learning in Spoken Dialog Computer Tutoring?" by Forbes-Riley and Litman, 2011

Plenary Addresses

Invited Speaker, AAAI Fall Symposium: Computational Theory of Mind for Human-Machine Teams, 2021

Keynote Speaker, 21st Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIG-DIAL), 2020

Keynote Speaker, 1st National University of Singapore School of Computing Workshop on Technology for Teaching at Scale, 2015

Keynote Speaker, Fifth International Conference on Computational Models of Argument, 2014

Keynote Speaker, SLaTe Workshop (Speech & Language Technology in Education), 2013

Invited Speaker, 13th Annual SIGdial Meeting on Discourse and Dialogue, 2012

Distinguished Lecturer, School of Informatics, University of Edinburgh, 2008

Invited Speaker, Affective Language in Human and Machine Symposium of the AISB Convention, 2008

Keynote Speaker, Human Language Technology Conference/North American Chapter of the Association for Computational Linguistics Annual Meeting, 2006

Invited Speaker, 7th SIGdial Meeting on Discourse and Dialogue, 2006

International Visiting Awards

Scholar-in-Residence, Digital Futures, KTH Royal Institute of Technology, Sweden 2022 (Spring)

Shaw Visiting Professor, Computer Science Department, National University of Singapore, 2015 (Fall)

Derek Brewer Visiting Fellowship, Emmanuel College, Cambridge University, 2015 (Spring)

Royal Academy of Engineering Distinguished Visiting Fellowship Award, United Kingdom, 2014

Leverhulme Trust Visiting Professorship Award, School of Informatics, University of Edinburgh, 2007-2008

Other

Provost's Award for Excellence in Doctoral Mentoring, March 2020.

Listed in "39 women doing amazing research in computational social science" (https://ocean.sagepub.com/blog/2018/9/28/39-women-doing-amazing-research-in-computational-social-science)

Fellow, Association for Computational Linguistics, December 2017.

Computer Science Department Teaching Award for highest evaluated graduate seminar, 2012-2013

Senior Member, Association for the Advancement of Artificial Intelligence, August 2011

Plenary System Demonstration of "ITSPOKE: 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

AT&T Recognition Award, 1998

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

Individual Performance Award, AT&T Bell Laboratories, 1989

RESEARCH SUPPORT

External

Principal Investigator, "Collaborative Research: Development of Natural Language Processing Techniques to Improve Students' Revision of Evidence Use in Argument Writing" (with R. Correnti and L. C. Matsumura (co-PIs)), National Science Foundation, June 1 2022-May 31 2025, $679,907 (Pitt portion).

Co-Principal Investigator, Amendment to "NRI: INT: Designing Effective Dialogue, Gaze, and Gesture Bahaviors in a Social Robot that Supports Collaborative Learning in Middle School Mathematics" National Science Foundation Research Experiences for Undergraduates Program, October 1 2020-September 30 2023, $7,800.

Co-Principal Investigator, "FAI: Using AI to Increase Fairness by Improving Access to Justice" (with K. Ashley (PI)), National Science Foundation, February 1 2021-January 31 2024, $375,000.

Co-Principal Investigator, "NRI: INT: Designing Effective Dialogue, Gaze, and Gesture Bahaviors in a Social Robot that Supports Collaborative Learning in Middle School Mathematics" (with E. Walker (PI), Adriana Kovashka and Tim Nokes-Malach (co-PIS)), National Science Foundation, October 1 2020-September 30 2023, $900,000.

Co-Principal Investigator, Amendment to "Discussion Tracker: Development of Human Language Technologies to Improve the Teaching of Collaborative Argumentation in High School," National Science Foundation Research Experiences for Undergraduates Program, October 1 2019 - September 30 2022, $16,000.

Co-Principal Investigator, "Discussion Tracker: Development of Human Language Technologies to Improve the Teaching of Collaborative Argumentation in High School" (with A. Godley (PI)), National Science Foundation, October 1 2019 - September 30 2022, $749,521.00.

Co-Principal Investigator, "Congruence of Mouse Model to Human in Transcriptomic Response" (with G. Tseng (PI)), National Institutes of Health, September 1 2018 - August 31 2020, $34,292.

Co-Principal Investigator, "EAGER: Discussion Tracker: Development of Human Language Technologies to Improve the Teaching of Collaborative Argumentation in High School English Classrooms" (with A. Godley (PI)), National Science Foundation, September 1 2018 - August 31 2019, $149,825.

Co-Principal Investigator, "Enhancing Undergraduate STEM Education by Integrating Mobile Learning Technologies with Natural Language Processing" (with M. Meneske (PI) and A. Samarapungavan (Co-PI)), Instiue of Education Sciences, August 15 2018 - August 14 2022, $1,398,642 ($585,996 to University of Pittsburgh).

Co-Principal Investigator, Amendment to "EXP: Development of Human Language Technologies to Improve Disciplinary Writing and Learning through Self-Regulated Revising," National Science Foundation Research Experiences for Undergraduates Program, January 11 2018 - July 31 2022, $8,000.

Co-Principal Investigator, "EXP: Development of Human Language Technologies to Improve Disciplinary Writing and Learning through Self-Regulated Revising" (with R. Hwa (PI) and A. Godley (Co-PI)), National Science Foundation, August 1 2017 - July 31 2022, $549,555.

Senior Personnel, "Subthalamic and Corticosubthalamic Coding of Speech Production" (with M. Richardson (PI)), NIH (Brain Initiative), September 30 2016-May 31 2018, $1,028,607 (LRDC portion $46,785 per year).

Principal Investigator, "Response-to-Text Tasks to Assess Students' Use of Evidence and Organization in Writing: Using Natural Language Processing for Scoring Writing and Providing Feedback At-Scale" (with. R. Correnti and L. C. Matsumura (Co-PIs)), US Department of Education, September 1 2016-June 30 2021, $1,398,590.

Principal Investigator, Amendment to "RI: Small: Collaborative Research: Entrainment and Task Success in Team Conversations," National Science Foundation Research Experiences for Undergraduates Program, March 2016 - July 2017, $8,000.

Co-Principal Investigator, "EAGER: Computational Models of Essay Rewritings" (with R. Hwa (PI)), National Science Foundation, September 1 2015-August 31 2017, $299,912.

Co-Principal Investigator, "An Intelligent Ecosystem for Science Writing Instruction" (with C. Schunn (PI), A. Godley (Co-PI)), National Science Foundation, September 1 2014 - August 31 2017, $1,656,835.

Principal Investigator, "RI: Small: Collaborative Research: Entrainment and Task Success in Team Conversations" (with S. Paletz, University of Maryland), National Science Foundation, August 15 2014 - July 31 2019, $445,382 ($363,856 to University of Pittsburgh).

Principal Investigator, "Peer Review Search & Analytics in MOOCs via Natural Language Processing," Google Faculty Research Award, February 2014, $43,440.

Principal Investigator, "Intelligent Scaffolding for Peer Reviews of Writing" (with K. Ashley, A. Godley, and C. Schunn (Co-PIs)), United States Department of Education Institute of Education Sciences, September 1 2012-August 31 2015, $1,498,941.

Co-Principal Investigator, "DIP: Teaching Writing and Argumentation with AI-Supported Diagramming and Peer Review" (with K. Ashley (PI) and C. Schunn (Co-PI)), National Science Foundation, September 2011-August 2017, $1,390,735.

Principal Investigator, Amendment to "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 Research Experiences for Undergraduates Program, March 2011 - August 2013, $8,000.

Co-Principal Investigator, "Improving a Natural-language Tutoring System That Engages Students in Deep Reasoning Dialogues About Physics" (with S. Katz (PI), P. Jordan (Co-PI), M. Ford (Co-PI)), United States Department of Education Institute of Education Sciences, June 1 2010-May 31 2013, $1,318,110.00.

Principal Investigator, "Student Research Workshop in Computational Linguistics at the NAACL HLT 2010 Conference", National Science Foundation, May 1 2010-April 30 2011, $18,000.

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, September 1 2009-August 31 2013, $452,745.

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 - 2011, $12,000.

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. Rodriquez-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.

Internal

Co-Principal Investigator (with K. Ashley (PI), D. He, R. Hwa, J. Anderson (Co-PIs)), "Center for Text Analytic Methods in Legal Studies," University of Pittsburgh Pitt Momentum Funds Scaling Grant, $400,000, 2022-2024.

Co-Principal Investigator (with A. Kovashka (PI), M. Alikhani and R. Hwa (Co-PIs)), "Situated Task-Driven Multimodal Intent Modeling and Applications," University of Pittsburgh Pitt Momentum Funds

Seeding Grant, 2022.

Co-Principal Investigator (with K. Ashley (PI), D. He, R. Hwa, J. Anderson (Co-PIs)), "Center for Text Analytic Methods in Legal Studies," University of Pittsburgh Pitt Momentum Funds Teaming Grant, 2021.

Co-Principal Investigator (with M. Alikhani and Y. Lin (PIs), R. Hwa (Co-PI)), "Cultivating Ethical Competence in Machine Learning and Artificial Intelligence," School of Computing and Information Teaching and Mentoring Small Grants Program.

Co-Principal Investigator (with A. Kovashka (PI), M. Alikhani, J. Cohn, R. Hwa, Y. Linn, T. Provins (Co-PIs)), "Influence Detection through Multimodal Discourse and Vividness Analysis," University of Pittsburgh Cyber Accelerator Grants Competition. $19,600.

Co-Principal Investigator, (with E. Walker (PI), T. Nokes-Malach (Co-PI), "Studying Collaborative Dialogue with a Teachable Robot in a Mathematics Domain," University of Pittsburgh Learning Resarch and Development Center Internal Grant Competition, July 2019-June 2020, $38,000.

Principal Investigator, "Using Natural Language Processing to Study the Role of Specificity and Evidence Type in Text Based Classroom Discussions" (with A. Godley (Co-PI)), University of Pittsburgh Learning Resarch and Development Center Internal Grant Competition, July 2016-June 2018, $147,592.

Co-Principal Investigator, "Improving Undergraduate STEM Education by Integrating Natural Language Processing with Mobile Technologies" (with M. Menekse (PI), J. Wang (Co-PI)), University of Pittsburgh Learning Resarch and Development Center Internal Grant Competition, July 2014-June 2016, $149,009.

Co-Principal Investigator, "Response-to-Text Prompts to Assess Students' Writing Ability: Using Natural Language Processing for Scoring Writing At-Scale" (with R. Correnti (PI), L. Clare Matsumura (Co-PI)), University of Pittsburgh Learning Resarch and Development Center Internal Grant Competition, July 2013-June 2015, $149,978.

Co-Principal Investigator, "Keeping Instructors Well-informed in Computer-Supported Peer Review" (with K. Ashley (PI), C. Schunn and J. Wang (Co-PIs)), University of Pittsburgh Learning Resarch and Development Center Internal Grant Competition, July 2011-June 2013, $131,100.

Principal Investigator, "Improving Learning from Peer Review with NLP and ITS Techniques" (with Christian Schunn and Kevin Ashley (Co-PIs)), University of Pittsburgh Learning Resarch and Development Center Internal Grant Competition, July 2009-June 2011, $150,000.

PUBLICATIONS

Journal Articles

(1)   McCarthy, K. S., Crossley, S. A., Meyers, K., Boser, U., Allen, L. K., Chaudhri, V. K., Collins-Thompson, K., Mello, S., De Choudhury, M., Garg, K., Goel, A., Gosha, K., Heffernan, N., Hooper, M. A., Hyman, E., Jarratt, D. C., Khalil, D., Kizilcec, R. F., Litman, D., Malatinszky, A., Marks, K., McNamara, D. S., Menko, R., Palermo, C., Porcaro, D., Roscoe, R., Shapiro, S., Khanh-Phoung, T., Trumbore, A. M., White, C., Wong, W., Yang, D., and Zampieri, M., "Toward more effective and equitable learning: Identifying barriers and solutions for the future of online education,"
Technology, Mind, & Behavior, Vol. 3, Issue 1, 2022.

(2)   Omid Kashefi, Tazin Afrin, Meghan Dale, Christopher Olshefski, Amanda Godley, Diane Litman, Rebecca Hwa, "ArgRewrite V.2: an Annotated Argumentative Revisions Corpus," *Language*

Resources and Evaluation, in press.

(3) Richard Correnti, Lindsay Clare Matsumura, Elaine Wang, Diane Litman, Haoran Zhang, "Building a Validity Argument for an Automated Writing Evaluation System (eRevise) as a Formative Assessment," *Computers and Education Open*, 2022.

(4) Elaine Lin Wang, Lindsay Clare Matsumura, Richard Correnti, Diane Litman, Haoran Zhang, Emily Howe, Ahmed Magooda, and Rafael Quintana, "eRevis(ing): Students' Revision of Text Evidence Use in an Automated Writing Evaluation System," *Assessing Writing*, 44, 2020.

(5) Richard Correnti, Lindsay Clare Matsumura, Elaine Wang, Diane Litman, Zahra Rahimi, and Zahid Kisa, "Automated Scoring of Students Use of Text Evidence in Writing," *Reading Research Quarterly*, 55(3), pp. 493-520, 2020.

(6) Wencan Luo, Fei Liu, Zitao Liu and Diane Litman, "A Novel ILP Framework for Summarizing Content with High Lexical Variety," *Natural Language Engineering*, Volume 24, Issue 6, pp. 887-920, 2018.

(7) Diane Litman, Helmer Strik, and Gad Lim, "Speech Technologies and the Assessment of Second Language Speaking: Approaches, Challenges, and Opportunities," *Language Assessment Quarterly*, 15(3), pp. 294-309, 2018.

(8) Zahra Rahimi, Diane Litman, Richard Correnti, Elaine Wang, and Lindsay Clare Matsumara, "Assessing Student's Use of Evidence and Organization in Response-to-Text Writing: Using Natural Language Processing for Rubric-Based Automated Scoring," *International Journal of Artificial Intelligence in Education*, Volume 27, Issue 4, pp. 694-728, 2017.

(9) Huy Nguyen, Wenting Xiong, and Diane Litman, "Iterative Design and Classroom Evaluation of Automated Formative Feedback for Improving Peer Feedback Localization," *International Journal of Artificial Intelligence in Education*, Volume 27, Number 3, pp. 582-622, 2017.

(10) Michael Lipschultz, Diane Litman, Sandra Katz, Patricia Albacete, and Pamela Jordan, "Predicting Semantic Changes in Abstraction in Tutor Responses to Students," *International Journal of Learning Technology*, Volume 9, Number 3, pp. 281-303, 2014.

(11) Arthur Ward and Diane Litman, "Using Reflective Text to Improve Qualitative Physics Tutoring," *International Journal of Learning Technology*, Volume 8, Number 4, pp. 404-425, 2013.

(12) Kate Forbes-Riley and Diane Litman, "When Does Disengagement Correlate with Performance in Spoken Dialog Computer Tutoring?" *International Journal of Artificial Intelligence in Education*, Volume 22, Number 2 (Best of AIED 2011 - Part 2), pp. 19-41, 2013.

(13) Wenting Xiong, Diane Litman, and Christian Schunn, "Natural Language Processing Techniques for Researching and Improving Peer Feedback," *Journal of Writing Research*, Volume 4, Number 2, pp. 155-176, 2012.

(14) Min Chi, Kurt VanLehn, Diane Litman, and Pamela Jordan, "An Evaluation of Pedagogical Tutorial Tactics for a Natural Language Tutoring System: A Reinforcement Learning Approach," *International Journal of Artificial Intelligence in Education*, Volume 21, Number 2, pp. 83-113, 2011.

(15) Hua Ai and Diane Litman, "Assessing User Simulation for Dialog Systems using Human Judges and Automatic Evaluation Measures," *Natural Language Engineering*, Volume 17, Issue 4, pp. 511-540, 2011.

(16) Kate Forbes-Riley and Diane Litman, "Benefits and Challenges of Real-Time Uncertainty Detection and Adaptation in a Spoken Dialogue Computer Tutor," *Speech Communication*, Volume 53, Issues 9-10, pp. 1115-1136, 2011. (Best Paper Award)

(17) Hua Ai and Diane Litman, "Comparing User Simulations for Dialogue Strategy Learning," *ACM Transactions on Speech and Language Processing*, Volume 7, Issue 3, pp. 9:1-9:18, May 2011.

(18) Min Chi, Kurt VanLehn, Diane Litman, and Pamela Jordan, "Empirically evaluating the application of Reinforcement Learning to the Induction of Effective and Adaptive Pedagogical Tactics," *User*

Modeling and User-Adapted Interaction, Vol. 21, Numbers 1-2, pp. 137-180, 2011.

(19) Kate Forbes-Riley and Diane Litman, "Designing and Evaluating a Wizarded Uncertainty-Adaptive Spoken Dialogue Tutoring System," *Computer Speech and Language*, Vol. 25, Issue 1, pp. 105-126, 2011.

(20) 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.

(21) 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.

(22) 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.

(23) 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.

(24) 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.

(25) 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.

(26) 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. (Best Paper Award)

(27) Diane J. Litman, Peter F. Patel-Schneider, Anil K. Mishra, James M. Crawford, and Daniel L. Dvorak, "R++: Adding Path-Based Rules to C++," *IEEE Transactions on Knowledge and Data Engineering,* Vol. 14, No. 3, pp. 638-658, May/Jun 2002.

(28) 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.

(29) 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.

(30) 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.

(31) Marilyn Walker, Candace Kamm, and Diane Litman, "Towards Developing General Models of Usability with PARADISE," *Natural Language Engineering,* Vol. 6, No. 3 and 4, pp. 363-377, 2000.

(32) 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.

(33) Rebecca J. Passonneau and Diane J. Litman, "Discourse Segmentation by Human and Automated Means," *Computational Linguistics,* Vol. 23, No. 1, pp. 103-139, 1997.

(34) Diane J. Litman, "Cue Phrase Classification Using Machine Learning," *Journal of Artificial Intelligence Research,* Vol. 5, pp. 53-94, 1996.

(35) Premkumar T. Devanbu and Diane J. Litman, "Taxonomic Plan Reasoning," *Artificial Intelligence,* Vol. 84, pp. 1-35, 1996.

(36) Julia Hirschberg and Diane Litman, "Empirical Studies on the Disambiguation of Cue Phrases," *Computational Linguistics,* Vol. 19, No. 3, pp. 501-530, 1993.

(37) 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.

(38) 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.

(39) 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) Lindsay Clare Matsumura, Elaine L. Wang, Richard Correnti, and Diane Litman, "Designing Automated Writing Evaluation Systems for Ambitious Instruction and Classroom Integration," *Artificial Intelligence in STEM Education: The Paradigmatic Shifts in* Research, Education, and Technology, Taylor and Francis, forthcoming.

(2) Zahra Rahimi, Diane Litman and Susannah Paletz, "Acoustic-Prosodic Entrainment in Multi-party Spoken Dialogues: Does Simple Averaging Extend Existing Pair Measures Properly?" *Advanced Social Interaction with Agents,* Maxine Eskenazi, Laurence Devillers, and Josehp Mariani (eds), Spinger, pp. 169-177, 2018.

(3) Diane Litman and Kate Forbes-Riley, "Towards Improving (Meta)cognition by Adapting to Student Uncertainty in Tutorial Dialogue," *International Handbook of Metacognition and Learning Technologies,* Roger Azevedo and Vincent Aleven (eds.), Springer International Handbooks of Education 26, pp. 385-396, 2013.

(4) Diane Litman, "Speech and Language Processing for Adaptive Training," *Adaptive Technologies for Training and Education,* Paula J. Durlach and Alan M. Lesgold (eds.), Cambridge University Press, pp. 247-260, 2012.

(5) Kate Forbes-Riley, Diane Litman, and Heather Friedberg, "Annotating Disengagement for Spoken Dialogue Computer Tutoring," *New Perspectives on Affect and Learning Technologies (Explorations in the Learning Sciences, Instructional Systems and Performance Technologies 3),* Rafael A. Calvo and Sidney K. D'Mello (eds.), Springer, pp. 169-181, 2011.

(6) Kate Forbes-Riley and Diane J. Litman, "Analyzing Dependencies Between Student Certainness 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.

(7) 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: Theory and Applications,* James G. Shanahan, Yan Qu, and Janyce Wiebe (eds.), Springer, Dordrecht, The Netherlands, pp. 77-91, 2006.

(8) 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.

(9) 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.

(10) 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.

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(51) 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.

(52) 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,* pp. 1-8, Aalborg, Denmark, September 2001.

(53) Diane J. Litman, "Improving Spoken Dialogue System Performance via Adaptation," *Proceedings of the NAACL 2001 Workshop on Adaptation in Dialogue Systems,* Pittsburgh, PA, June 2001.

(54) Diane Litman, Satinder Singh, Michael Kearns, and Marilyn Walker, "NJFun: A Reinforcement Learning Spoken Dialogue System," *Proceedings of the ANLP/NAACL 2000 Workshop on Conversational Systems,* pp. 17-20, Seattle, WA, May 2000.

(55) Diane J. Litman, "Towards Adaptive Spoken Dialogue Agents," *Working Notes - Adaptive User Interfaces (AAAI Spring Symposium Series),* pp. 65-67, Stanford, CA, March 2000.

(56) 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.

(57) Julia Hirschberg, Diane J. Litman, and Marc Swerts, "Prosodic Cues to Recognition Error," *Proceedings of the Automatic Speech Recognition and Understanding Workshop (ASRU'99),* pp. 349-352, Keystone, CO, December 1999.

(58) 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.

(59) Candace A. Kamm, Diane J. Litman, and Marilyn A. Walker, "First Impressions Persist: The Effect of Tutorial Dialogue on User Satisfaction and Performance," *Proceedings of the AT&T User Experience Symposium,* Holmdel, New Jersey, September 1998.

(60) Diane Litman, Peter F. Patel-Schneider, Anil Mishra, and Amal Ahmad, "Modeling Dynamic Collections of Interdependent Objects Using Path-Based Rules," *Proceedings of the AT&T Software Symposium,* Middletown, NJ, September 1997.

(61) 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.

(62) 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.

(63) Diane J. Litman, Peter F. Patel-Schneider, Anil Mishra, James Crawford, and Daniel L. Dvorak, "R++: Rules in Object-Oriented Programming," *Proceedings of the 5th Workshop on Specification of Behavioral Semantics (at OOPSLA-96),* pp. 95-101, San Jose, CA, October 1996.

(64) 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.

(65) 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.

(66) 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.

(67) 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.

(68) Diane Litman, "Terminological Plan Recognition," *Dagstuhl Seminar Report on Deductive Approaches to Plan Generation and Plan Recognition,* Dagstuhl Castle, Germany, October 1993.

(69) 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.

(70) 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.

(71) 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.

(72) 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.

(73) Julia Hirschberg and Diane Litman (eds.), *Working Notes - Discourse Structure in Natural Language Understanding and Generation (AAAI Fall Symposium Series),* Asilomar, CA, November 1991.

(74) 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.

(75) 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.

(76) 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 and Newsletters

(1) Lindsay Clare Matsumura, Elaine Wang, Richard Correnti and Diane Litman, "What do teachers want to see in automated writing evaluation systems?" *eSchool News,* July 22nd, 2020.

(2) Abeer Alwan, Maxine Eskenazi, Diane Litman, Martin Russell, and Klaus Zechner, "Speech and Language Technologies for STEM (Science, Technology, Engineering and Mathematics) Education," *IEEE Speech and Language Processing Technical Committee Newsletter,* August 2012.

(3) Brad Goodman, Alfred Kobsa, and Diane Litman, "The Fourth International Conference on User Modeling," *AI Magazine,* Vol. 17, No. 1, p.96, Spring 1996.

(4) 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.

SOFTWARE FOR RESEARCH OR CLASSROOM USAGE

(1) Code for 2020 paper "The Discussion Tracker Corpus of Collaborative Argumentation," (http://discussiontracker.cs.pitt.edu/)

(2) Code for 2018 paper "Co-Attention Based Neural Network for Source-Dependent Essay Scoring" (https://github.com/Rokeer/co-attention)

(3) CourseMIRROR mobile app (http://www.coursemirror.com/download/app)

DATA RESOURCES FOR RESEARCH USAGE

(1) Summarizations of student reflections (abstractive), (https://drive.google.com/file/d/1V2rLV-vf8Z7SsJNlH0P-FsYbJkZDd9UA/view), 2020

(2) High school English Language Arts classroom discussions annotated for collaborative argumentation (http://discussiontracker.cs.pitt.edu), 2020

(3) Quality of revisions between argumentative essays (www.petal.cs.pitt.edu/Data/annotated_revision_improvements.csv.zip), 2018

(4) Revisions and their purposes between argumentative essays (http://argrewrite.cs.pitt.edu/#corpus), 2017

(5) Multi-party negotiation dialogues (https://sites.google.com/site/teamentrainmentstudy/corpus), 2016

(6) Summarizations of student reflections (extractive) (http://www.coursemirror.com/download/dataset, http://www.coursemirror.com/download/dataset2), 2015-2016

(7) Student utterances from a spoken tutorial dialogue system (https://pslc-datashop.web.cmu.edu/), 2008

INVITED TALKS

(1) "eRevise: Leveraging Automated Essay Scoring and Formative Feedback to Improve Response-to-Text Writing," ETS, Princeton, NJ (online), January 2022.

(2) "Towards Conversational Agents as Collaboration Facilitators in Multiparty Human Dialogue," Invited Talk, JamesFest: James F. Allen Retirement Celebration, December 2021.

(3) "Linguistic Entrainment and Team Outcomes in Spoken Conversations," Invited Talk, Computational Theory of Mind for Human-Machine Teams, AAAI 2021 Fall Symposium Series, November 2021.

(4) Panelist, New Challenges for Educational Technology in the Time of the Pandemic, 16th Workshop on Innovative Use of NLP for Building Educational Applications (BEA), Virtual, April 2021.

(5) "Argument Mining, Discourse Analysis, and Educational Applications," Keynote Speaker at 21st Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL), Boise, Idaho (Virtual), July 2020.

(6) Panelist, AI in Education, German Mittelstand East Coast Industry Forum, Pittsburgh, PA, October 2019.

(7) "Leveraging Automated Essay Scoring and Feedback to Improve Students' Response-to-Text Writing," RAND Corporation, Pittsburgh, PA, February 2019.

(8) "Argument Mining from Text and Speech and Applications in Education," Duolingo, Pittsburgh, PA, November 2018.

(9) Panelist, Next Big Steps in AI for Education, 8th Symposium on Educational Advances in Artificial Intelligence, New Orleans, LA, February 2018.

(10) "Argument Mining from Text and its Application in Education," Penn State University, State College, PA, November 2017.

(11) "Towards an NLP-based Intelligent Revision Assistant for Argumentative Writings," Connecting Language, Interaction and Education in Digital Environments Workshop, Penn State Univeristy, PA, September 2017.

(12) Speaker and Panelist, Vital Infrastructure: AI's Role in our Shared Future, AI XPRIZE + Pittsburgh's AI Experts, Pittsburgh, PA, November 2016.

(13) "Cooperation in Dialogue Systems from Eliza to Alexa," NSF-supported workshop at EMNLP on Uphill Battles in Language Processing: Scaling Early Achievements to Robust Methods, Austin, TX, November 2016.

(14) "Argument Mining from Text for Teaching and Assessing Writing," Johns Hopkins University, Baltimore, MD, March 2016.

(15) "Natural Language Processing for Enhancing Teaching and Learning at Scale: Three Case Studies," 1st NUS SoC Workshop on Technology for Teaching at Scale, Singapore, October 2015.

(16) "Modeling and Exploiting Review Helpfulness for Summarization," Singapore Management University, Singapore, October 2015.

(17) "Modeling and Exploiting Review Helpfulness for Summarization," National University of Singapore, Singapore, August 2015.

(18) "Argument Mining from Text for Teaching and Assessing Writing," Multidisciplinary Advances in Reading and Writing for Science Education Workshop, New York City, NY, May 2015.

(19) "Spoken Dialogue Systems for Language Learning," Cambridge University, Cambridge, England, March 2015.

(20) "Argument Mining from Text for Teaching and Assessing Writing," Cambridge University, Cambridge, England, February 2015.

(21) "Modeling and Exploiting Review Helpfulness for Summarization," Carnegie Mellon University, Pittsburgh, PA, October 2014.

(22) "Argument Mining from Text for Teaching and Assessing Writing," Fifth International Conference on Computational Models of Argument, Pitlochry, Scotland, September 2014.

(23) "Argumentation Mining for Educational Applications using Discourse and Diagrams," Summer School on Argumentation: Computational and Linguistic Perspectives, Dundee, Scotland, September 2014.

(24) "Modeling and Exploiting Review Helpfulness for Summarization," University of Sussex, Brighton, England, May 2014.

(25) "Modeling and Exploiting Review Helpfulness for Summarization," University of Oxford, Oxford, England, May 2014.

(26) "Using Computational Linguistics to Support Students and Teachers during Peer Review of Writing," Workshop on Computational Linguistics and Educational Technology, Milton Keynes, England, May 2014.

(27) "Interactive Dialogue Systems," Cambridge English Centenary Symposium on Speaking Assessment, Cambridge, England, September 2013.

(28) "Enhancing the Effectiveness of Spoken Dialogue for STEM Education," SLaTe Workshop (Speech & Language Technology in Education), Grenoble, France, August 2013.

(29) "Improving Writing and Argumentation with NLP-Supported Peer Review," ETS, Princeton, New Jersey, May 2013.

(30) "Finding and Training Your Advisor," Computer Research Association's Committee on the Status of Women in Computing Research (CRA-W) Graduate Cohort Workshop, Boston, MA, April 2013.

(31) "Automatically Predicting Peer-Review Helpfulness," University of Alabama at Birmingham, Birmingham, Alabama, March 2013.

(32) "Cohesion, Entrainment and Task Success in Educational Dialog," University of Rochester, Rochester, New York, February 2013.

(33) "Automatically Predicting Peer-Review Helpfulness," North Carolina State University, Raleigh, North Carolina, November 2012.

(34) "Cohesion, Entrainment and Task Success in Educational Dialog," 13th Annual SIGdial Meeting on Discourse and Dialogue, Seoul, South Korea, July 2012.

(35) "Spoken Dialogue for Intelligent Tutoring Systems: Opportunities and Challenges," LG Electronics, Seoul, South Korea, July 2012.

(36) "Adapting to Student States in a Spoken Tutorial Dialogue System for Physics," Arizona State Univeristy, Tempe, AZ, February 2012.

(37) "Automatically Predicting Peer Review Helpfulness," Carnegie Mellon University, Pittsburgh, PA, November 2011.

(38) "Spoken dialogue for intelligent tutoring systems: Responding to not only what students say, but how they say it," Socializing Intelligence Through Academic Talk and Dialogue: A Research Conference of the American Education Research Association, University of Pittsburgh, Pittsburgh, PA, September 2011.

(39) "Let's Play Jeopardy! Insights into Deep A&A and Natural Language," Panelist, IBM Watson Presentation, Demonstration and Q&A Panel, Carnegie Mellon University, Pittsburgh, PA, March 2011.

(40) "Natural Language Processing in the World of Business, Law, and Medicine," Panelist, Symposium on Innovative Watson Technolgies University of Pittsburgh, Pittsburgh, PA, March 2011.

(41) "The Good, the Bad, and the Future," Panelist, ITS Workshop on Computer-Supported Peer Review in Education, Pittsburgh, PA, June 2010.

(42) "Spoken Dialogue Systems and the Learning Sciences," University of Pennsylvania, Philadelphia, PA, January 2010.

(43) "Adapting to User Affect in a Spoken Dialogue System," Columbia University, New York, NY, January 2010.

(44) "Rethinking Education in the Age of Technology," panelist, Learning Policy Center Colloquium Series, Pittsburgh, PA, October 2009.

(45) "The Evolution of AIED: Successes and Challenges," panelist, 14th International Conference on Artificial Intelligence in Education, Brighton, UK, July 2009.

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

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

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

(49) "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.

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

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

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

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

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

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

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

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

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

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

(60) "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.

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

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

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

(64) "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.

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

(66) "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.

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

(68) "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.

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

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

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

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

(73) "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.

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

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

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

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

(78) "'I Already Told You That': Automatic Detection of Negative Student States in Spoken Tutoring Dialogues," Microsoft Research, Redmond, WA, November 2003.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(97) "Cue Word Classification: Empirical Studies and a Machine Learning Approach," University of New Hampshire, Durham, NH, October 1994.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

IN THE PRESS

"AI Tools Help Increase Access to Justice," *Pitt Research Newsletter,* November 2021.

"What Will the 2020s Bring for AI?," *Pittwire,* December 13, 2019.

"39 women doing amazing research in computational social science" (by Daniela Duca), *SAGE Ocean,* Oct 3 2018.

"Code Language" (by Cara Masset), *Pitt Magazine,* Summer 2011, pp. 30-31.

"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

Editorial Board, *Argument and Computation*, May 2016-present

Associate Editor, *International Journal of Artificial Intelligence in Education (IJAIED)*, April 2013-present

Editorial Board, *Journal of Artificial Intelligence Research (JAIR)*, July 2012-present

Action Editor, *Transactions of the Association for Computational Linguistics (TACL)*, 2012-2014

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

Editorial Board, *Computational Linguistics*, 1991-1993

Program and Conference Committees (as Chair, Organizer, or Senior Member)

Co-Organizer, LAK Writing Analytics for Higher-Order Thinking Skills Workshop, 2022

Co-Organizer, AAAI Spring Symposium on Artificial Intelligence for K-12 Education, 2021

Program Co-Chair, 19th Annual SIGdial Meeting on Discourse and Dialogue, 2018

Co-Organizer, SIGDIAL/SEMDIAL Special Session on Negotiation Dialog, 2017

Co-Organizer, Workshop on Argumentation Mining ((NA)ACL Workshop Series), 2014, 2015, 2016, 2017, 2018, 2019, 2020

Senior Progroam Committee, Annual Meeting of the Association for Computational Linguistics (ACL), 2020

Senior Program Committee, International Conference on Intelligent Tutoring Systems (ITS), 2010, 2012, 2014, 2016

Area Chair, Discourse, Dialogue and Pragmatics (Annual Meeting of the North American Chapter of the ACL (NAACL)), 2000, 2012

Co-Organizer, Special Session on Speech and Language Technologies for STEM (13th Annual Conference of the International Speech Communication Association), 2012

Senior Program Committee, International Conference on Affective Computing and Intelligent Interaction (ACII), 2011

Program Committee Senior Member, International Conference of Artificial Intelligence in Education (AIED), 2009, 2011, 2013

Student Research Workshop Faculty Co-Advisor, Human Language Technologies: The 11th Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL HLT), 2010

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

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

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

Conference Program Committees (as Member)

National Conference on Artificial Intelligence (AAAI), 1994, 1996, 1998, 1999, 2000, 2017, 2018, 2019

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, 2010, 2011, 2013, 2016, 2017, 2019, 2020

Conference on Artificial Intelligence in Education (AIED), 2007, 2021

International Conference on Computational Linguistics (COLING), 2010

International Conference on Computational Models of Argument (COMMA), 2016, 2018, 2020

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

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

International Conference on Educational Data Mining (EDM), 2013

Conference on Empirical Methods in Natural Language Processing (EMNLP), 2003, 2017, 2019, 2020

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

Florida Artificial Intelligence Research Society Conference Special Track (FLAIRS), 2011, 2012, 2020

Grace Hopper Celebration of Women in Computing (GHC), 2007

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

International Joint Conference on Artificial Intelligence (IJCAI), 2005

Annual Conference of the International Speech Communication Association (INTERSPEECH), 2011, 2012, 2013, 2014

Language Resources and Evaluation Conference (LREC), 2008

Annual Meeting of the North American Chapter of the ACL (NAACL), 2001, 2003, 2004, 2010, 2013, 2016

SIGdial Conference (formerly Workshop) on Discourse and Dialogue (SIGdial), 2001, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016, 2017, 2019

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

Workshop Program Committees (as Member)

8th Workshop on Argument Mining (EMNLP), 2021

!st Workshop on Document-grounded Dialogue and Conversational QA
 (ACL-IJCNLP), 2021

Women and Underrepresented Minorities in NLP Workshop (WINLP), 2017, 2019

International Workshop on Spoken Dialogue Systems Technology (IWSDS), 2017, 2018, 2019

Innovative Use of NLP for Building Educational Applications (HLT-NAACL and ACL Workshops), 2003, 2005, 2009, 2010, 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2019, 2020, 2021

Workshop on Self-Regulated Learning in Educational Technologies (ITS Workshop), 2012

Intelligent Support for Learning in Groups (ITS/AIED Workshop), 2012, 2013

Future directions and needs in the Spoken Dialog Community: Tools and Data (NAACL HLT Workshop), 2012

Student Research Workshop (NAACL HLT), 2012, 2013, 2018

Young Researchers Roundtable on Spoken Dialogue Systems (Advisory), 2006, 2008, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019

Workshop on Speech and Language Technology in Education (SLaTE), 2007, 2009, 2011, 2013, 2017

Computer-Supported Peer Review in Education (ITS Workshop), 2010

User Models for Motivational Systems: the affective and the rational routes to persuasion (UMAP Workshop), 2010

Doctoral Consortium Member (UMAP), 2010

Workshop on the Semantics and Pragmatics of Dialogue (SemDial), 2000, 2009

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

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

International Workshop on Spoken Language Technology (SLT), 2006, 2014

Knowledge and Reasoning in Practical Dialogue Systems (IJCAI Workshop), 1999, 2001, 2005, 2013

Adaptation to Affective Factors (UM Workshop), 2005

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

Analyzing Student-Tutor Interaction Logs to Improve Educational Outcomes (ITS Workshop), 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), 2002

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

Adaptation in Dialogue Systems (NAACL Workshop), 2001

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

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

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

Offices

External Advisory Committee, University of Rochester, Goergen Institute for Data Science, 2021-2025.

Visiting Panel on Research, ETS, 2021-present.

Advisory Group, NSF Center for Integrative Research in Computing and Learning Sciences

(CIRCLS), 2021-presennt.

Executive Committee (elected), International Society for Artificial Intelligence in Education, 2017-present.

Councilor (elected), Association for the Advancement of Artificial Intelligence (AAAI), 2015-2018.

Advisory Board, DialRC (NSF Dialog Research Center at Carnegie Mellon), 2011-2013

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, 2009, 2011, 2012, 2013, 2014, 2018, 2019, 2021

STUDENT ADVISING

Post Doctoral Students

Yao Xiong, Learning Research and Development Center and University Center for Teaching and Learning, University of Pittsburgh, Pittsburgh, PA, 2017-2018 (2017 PhD in Education from Penn State University; now at Pearson).

Carrie Demmans Epp, Learning Research and Development Center and University Center for Teaching and Learning, University of Pittsburgh, Pittsburgh, PA, 2015-2017 (2015 PhD in Computer Science from University of Toronto; now at University of Alberta).

Joel Tetreault, Learning Research and Development Center, University of Pittsburgh, Pittsburgh,

PA, 2004-2007 (2005 PhD in Computer Science from University of Rochester; now at DataMinr).

Katherine Forbes-Riley, Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA, 2003-2006 (2003 PhD in Linguistics from University of Pennsylvania; now novelist).

Ph.D. Students (graduated)

Tazin Afrin *Desirable Revisions of Evidence and Reasoning for Argumentative Writing,* Computer Science, University of Pittsburgh, Pittsburgh, PA, April 1, 2022.

Ahmed Magooda *Techniques to Enhance Abstractive Summarization Model Training for Low* Resource Domains Computer Science, University of Pittsburgh, Pittsburgh, PA, March 4, 2022.

Mingzhi Yu, *Entrainment in Human-to-Human Dialogue and its Application in End-to-End Dialogue Systems,* Computer Science, University of Pittsburgh, Pittsburgh, PA, November 5, 2021.

Haoran (Colin) Zhang, *Exploring Automated Essay Scoring Models for Multiple Corpora and* Topical Component Extraction from Student Essays, Computer Science, University of Pittsburgh, Pittsburgh, PA, December 2, 2020.

Luca Lugini, *Analysis of Collaborative Argumentation in Text-based Classroom* Discussions, Computer Science, University of Pittsburgh, Pittsburgh, PA, July 16, 2020.

Zahra Rahimi, *Linguistic Entrainment in Multi-Party Spoken Dialogues,* Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, May 28, 2019.

Wencan Luo, *Automatic Summarization for Student Reflective Responses,* Computer Science, University of Pittsburgh, Pittsburgh, PA, April 21, 2017.

Huy Nguyen, *Context-Aware Argument Mining and its Applications in Education,* Computer Science, University of Pittsburgh, Pittsburgh, PA, April 14, 2017.

Fan Zhang, *Towards Building an Intelligent Revision Assistant for Argumentative Writings,* Computer Science, University of Pittsburgh, Pittsburgh, PA, April 7, 2017.

Michael Lipschultz, *Adapting the Scheduling of Illustrations and Graphs to Learners in Conceptual Physics Tutoring,* Computer Science, University of Pittsburgh, Pittsburgh, PA, December 2, 2014.

Wenting Xiong, *Helpfulness-Guided Review Summarization,* Computer Science, University of Pittsburgh, Pittsburgh, PA, August 5, 2014.

Arthur Ward, *Reflection and Learning Robustness in a Natural Language Conceptual Physics Tutoring System,* Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, June 23, 2010.

Min Chi, *Do Micro-Level Tutorial Decisions Matter: Applying Reinforcement Learning To Induce Pedagogical Tutorial Tactics,* Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, November 20, 2009.

Hua Ai, *User Simulation for Spoken Dialog System Development,* Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, September 21, 2009.

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

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

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. Students (current)

Ravneet Singh (2019-present), Computer Science, University of Pittsburgh, Pittsburgh, PA, post-prelims. (US)

Nhat Tran (2021-present), Computer Science, University of Pittsburgh, Pittsburgh, PA, post-prelims. (Vietman)

Ph.D. Thesis Committees (graduated)

Mingda Zhang, *Domain Robustness in Multi-modality Learning and Visual Question Answering,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, November 30, 2021.

Keren Ye, *Multimodal Knowledge Integration for Object Dtection and Visual Reasoning* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, July 8, 2021.

Christopher Thomas, *Modeling Visual Rhetoric and Semantics in Multimedia,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, July 14, 2020.

Yanbing Xue, *Active Learning of Classification Models from Enriched Label-related Feedback,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, June 25, 2020.

Siqi Liu, *Methods for Event Time Series Prediction and Anomaly Detection,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, June 22, 2020.

Jaromir Savelka *Discoveing Sentences for Argumentation about Meaning of Statutory Terms,* Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, April 20, 2020.

Arlene J. Casey, *LitCrit: Exploring intentions as a basis for automated feedback on* Related Work,, University of Edinburgh, Edinburgh, Scotland, April 2, 2020.

Wei Guo, *Understanding and Improving Mobile Reading via Scalable and Low Cost Sensing,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, April 25, 2019.

ChangSheng Liu, *Toward Robust and Efficient Interpretation of Idiomatic Expressions in Context* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, March 27, 2019.

Nichola Lubold, *Producing Acoustic-Prosodic Entrainment in a Robotic Learning* Companion to Build Learner Rapport, School of Computing, Informatics and Decision Systems Engineering, Arizona State University, August 6, 2018.

Roya Hosseini, *Program Construction Examples in Computer Science Education: From Static Text to Adaptive and Engaging Learning Technology* Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, July 24, 2018.

Rui Pedro dos Santos Correia, *Automatic Classification of Metadiscourse* Information Systems and Computer Engineering, Instituto Superior Tecnico, Universidade Tecnica de Lisboa, May 3, 2018.

Homa Hashemi, *Robust Parsing for Ungrammatical Sentences,* Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, October 17, 2017.

Phuong Pham, *Improving and Scaling Mobile Learning via Emotion and Cognitive-State Aware Interfaces,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, October 11, 2017.

Xiangmin Fan, *Scalable Teaching and Learning via Intelligent User Interfaces,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, January 18, 2017.

Yoonjung Choi, *Information Extraction of +/-Effect Events to Support Opinion Inference,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, August 29, 2016.

Emilio Zegarra, *Improving Peer Learning and Knowledge Sharing in STEM Courses via* Pattern Based Graph Visualization Computer Science Department, University of Pittsburgh, Pittsburgh, PA, July 10, 2015.

Collin Lynch, *The Diagnosticity of Argument Diagrams,* Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, January 30, 2014.

Cem Akkaya, *Subjectivity Word Sense Disambiguation: A Method for Sense-Aware Subjectivity Analysis,* Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, June 20, 2013.

Wei Chen, *Detecting and Exploiting Off-Task Speech,* Language Technologies Institute, Carnegie Mellon University, Pittsburgh, PA, January 25, 2012.

Michal Valko, *Adaptive Graph-Based Algorithms for Conditional Anomaly Detection and Semi-Supervised Learning,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, August 1, 2011.

Michael Heilman, *Automatic Factual Question Generation for Reading Assessment,* Language Technologies Institute, Carnegie Mellon University, Pittsburgh, PA, March 23, 2011.

Swapna Somasundaran, *Discourse-level Relations for Opinion Analysis,* Computer Science Department, University of Pittsburgh, Pittsburgh, PA, March 24, 2010.

Antoine Raux, *Flexible Turn-Taking for Spoken Dialog Systems,* Language Technologies Institute, Carnegie Mellon University, Pittsburgh, PA, December 12, 2008.

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

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, August 30, 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.

Ph.D. Thesis Committees (current)

Ishrat Ahmed, Modeling and Supporting Middle School Mathematics Collaboration Across Dierent Learning Platforms (PhD Thesis Proposal), Computer Science Department, University of Pittsburgh, Pittsburgh, PA, March 25, 2021.

Omid Kashefi, A Training Framework for Resource-Constrained Lexical Item Class Predictions (PhD Thesis Proposal), Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, February 12, 2021.

Mohammad Hassan Falakmasir, *Factor Aware Legal Analytics and Knowledge Extraction* (Phd Thesis Proposal), Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, February 15, 2018.

David Adamson, *Agile Facilitation for Collaborative Learning,* (Phd Thesis Proposal), School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, February 26, 2014.

Masters Students

Heather Friedberg, *Lexical Entrainment and Success in Student Engineering Groups* (MS Project), Computer Science, University of Pittsburgh, Pittsburgh, PA, 2012.

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.

Other Graduate Student Committees

Huihui Xu, PhD Comprehensive Exam, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, April 29, 2022.

Tristan Maidment, PhD Preliminary Exam, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, April 28, 2022.

Meiqi Guo, PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, December 8, 2021.

Matt Barren, PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, December 3, 2019.

Khushboo Thaker, PhD Preliminary Exam, Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, November 28, 2018.

Nathan Ong, PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, August 30, 2018.

Jeong Min Lee, PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, May 4, 2018.

Yanbing, Xu PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, April 25, 2018.

Lingjia Deng, *Sentiment Propogation via Implicature Constraints of goodFor/badFor* (PhD Prelim), Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, December 6, 2013.

Lanfei Shi, *Understanding the Roles of Design Patterns in the Context of Mobile Social Sharing Applications* (PhD Prelim), Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, April 17, 2013.

Matthias Grabmair, *Modeling Purposive Legal Argumentation with Argument Schemes using the Value Judgment Formalism* (PhD Thesis Proposal), Intelligent Systems Program, University of Pittsburgh, Pittsburgh, PA, April 15, 2013.

Zitao Luo, PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, December 18, 2012.

Alex Conrad, PhD Comprehensive Exam, Computer Science Department, University of Pittsburgh, Pittsburgh, PA, May 21, 2012.

Frank Liberato, PhD Comprehensive, Computer Science, University of Pittsburgh, Pittsburgh, PA, July 23, 2010.

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

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

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.

Ali Alanjawi, *Using Coevolution in Complex Domains (PhD Thesis Proposal),* Computer Science, University of Pittsburgh, Pittsburgh, PA, February 20, 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,* Master's Project, Intelligent Systems, University of Pittsburgh, Pittsburgh, PA, August 2006.

Lin Ma, *Effective Computer Access with Plan-Based Intelligent Screen Reader,* Master's Thesis, Health and Rehabilitation Sciences, University of Pittsburgh, Pittsburgh, PA, December 9, 2003.

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

Undergraduate Students

Cassandra Boutin, First Experiences in Research, NSF REU and Honors College Brackenridge Programs, University of Pittsburgh, Pittsburgh, PA, Spring 2016-Fall 2017.

Alexandra Brusilovsky, Computer Science, University of Pittsburgh, Pittsburgh, PA, Summer 2013.

Chloe Ciora, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2018.

Samantha Corcoran, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2012-2013. (Hot Metal Bridge post-baccalaureate student at University of Pittsburgh).

Sonia Cromp, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2018-2021. (Currently PhD student at Wisconsin)

Zane Denmon, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2017.

Victor Dixon, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2018.

Joanna Drummond, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2008-2011. (Currently PhD student at University of Toronto; awarded (but declined) NSF graduate fellowship 2011 and awarded a Microsoft Graduate Women's Scholarship 2012.)

Heather Friedberg, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2009-2011. (Currently at Aptima; MS at University of Pittsburgh; Honorable Mention in the Computing Research Association's Outstanding Undergraduate Researcher Award, 2011.)

Simran Gidwani, NSF REU, University of Pittsburgh, Pittsburgh, PA, 2018-2019.

Paige Haring, Mathematics, University of Pittsburgh, Pittsburgh, PA, 2017-2018.

Brandan He, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2018.

Emma Krofcheck, Astrophysics, University of Pittsburgh, Pittsburgh, PA, Fall 2020.

Anish Kumar, Linguistics, University of Pittsburgh, Pittsburgh, PA, Summer 2016-Spring 2017.

Mackenzie Marcinko, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2016.

Gregory Nicholas, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2007. (MS at Brown University; Honorable Mention in the Computing Research Association's Outstanding

Undergraduate Award, 2007.)

Nathan Ong, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2010-2014. (Currently PhD student at University of Pittsburgh.)

Rehana Saifee, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2016-Spring 2017.

Sarah Serfilippi, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2016.

Hayden Stec, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2018.

Sean Steinle, Computer Science & Linguistics, University of Pittsburgh, Pittsburgh, PA, Spring 2021.

Christopher Thomas, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2012-2013. (Currently PhD student at University of Pittsburgh.)

Jesse Thomason, Computer Science, University of Pittsburgh, Pittsburgh, PA, 2012-2013. (Currently PhD student at University of Texas at Austin; Honorable Mention in the Computing Research Association's Outstanding Undergraduate Researcher Award, 2013.)

Zhengming Wang, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2019.

Robert Wei, Computer Science and Psychology, University of Pittsburgh, Pittsburgh, PA, Fall 2014.

Shujun Yang, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2017.

Yu Yang, First Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, Spring 2019.

Calvin Yu, Computer Engineering, University of Pittsburgh, Pittsburgh, PA, 2020-2021.

Zinan Zhuang, First (then Continuing) Experiences in Research Program, University of Pittsburgh, Pittsburgh, PA, 2017-2018.

Supervised Employees

Xiya Liu, MS School of Computing and Information Student, 2020-2021.

Stefani Allegretti, Research Staff, LRDC, 2014-2016.

Caitlin Rice, PhD Pyschology Student, LRDC, 2014-2015.

Scott Silliman, Programmer, LRDC, 2002-2013.

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

Alison Huettner, Research Associate, LRDC, 2004.

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

Past Visiting Scholars

Matthew Frampton, PhD Student, University of Edinburgh, United Kingdom

Reva Freedman, Professor, Northern Illinois University

Ryoko Tokuhisa, Toyota Central R&D Labs (also PhD Student at Nara Institute of Science and Technology), Japan

TEACHING EXPERIENCE

Discrete Structures for Computer Science, Department of Computer Science, University of Pittsburgh, Spring 2005, Fall 2006, Spring 2007, Spring 2010 (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 and 2017 (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.

Social Implications of Computing Technology, Department of Computer Science, University of Pittsburgh, Spring 2012 and 2013 (CS1590). Taught undergraduate course, using the textbook *A Gift of Fire: Social, Legal, and Ethical Issues for Computing and the Internet* by Sara Baase.

Human Language Technologies, Department of Computer Science, University of Pittsburgh, Fall 2018, Spring 2020, Fall 2021 (CS1671).

Directed Study/Research, Department of Computer Science, University of Pittsburgh, Spring 2011, Fall 2012, Fall 2017, Spring 2018 (CS1902/CS1950). Supervised CS major Captsone Experience or Independent Research for Heather Friedberg, Gabriel deForest, Paige Haring, Christopher Thomas, Zinan Zhuang.

Research Topics in Computer Science, Department of Computer Science, University of Pittsburgh, Fall 2014 (CS2001).

Foundations of Artificial Intelligence, Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Fall 2006, 2009, 2010 (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, 2011, 2013, 2017, 2019, 2020 (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.

Advanced Topics in Artificial Intelligence (Natural Language Processing for Extracting Social and Interactional Meaning), Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Fall 2012 (CS3710/ISSP3565). Created and taught new graduate seminar course.

Advanced Topics in Artificial Intelligence (Computational Argumentation), Department of Computer Science / Intelligent Systems Program, University of Pittsburgh, Spring 2021 (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, 2010, 2011, 2012, 2017, 2018, 2019, 2020, 2021, 2022 (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, Alex Conrad, Yingze Wang, Huy Nyugen, Wencan Luo, Tazin Afrin, Haoran Zhang, Matt Barron, Ahmed Ezzat, Mingzhi Yu, Hanzhong (Victor) Zheng, Yue Dai, Ravneet Singh, Nhat Tran, Zhexiong Liu, Salem Elaraby, Yang Zhong.

Advanced Topics in Intelligent Systems, Intelligent Systems Program, University of Pittsburgh, Spring 2005, 2013 (ISSP 2030). Supervised exploratory research (related to a module covered in ISSP 2020 from the previous semester) for Hua Ai, Amruta Purandare, and Zahra Rahimi.

Independent Study, Department of Computer Science and Intelligent Systems Program, University of Pittsburgh, 2002, 2003, 2004, 2005, 2013, 2014, 2016, 2017, 2018, 2022 (CS2990). Designed and supervised graduate student research projects in natural language processing for Tazin Afrin, Hua Ai, Yuya Asano, Ahmed Ezzat, Omid Kashefi, Luca Lugini, Wencan Luo, Ahmed Magooda, Mihai Rotaru, Beatriz Maeireizo, Huy Nguyen, Zahra Rahimi, Ravneet Singh, Nhat Tra, Arthur Ward, Mingzhi Yu, Haoran Zhang, and Fan Zhang.

Topics in Computer Science II: User Generated Content Analyses using Automated Discourse Processing, Deartment of Computer Science, National University of Singapore, Fall 2015 (CS 6281). Created and taught new graduate seminar course.

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.

Departmental Service

Chair, LRDC Executive Committee, Fall 2019; Member, 2010-2012, 2016-2020, 2020-2921

Member, SCI ISP Director Search Committee, 2020

Member, SCI Ethics in Curriculm Committee, 2019-2020

Member, LRDC Space Committee, 2018-2020

Chair, Joint LRDC-SCI Faculty Search Committee, 2017-2018

Chair, Computer Science Graduate Program and Exams Committee (GPEC), 2009-2014; Co-Chair 2006-2007; Member 2008-2009, 2014 (fall), 2016-present

Chair, Intelligent Systems Program PhD Admissions Committee, 2014, 2011; Member 2001-2002, 2003-2004, 2004-2005, 2011-2013

Member, Computer Science Colloquium Committee, 2018-2020

Member, Computer Science fact-finding and outreach for new computing unit committee (2015)

Member, LRDC/CIDDE Recruiting Committee, 2015

Member, Computer Science Graduate Evaluation, Assignment and Training (GREAT) Committee, 2014 (fall), 2016

Member, LRDC 50th Anniversary Planning Committee, 2012-2013

Chair, LRDC Technology Committee, 2010-2011

Member, Computer Science Diversity Committee, 2010-2011

Chair, Joint LRDC-CS Faculty Search Committee, 2009-2010

Member, LRDC Strategic Planning Committee, 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, 2001-2010

Member, LRDC Colloqium Committee, 2004-2005

Member, LRDC Faculty Search Committee, 2003-2004

Member, LRDC Computer Resources Committee, 2001-2002

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

Chair, Computer Science (Columbia University) Artificial Intelligence Quals 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, Provost's Award for Excellence in Doctoral Mentoring Selection Committee, 2021

Member, University Research Council, 2020-present.

Member, Provost's Area Planning and Budgeting Committee (PAPBC), Spring 2019

Member, School of Computing and Information (SCI) Academic Council, 2018-2021

Member, School of Computing and Information (SCI) Faculty Affairs, 2018-2019

Member, School of Computing and Information (SCI) Planning and Budget Committee, 2018-2019, 2020-present

Member, School of Computing and Information (SCI) Dean Search Committee, 2016-2017

Judge, 14th Annual Dietrich School of Arts and Sciences Grad Expo, 2014

Member, Dietrich School of Arts and Sciences Nominating Committee, 2013-2014

Member, Senate Committee for Elections, 2013-2015

Member, US Student Fulbright Program Campus Evaluation Committee, 2013

Mentor, Hot Metal Bridge program, 2011-2012, 2013-2014

Member, Faculty of Arts and Sciences Tenure Council, 2003-2005, 2006-2008; Alternate Member, 2002-2003, 2005-2006; Ad Hoc Member 2010-2014, 2017

Member, School of Information Sciences Promotion and Tenure Committee, 2006-2007; Ad Hoc Member 2010-2011, 2017, 2018

Scientific Reviewer, Institutional Review Board, 2009-2014

Member, Arts and Sciences Council, 2008-2011

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, 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