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## EDUCATION

Ph.D., Language and Information Technologies, Carnegie Mellon University, December 1997.

Thesis advisor: Lori S. Levin

M.S., Computational Linguistics, Carnegie Mellon University, May, 1994.

B.S., Information and Computer Science (Magna Cum Laude), University of California at Irvine, June 1992.

## EMPLOYMENT

[2003-present] *Research Computer Scientist*, Language Technologies Institute and Human-Computer Interaction Institute, School of Computer Science, Carnegie Mellon University

[1997- 2003] *Research Associate, Learning Research and Development Center, University of Pittsburgh.*

Project coordinator in Natural Language Tutoring Group

[1994-1997] *Teaching Assistant, Computational Linguistics Program, Carnegie Mellon University.*

[Summer 1993] *Summer Research Internship, Apple Computer, San José, CA.*

[1992-1994] *Research Assistant, Center for Machine Translation, Carnegie Mellon University.*

[Summer 1991] *Research Internship, Minority Summer Research Internship Program, UC Irvine.*

[1990-1992 ] *Honors Research, University of California at Irvine.*  
research.

## PUBLICATION LIST

- Most cited co-authored paper (Graesser, VanLehn, Rosé, Jordan, & Harter, 2001) has 120 citations according to Google Scholar. This was an invited article for AI Magazine's Winter 2001 issue, and is thus not listed as a refereed publication below.
- Most cited first authored paper (Rosé, Jordan, Ringenberg, Siler, VanLehn & Weinstein, 2001), which was nominated for a Best Paper Award at AI in Education, has 68 citations.

## CHAPTERS IN BOOKS

1. Lavie, A. & Rosé, C. P. (2004). Optimal Ambiguity Packing in Context-Free Parsers with Interleaved Unification. In H. Bunt, J. Carroll and G. Satta (eds.), **Current Issues in Parsing Technologies**, Kluwer Academic Press. (24% of submissions accepted for book publication)
2. Rosé, C. P., and Lavie, A. (2001). Balancing Robustness and Efficiency in Unification-augmented Context-Free Parsers for Large Practical Applications. In van Noord and Junqua (Eds.), **Robustness in Language and Speech Technology**, ELSNET series, Kluwer Academic Press.
3. Rosé, C. P. (1999). A Genetic Programming Approach for Robust Language Interpretation, in L. Spencer et al. (eds.) **Advances in Genetic Programming**, Volume 3.
4. Rosé, C. P. & Waibel, A. H. (1997). Recovering from Parser Failures: A Hybrid Statistical/Symbolic Approach, in J. Klavans and P. Resnik (eds.), **The Balancing Act: Combining Symbolic and Statistical Approaches to Language Processing**, MIT Press.
5. Qu, Y., DiEugenio, B., Lavie, A., Levin, L., & Rosé, C. P. (1997). Minimizing Cumulative Error in Discourse Context, In E. Maier, M. Mast and S. LuperFoy (eds.), **Dialogue Processing in Spoken Language Systems: Revised Papers from ECAI-96 Workshop**, LNCS series, Springer Verlag.

## REFEREED JOURNAL PAPERS - PUBLISHED

6. Rosé C. P., & VanLehn, K. (2005). An Evaluation of a Hybrid Language Understanding Approach for Robust Selection of Tutoring Goals, *International Journal of AI in Education* 15(4).
7. Rosé, C. P., Kumar, R., Aleven, V., Robinson, A., Wu, C. (2006). CycleTalk: Data Driven Design of Support for Simulation Based Learning, *International Journal of Artificial Intelligence in Education Special Issue on The Best of ITS '04*, 16, 195-223.
8. Litman, D., Rosé, C. P., Forbes-Riley, K., Silliman, S., & VanLehn, K. (2006). Spoken Versus Typed Human and Computer Dialogue Tutoring, *International Journal of Artificial Intelligence in Education Special Issue on The Best of ITS '04*, 16, pp145-170.
9. VanLehn, K., Graesser, A., Jackson, G. T., Jordan, P., Olney, A., Rosé, C. P., (2007). Natural Language Tutoring: A comparison of human tutors, computer tutors, and text. *Cognitive Science* 31(1), 3-52

10. Rosé, C. P., Wang, Y.C., Cui, Y., Arguello, J., Stegmann, K., Weinberger, A., Fischer, F., (In Press). Analyzing Collaborative Learning Processes Automatically: Exploiting the Advances of Computational Linguistics in Computer-Supported Collaborative Learning, submitted to the *International Journal of Computer Supported Collaborative Learning*

## REFEREED CONFERENCE/WORKSHOP PAPERS

11. Kumar, R., Rosé, C. P., Wang, Y. C., Joshi, M., Robinson, A. (2007). Tutorial Dialogue as Adaptive Collaborative Learning Support, **Proceedings of Artificial Intelligence in Education** (nominated for Best Student Paper)
12. Kumar, R., Gangadhara, R., Rao, Sharath, Prahallad, K., Rosé, C. P., Black, A. W., (2007). Building a Better Indian English Voice Using More Data, **6th ISCA Workshop on Speech Synthesis**, Bonn, Germany
13. Wang, H. C., Rosé, C.P., Cui, Y., Chang, C. Y, Huang, C. C., Li, T. Y. (2007). Thinking Hard Together: The Long and Short of Collaborative Idea Generation for Scientific Inquiry, **Proceedings of Computer Supported Collaborative Learning**
14. Wang, Y. C., Joshi, M., & Rosé, C. P. (2007b). A Feature Based Approach for Leveraging Context for Classifying Newsgroup Style Discussion Segments, **Proceedings of the Association for Computational Linguistics (poster)**.
15. Wang, Y., Rosé, C. P., Joshi, M., Fischer, F., Weinberger, A., Stegmann, K. (2007c). Context Based Classification for Automatic Collaborative Learning Process Analysis, **Proceedings of Artificial Intelligence in Education** (poster).
16. Wang, H. C., Kumar, R., Rosé, C. P., Li, T., Chang, C. (2007d). A Hybrid Ontology Directed Feedback Generation Algorithm for Supporting Creative Problem Solving Dialogues, **Proceedings of the International Joint Conference on Artificial Intelligence**
17. Wang, H. & Rosé, C. P. (2007a). A Process Analysis of Idea Generation and Failure. **Proceeding of the Annual Meeting of the Cognitive Science Society**
18. Wang, H. C. & Rosé, C. P. (2007b). Supporting Collaborative Idea Generation: A Closer Look Using Statistical Process Analysis Techniques, **Proceedings of Artificial Intelligence in Education** (poster).
19. Gergle, D., Rosé, C. P., Kraut, R. E. (2007). Modeling the Impact of Shared Visual Information on Collaborative Reference, **Proceedings of ACM SIG-CHI 2007** (Nominated for a Best Paper Award)
20. Wong, J., Fussell, S., Ou, J. Z., Yang, J., Rosé, C. P., Oh, K. (2007). Sharing a Single Expert Among Multiple Partners, **Proceedings of ACM SIG-CHI 2007**
21. Kumar, R., Gweon, G., Joshi, M., Cui, Y., Rosé, C. P. (to appear). Supporting Students Working Together on Math with Social Dialogue. **Proceedings of the SLaTE Workshop on Speech and Language Technology in Education**
22. Rosé, C. P., Gweon, G., Arguello, J., Finger, S., Smailagic, A., Siewiorek, D. (2007). Towards an Interactive Assessment Framework for Engineering Design Learning, **Proceedings of ASME 2007 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference**
23. Joshi, M. & Rosé, C. P. (to appear). Using Transactivity in Conversation Summarization in Educational Dialog. **Proceedings of the SLaTE Workshop on Speech and Language Technology in Education**
24. Gweon, G., Rosé, C. P., Albright, E., Cui, Y. (2007). Evaluating the Effect of Feedback from a CSCL Problem Solving Environment on Learning, Interaction, and Perceived Interdependence, **Proceedings of Computer Supported Collaborative Learning**
25. McLaren, B., Scheuer, O., De Laat, M., Hever, R., de Groot, R. & Rosé, C. P. (2007). Using Machine Learning Techniques to Analyze and Support Mediation of Student E-Discussions, **Proceedings of Artificial Intelligence in Education**

26. Jordan, P., Hall, B., Ringenber, M., Cui, Y., Rosé, C. P. (2007). Tools for Authoring a Dialogue Agent that Participates in Learning Studies , **Proceedings of Artificial Intelligence in Education**
27. Kumar, R., Rosé, C. P., Litman, D. (2006). Identification of Confusion and Surprise in Spoken Dialogues using Prosodic Features, **Proceedings of Interspeech 2006**.
28. Arguello, J. & Rosé, C. P. (2006). Museli: A Multi-source Evidence Integration Approach to Topic Segmentation of Spontaneous Dialogue, **Proceedings of the North American Chapter of the Association for Computational Linguistics** (short paper)
29. Kumar, R., Rosé, C. P., Aleven, V., Iglesias, A., Robinson, A. (2006). Evaluating the Effectiveness of Tutorial Dialogue Instruction in an Exploratory Learning Context, **Proceedings of the Intelligent Tutoring Systems Conference**. (nominated for a Best Student Paper Award)
30. Wang, H., Li, T., Huang, C., Chang, C., Rosé, C. P. (2006). VIBRANT: A Brainstorming Agent for Computer Supported Creative Problem Solving, **Proceedings of the Intelligent Tutoring Systems Conference** (Winner of Best Poster Award).
31. Arguello, J., Buttler, B., Joyce, E., Kraut, R., Ling, K., Wang, X., Rosé, C. (2006). Talk to Me: Foundations for Successful Individual-Group Interactions in Online Communities, **Proceedings of CHI 06: ACM conference on human factors in computer systems**. New York: ACM Press.
32. Gweon, G., Rosé, C. P., Zaiss, Z., & Carey, R. (2006). Providing Support for Adaptive Scripting in an On-Line Collaborative Learning Environment, **Proceedings of CHI 06: ACM conference on human factors in computer systems**. New York: ACM Press.
33. Arguello, J. & Rosé, C. P. (2006). Topic Segmentation of Dialogue, **Proceedings of the NAACL Workshop on Analyzing Conversations in Text and Speech**.
34. Wang, H. C., Rosé, C. P., Li, T. S., Chang, C. Y. (2006). Providing Support for Creative Group Brainstorming: Taxonomy and Technologies, **Proceedings of the ITS Workshop on Ill-Defined Problem Solving Domains**
35. Dzikovska, M. & Rosé, C. P. (2006). Backbone Extraction and Pruning for Speeding Up a Deep Parser for Dialogue Systems, **Proceedings of the 3rd International Workshop on Scalable Natural Language Processing (ScaNaLU)**.
36. Arguello, J. & Rosé, C. P. (2006). InfoMagnets: Making Sense of Corpus Data, **Companion Proceedings for the North American Chapter of the Association for Computational Linguistics (NAACL '06)**. (one of three demos selected for presentation in a plenary session)
37. VanLehn, K., Graesser, A., Tanner, J., Jordan, P., Olney, A. & Rosé, C. P. (2005). When is reading just as effective as one-on-one interactive tutoring? **Proceedings of the Annual Meeting of the Cognitive Science Society**
38. Banerjee, S., Rosé, C. P. & Rudnicky, A. (2005). The Necessity of a Meeting Recording and Playback System, and the Benefit of Topic-Level Annotations to Meeting Browsing, **Proceedings of Interact '05**.
39. Rosé, C. P., & Torrey, C. (2005). Interactivity versus Expectation: Eliciting Learning Oriented Behavior with Tutorial Dialogue Systems, **Proceedings of Interact '05**
40. Gweon, G., Rosé, C. P., Wittwer, J., Nueckles, M. (2005). An Adaptive Interface that Facilitates Reliable Content Analysis of Corpus Data, **Proceedings of Interact '05** (short paper)
41. Gweon, G., Rosé, C. P., Carey, R., Zaiss, Z. (2005). Towards Data Driven Design of a Peer Collaborative Agent, **Proceedings of AI in Education '05** (poster)
42. Rosé, C. P., Aleven, V., Carey, R., Robinson, A., Wu, C. (2005). A First Evaluation of the Instructional Value of Negotiable Problem Solving Goals on the Exploratory Learning Continuum, **Proceedings of AI in Education '05**
43. Rosé, C., Donmez, P., Gweon, G., Knight, A., Junker, B., Cohen, W., Koedinger, K., & Heffernan, N (2005). Automatic and Semi-Automatic Skill Coding with a View Towards Supporting On-Line Assessment, **Proceedings of AI in Education '05**.
44. Aleven, V, & Rosé, C. P. (2005). Authoring plug-in tutor agents by demonstration: Rapid rapid tutor development, **Proceedings of AI in Education '05**.

45. Donmez, P., Rose, C. P., Stegmann, K., Weinberger, A., and Fischer, F. (2005). Supporting CSCL with Automatic Corpus Analysis Technology, **Proceedings of Computer Supported Collaborative Learning**. (nominated for best paper award)
46. Rosé, C. P., Pai, C., Arguello, J. (2005). Enabling Non-linguists to Author Conversational Interfaces Easily, **Proceedings of FLAIRS 05**.
47. Gweon, G., Arguello, J., Pai, C., Carey, R., Zaiss, Z., Rosé, C. P. (2005). Towards a Prototyping Tool for Behavior Oriented Authoring of Conversational Interfaces, **Proceedings of the ACL Workshop on Educational Applications of NLP**.
48. Litman, D., Bhembé, D., Rosé, C. P., Forbes-Riley, K., Silliman, S., & VanLehn, K. (2004). Spoken Versus Typed Human and Computer Dialogue Tutoring, **Proceedings of the Intelligent Tutoring Systems Conference**.
49. Rosé, C. P., Torrey, C., Aleven, V., Robinson, A., Wu, C. & Forbus, K. (2004). CycleTalk: Towards a Dialogue Agent that Guides Design with an Articulate Simulator, **Proceedings of the Intelligent Tutoring Systems Conference**, 16, pp 195-223.
50. Rosé, C. P. & Torrey, C. (2004). DReSDeN: Towards a Trainable Tutorial Dialogue Manager to Support Negotiation Dialogues for Learning and Reflection, **Proceedings of the Intelligent Tutoring Systems Conference**.
51. Rosé, C. P. & Hall, B. S. (2004). A Little Goes a Long Way: Quick Authoring of Semantic Knowledge Sources for Interpretation. **Proceedings of the Second International Workshop on Scalable Natural Language Understanding**.
52. Rosé, C. P., Gaydos, A., Hall, B., Roque, A., VanLehn, K. (2003a), Overcoming the Knowledge Engineering Bottleneck for Understanding Student Language Input, **Proceedings of AI in Education**
53. Rosé, C. P., Roque, A., Bhembé, D., VanLehn, K. (2003). A Hybrid Text Classification Approach for Analysis of Student Essays, **Proceedings of the ACL Workshop on Educational Applications of NLP**.
54. Rosé, C. P., Bhembé, D., Siler, S., Srivastava, R., VanLehn, K., (2003b). The Role of Why Questions in Effective Human Tutoring, **Proceedings of AI in Education**.
55. Rosé, C. P., Litman, D., Bhembé, D., Forbes, K., Silliman, S., Srivastava, R., VanLehn, K. (2003c). A Comparison on Tutor and Student Behavior in Speech Versus Text Based Tutoring, **Proceedings of the HLT-NAACL 03 Workshop on Educational Applications of NLP**
56. Rosé, C. P., Roque, A., Bhembé, D., VanLehn, K. (2002). An Efficient Incremental Architecture for Robust Interpretation, **Proceedings of Human Languages Technologies Conference**, San Diego, California
57. VanLehn, K., Jordan, P., Rosé, C. P. and The Natural Language Tutoring Group (2002). The Architecture of Why2-Atlas: a coach for qualitative physics essay writing, **Proceedings of Intelligent Tutoring Systems Conference**, Biarritz, France.
58. Rosé, C. P., Jordan, P., Ringenberg, M., Siler, S., VanLehn, K., Weinstein, A. (2001a). Interactive Conceptual Tutoring in Atlas-Andes, **Proceedings of AI in Education**, (nominated for best paper).
59. Rosé, C. P., Moore, J. D., VanLehn, K., Allbritton, D. (2001b). A Comparative Evaluation of Socratic versus Didactic Tutoring, **Proceedings of Cognitive Sciences Society**
60. Jordan, P., Rosé, C. P., and VanLehn, K. (2001). Tools for Authoring Tutorial Dialogue Knowledge, **Proceedings of AI in Education**.
61. Rosé, C. P. (2000). A Framework for Robust Semantic Interpretation, **Proceedings of 1st Meeting of the North American Chapter of the Association for Computational Linguistics**
62. Freedman, R. K., Rosé, C. P., Ringenberg, M. A., VanLehn, K. (2000). ITS Tools for Natural Language Dialogue: A Domain Independent Parser and Planner, **Proceedings of the Intelligent Tutoring Systems Conference**.
63. VanLehn, K., Freedman, R., Jordan, P., Murray, C., Osan, R., Ringenberg, M., Rose, C., Schulze, K., Shelby, R., Treacy, D., Weinstein, A., and Wintersgill, M. (2000). Fading and Deepening: The Next Steps for Andes and Other Model-Tracing Tutors, **Proceedings of the Intelligent Tutoring Systems Conference**.

64. Rosé, C. P., Di Eugenio, B., Moore, J. D. (1999). A Dialogue Based Tutoring System for Basic Electricity and Electronics, **Proceedings of AI in Education** (poster).
65. Rosé, C. P. and Levin, L. S. (1998). An Interactive Domain Independent Approach to Robust Dialogue Interpretation, **Proceedings of COLING-ACL**.
66. Rosé, C. P. and Lavie, A. (1997). An Efficient Distribution of Labor in a Two Stage Robust Interpretation Process, **Proceedings of the Second Conference on Empirical Methods in Natural Language Processing**.
67. Rosé, C. P. (1997). The Role of Natural Language Interaction in Electronics Troubleshooting, **Proceedings of the Eighth Annual International Energy Week Conference and Exhibition**.
68. Qu, Y., Rosé, C. P., and Di Eugenio, M., (1996). Using Discourse Predictions for ambiguity Resolution, **Proceedings of COLING**.
69. Levin, L., Glickman, O., Qu, Y., Gates, D., Lavie, A., Rosé, C. P., Van Ess-Dykema, C., Waibel, A. (1995). Using Context in Machine Translation of Spoken Language, **Proceedings of the Theoretical and Methodological Issues in Machine Translation Conference**
70. Rosé, C. P., Di Eugenio, B., Levin, L. S., Van Ess-Dykema, C. (1995). Discourse Processing of Dialogues with Multiple Threads , **Proceedings of the Association for Computational Linguistics**
71. Woszczyzna, M., Aoki-Waibel, N., Buo, F. D., Coccaro, N., Horiguchi, K., Kemp, T., Lavie, A., McNair, A., Polzin, T., Rogina, I., Rosé, C. P., Schultz, T., Suhm, B., Tomita, M., Waibel, A. (1994). JANUS 93: Towards Spontaneous Speech Translation, **Proceedings of the International Conference on Acoustics, Speech, and Signal Processing**.

## UNREFEREED CONFERENCE/WORKSHOP PAPERS

72. Kumar, R., Gweon, G., Joshi, M., Cui, Y., Nwagwe, A., Rosé, C. P. (to appear). Evaluating the Effect of Social Conversation on Learning, Interaction, and Perceived Interdependence in a Collaborative Math Problem Solving Environment, **Working notes of the CSCL Workshop on Chat Analysis in Virtual Math Teams**
73. Rosé, C. P., Fischer, F. & Chang, C. Y. (2007). Exploring the Influence of Culture on Collaborative Learning, **Working Notes of the ACM SIG-CHI Workshop on Culture and Collaborative Technologies**
74. Gweon, G., Rosé, C. P., Albright, E., Cui, Y. (2006). Help Providers and Help Receivers in a Computer Supported Collaborative Learning Environment, **Proceedings of the CSCW Workshop on Role Based Collaboration**
75. Stegmann, K., Weinberger, A., Fischer, F., & Rosé, C. P. (2006). Automatische Analyse nat\_rlich-sprachlicher Daten aus Onlinediskussionen [Automatic corpus analysis of natural language data of online discussions]. Paper presented at the **68th Tagung der Arbeitsgruppe für Empirische Pädagogische Forschung** (AEPF, Working Group for Empirical Educational Research ) Munich, Germany.
76. Ai, H., Harris, T., Rosé, C. P. (2006). The Effect of Miscommunication Rate on User Response Preferences, **CHI Notes (Work in Progress Papers)**.
77. Tribble, A. & Rosé, C. P. (2006). Usable Browsers for Ontological Knowledge Acquisition, **CHI Notes (Work in Progress Papers)**.
78. Dzikovska, M. & Rosé, C. P. (2005). TFLEX: Making Deep Parsing Practical with Strategic Pruning, **Proceedings of the International Workshop on Parsing Technologies** (poster)
79. Rosé C. P. & Kraut, R. E. (2005). Towards Community Building for Improving Retention and Achievement in Asynchronous Distance Education, **Proceedings of the Interact 2005 Workshop on E-Learning and Human Computer Interaction**
80. Rosé C. P., Cavalli-Sforza, V., & Robinson, A. (2005). Adapting to and from student goal orientation in guided exploratory learning, invited Symposium presentation, **EARLI Symposium on Adaptation in Tutoring and Collaborative Learning**

81. Gweon, G., Rosé, C. P., Carey, R., Zaiss, Z. (2005). Exploring the Effectiveness of Mixed-Language Peer Problem Solving Interactions, **Proceedings of the AIED 2005 Workshop on Mixed Language Explanations in Learning Environments.**
82. Rosé C. P. & Donmez, P. (2005). TagHelper: An application of text classification technology to automatic and semi-automatic modeling of collaborative learning interactions, **Proceedings of the AIED 2005 Workshop on Representing and Analyzing Collaborative Interactions: What works? When does it work? To what extent? .**
83. Rosé C. P., Aleven, V. & Torrey, C. (2004). CycleTalk: Supporting Reflection in Design Scenarios with Negotiation Dialogue, **Proceedings of the CHI 2004 Workshop on Designing for Reflective Practitioners: Sharing and Assessing Progress by Diverse Communities**
84. Rosé, C. P., Torrey, C. & Aleven, V. (2004). Guided Exploratory Learning in a Simulation Environment for Thermodynamics: A Pilot Study, **Proceedings of the ITS Workshop on Tutorial Dialogue Systems**
85. Aleven, V. & Rosé, C. P. (2004). Towards Easier Creation of Tutorial Dialogue Systems: Integration of Authoring Environments for Tutoring and Dialogue Systems, **Proceedings of the ITS Workshop on Tutorial Dialogue Systems**
86. Rosé, C. P., VanLehn, K. & NLT Group (2003). Is Human Tutoring Always More Effective than Reading, **Proceedings of AIED Workshop on Tutorial Dialogue Systems: With a View Towards the Classroom.**
87. Siler, S., Rosé, C. P., Frost, T., VanLehn, K., & Koehler, P. (2002,). Evaluating Knowledge Construction Dialogues (KCDs) versus minilessons within Andes2 and alone, **Proceedings of ITS Workshop on Empirical Methods for Tutorial Dialogue Systems, San Sebastian, Spain.**
88. Rosé, C. P., VanLehn, K., Jordan, P. (2002). Can we help students with a high initial competency?, **Proceedings of ITS Workshop on Empirical Methods for Tutorial Dialogue Systems, San Sebastian, Spain.**
89. Graesser, A. C., VanLehn, K., Rosé, C. P., Jordan, P. W., & Harter, D. (2001). Intelligent Tutoring Systems with Conversational Dialogue, **AI Magazine**, Special Issue on Intelligent User Interfaces, Volume 2, Number 4.
90. Rosé, C. P. (2000). A Syntactic Framework for Semantic Interpretation, **Proceedings of the ESSLI Workshop on Linguistic Theory and Grammar Implementation**
91. Rosé, C. P. (2000). Facilitating the Rapid Development of Language Understanding Interfaces for Tutoring Systems, **Proceedings of the AAAI Fall Symposium on Building Tutorial Dialogue Systems**
92. Mason, M. & Rosé, C. P. (1998). Learning Constraints for Plan-Based Discourse Processors With Genetic Programming, **AAAI Spring Symposium on Discourse and Machine Learning.**
93. Rosé, C. P. (1996). A Genetic Programming Approach to Robust Interactive Dialogue Interpretation, **American Association of Artificial Intelligence Workshop on Detecting, Repairing, and Preventing Human-Machine Miscommunication,** Portland, Oregon.
94. Rosé, C. P. (1995). Conversation Acts, Interactional Structure, and Conversational Outcomes, **Proceedings of the American Association of Artificial Intelligence Spring Symposium on Empirical Methods in Discourse Interpretation and Generation**
95. Suhm, B., Levin, L., Coccaro, N., Carbonell, J., Horiguchi, K., Isotani, R., Lavie, A., Mayfield, L., Rosé, C. P., Van Ess-Dykema, C., Waibel, A. (1994). Speech-Language Integration in a Multi-Lingual Speech Translation System, **Proceedings of the American Association of Artificial Intelligence Workshop on Integration of Natural Language and Speech Processing.**
96. Woszczyna, M., Coccaro, N., Eisele, A., Lavie, A., McNair, A., Polzin, T., Rogina, I., Rosé, C. P., Sloboda, T., Tsutsumi, J., Aoki-Waibel, N., Waibel, A., Ward, W. (1993). Recent Advances in JANUS: A Speech Translation System, **ARPA Proceedings of the Human Language Technologies Workshop.**

## TECHNICAL REPORTS

97. Rosé, C. P. (1997). **Robust Interactive Dialogue Interpretation**, Ph.D. Dissertation, School of Computer Science, Carnegie Mellon University.

## SOFTWARE ARTIFACTS

98. *The LCFlex* robust parser
99. *The CARMEL Workbench*, including technology and general purpose knowledge sources for authoring robust language understanding interfaces for English, being used or having been used in 9 universities in the US, Europe, and Asia
100. *TagHelper Tools*, a resource for supporting content analysis of corpus data [*Google Analytics counter indicates that 175 new users from 33 countries have downloaded TagHelper tools since July '07*]
101. *TuTalk*, an authoring environment for tutorial dialogue agents

## CITATIONS AND AWARDS

- Language Technologies Institute Faculty Fellowship Award (Jr. Faculty Chair), July 2007-2009
- Honorable Mention Award at ACM SIG-CHI, 2006 & 2007
- Winner of Best Poster Award at the Intelligent Tutoring Systems conference (ITS), 2006
- Nominated for Best Student Paper Award at AIED 2007
- Nominated for Best Student Paper Award at the Intelligent Tutoring Systems conference (ITS), 2006
- Nominated for Best Student Paper Award at Computer Supported Collaborative Learning (CSCL), 2005, 2007.
- Nominated for Best Paper Award at AI in Education Conference, 2001.
- Carnegie Scholar Award, Carnegie Mellon University, 1994-1997.
- Phi Beta Kappa, University of California at Irvine, 1991.
- Golden Key National Honor Society, University of California at Irvine, 1991.
- Simms Memorial Scholarship, University of California at Irvine, 1991-1992.

## INVITED TALKS

- Supporting Simulation Based Learning, Invited talk, Worth Publishing, Ltd., New York, June 2007
- Language Technologies for Supporting Productive Collaborative Learning Interactions for Science and Engineering Education, Keynote talk, Technology-integrated Science and Engineering Education Workshop (TechSEE-II), National Taiwan Normal University, May 2007
- Towards Triggering Adaptive Collaboration Support Using Automatic Interaction Analysis, Community Day Plenary talk, Kaleidoscope CSCL Rendez Vous, January 2007
- Towards Adaptive Collaboration Support, Workshop on Computer Supported Collaboration Scripts, Keynote talk, Kaleidoscope CSCL Rendez Vous, January 2007
- TagHelper: Computer Support for Applying Coding Schemes, Keynote talk, Workshop on Computer Based Analysis and Visualization of Collaborative Learning Activities, Kaleidoscope CSCL Rendez Vous, January 2007
- Towards Adaptive Support for On-line Learning, Keynote talk, Technology-integrated Science and Engineering Education Workshop (TechSEE), National Taiwan Normal University, May 2006
- Making Authoring of Conversational Interfaces Accessible, Featured Talk, Workshop on Authoring Tools for Advanced Learning Systems with Standards (organized by Arthur Graesser, The Advanced Distributed Learning Workforce Co-Lab at the University of Memphis), November 2005

- Adapting to and from student goal orientation in guided exploratory learning, Invited Talk, EARLI symposium talk, August 2005

## **SEMINARS & COLLOQUIA**

- Language Technologies for Supporting Productive Collaborative Learning Interactions for Science and Engineering Education, Turing Seminar Talk, University of Washington, April 2007
- Evaluating the Instructional Value of Errors in Through Peer Tutoring Interactions, DeKalb University, September 2005
- Guided Exploratory Learning in a Simulation Environment for Thermodynamics, University of Muenster, July 2005
- Facilitating Reliable Content Analysis of Corpus Data with Automatic and Semi-Automatic Text Classification Technology, EPFL Switzerland, July 2005
- Cycletalk: Toward a Tutorial Dialogue Agent that Supports Negotiation Dialogues for Learning and Reflection, Karl-Franzens Universitaet in Graz, Austria, April 2004
- Overcoming the Knowledge Engineering Bottleneck for Understanding Student Language Input, University of Edinburgh, November 2003
- Tutorial Dialogue Systems: Where are we, and where are we going? DFKI, Saarbruecken Germany, November 2003

## **OTHER HONORS**

- Faculty Affiliate of the University of Pittsburgh's Sara Fine Institute (an institute devoted to the study of inter-personal behavior and technology)

## **CONFERENCE AND WORKSHOP COMMITTEES**

- Program Committee, FLAIRS 2008
- Program Committee, LREC 2008
- Program Committee, Educational Data Mining Conference, 2008
- Treasurer, International Workshop on Intercultural Collaboration, 2008
- Senior Program Committee Member, AI in Education (AIED) 2007
- Tutorial Co-Chair, overseeing tutorials with Roger Azevedo, AIED 2007
- Mentor for AIED 2007 Young Researcher's Track
- Review Committee for Computer Supported Collaborative Learning (CSCL) 2007
- Review Committee for AAAI 2007
- Review Committee for Human Robot Interaction 2006
- Program Committee for FLAIRS 2006
- Program Committee for Intelligent Tutoring Systems (ITS) 2006
- Program Committee for AAAI 2006
- Scientific Committee for LREC 2006
- Program Committee for AIED 2005
- Program Committee for the Association for Computational Linguistics (ACL) 2005 Workshop on Educational Applications of NLP
- Program Committee for the ITS 2004 workshop on Tutorial Dialogue
- Program Committee for ScaNaLU: Workshop on Scalable Natural Language Understanding technology, 2004

- Co-Chair for AI in Education 2003 workshop on Tutorial Dialogue Systems: With A View Towards the Classroom
- Organizing Committee for HLT-NAACL 2003 workshop on Building Educational Applications Using Natural Language Processing
- Co-Chair for ITS Workshop on Empirical Methods for Tutorial Dialogue Systems, 2002
- Organizing Committee member for AIED 2001 workshop on Tutorial Dialogue Systems
- Co-Chair for AAAI Fall Symposium on Building Tutorial Dialogue Systems, 2000
- Thematic Session Co-Chair, 37th Annual Meeting of the Association for Computational Linguistics, 1999.
- Review Committee member, European Chapter of the Association for Computational Linguistics, 1999.
- Review Committee member, Student Session of the 35th Annual Meeting of the Association for Computational Linguistics, 1997.

## **MEMBERSHIPS IN PROFESSIONAL SOCIETIES**

- The Association for Computational Linguistics
- The International Artificial Intelligence in Education Society
- The International Society of the Learning Sciences
- *Slated to begin transitioning into the position of Secretary/Treasurer in December 2007*
- Member of ACM SIG-CHI

## **EDITORIAL BOARD MEMBERSHIPS**

- Founding Editorial Board Member for the Journal of Dialogue Systems 2006-

## **OTHER PROFESSIONAL ACTIVITIES**

- Co-Organizer for the ICLS 2008 Workshop on Scaling Up Analysis of Interaction in Networked Learning Environments (workshop proposal currently under review)
- Co-Organizer for a workshop at the Symposium for Collaborative Technologies and Systems, May 2008
- Co-Organizer for ICLS 2006 Workshop on Dynamic Support for CSCL: Conceptual Approaches and Technologies for Flexible Support of Collaborative Knowledge Construction
- Invited Expert External Reviewer for internal Call for Learning Center Project Proposals at Swiss Federal Institute of Technology in Lausanne (EPFL), Summer 2005
- Review Committee for the Journal of Natural Language Engineering Special Issue on Educational Applications
- Panel Organizer for ITS 2004 panel “Towards Encouraging a Learning Orientation Above a Performance Orientation”

- Has reviewed for the HCI Journal, the Information Retrieval Journal, the Journal of Natural Language Engineering, the Computational Linguistics journal, the Journal of Artificial Intelligence in Medicine, the Journal of AI Research, User Modeling and User-Adapted Interaction: The Journal of Personalization Research, the Discourse Processes Journal, and the Iranian Journal of Electrical and Computer Engineering

## CONTRACT AND GRANT SUPPORT

### CURRENT

*Title: Industrial contract with Worth Publishing*

*PI: Carolyn Penstein Rosé*

*Agency: Worth Publishing*

*Grant No: Gift to the university*

*Duration: 6 months*

*Amount: 40K*

*Title: Industrial contract with Verilogue, Inc.*

*PI: Carolyn Penstein Rosé*

*Agency: Verilogue, Inc.*

*Grant No: Gift to the university*

*Duration: 6 months*

*Amount: 35K*

*Title: CycleTalk: Further Exploring the Pedagogical Value of Tutorial Dialogue in Simulation Based Learning*

*PI: Carolyn Penstein Rosé*

*Agency: Office of Naval Research*

*Grant No: N00014-00-1-0600*

*Duration: 3 years (11/01/2006 – 10/31/2009)*

*Amount: 513K*

*Support: 2 months*

*Title: Exploring Adaptive Support for Virtual Math Teams*

*PI: Carolyn Penstein Rosé*

*Agency: National Science Foundation*

*Grant No: TBA*

*Duration: 1 year*

*Amount: 50K*

*Support: TBD*

*Title: A Shared Resource for Robust Semantic Interpretation for Both Linguists and Non-Linguists*

*PI: Carolyn Penstein Rosé*

*Agency: Office of Naval Research*

*Grant No: N00014-05-1-0043*

*Duration: 3 years (11/08/2004 - 09/30/2007)*

*Amount: 300K*

*Support: 1.8 months*

*Title: Learning-Oriented Dialogue in Cognitive Tutors: Towards a Scalable Solution to Performance Orientation*

*PI: Vincent Aleven*

*Agency: National Science Foundation*

*Grant No: NSF/IERI REC-043779*

*Duration: 5 years (10/01/2004 – 09/30/2009)*

*Amount: \$1,270,000.00*

*Support: 2.5 months*

*Title: ADEPT: Assessing Design Engineering Project Classes with Multi-Disciplinary Teams*

*PI: Daniel P. Siewiorek*

*Agency: National Science Foundation*

*Grant No: EEC-064848*

*Duration: 3 years*

*Amount: \$540,000.00*

*Support: 1 month*

## **PENDING**

*Title: HCC Medium: Dynamic Support for Computer-Mediated Intercultural Communication*

*PI: Susan Fussell*

*Agency: National Science Foundation*

*Grant No:*

*Duration: 3 years*

*Amount: 650K*

*Title: Turning Off-Task Behavior into Productive Social Learning Experiences*

*PI: Ryan S. Baker*

*Agency: Institute for Educational Science, Department of Education*

*Grant No:*

*Duration: 3 years*

*Amount: 750K*

## **PAST**

*Title: Calculategy: Exploring the Impact of Tutorial Dialogue Strategy in Shaping Student Behavior in Effective Tutorial Dialogue for Calculus*

*PI: Carolyn Penstein Rosé*

*Agency: National Science Foundation*

*Grant No: SGER REC-0411483*

*Duration: 1 year + 1 year no cost extension (02/01/2004 – 01/31/2006)*

*Amount: \$96,627.00*

*Support: 1 month*

*Title: CycleTalk: A Tutorial Dialogue System that Supports Negotiation in a Design Context*

*PI: Carolyn Penstein Rosé*

*Agency: Office of Naval Research*

*Grant No: N00014-00-1-0600*

*Duration: 3 years (11/17/2003 – 09/30/2006)*

*Amount: 450K*

*Support: 1.8 months*

*Title: Facilitating Accountability for Standards-Based Math at All Levels*

*PI: Kenneth Koedinger*

*Agency: GE Foundation*

*Grant No: 5003341*

*Duration: 3 years*

*Amount: 356K*  
*Support: 2 months*

*Title: Tutoring Scientific Explanations Via Natural-Language Dialogue*  
*PI: Kurt Van Lehn*  
*Agency: National Science Foundation*  
*Grant No: ITR EIA-0325054*  
*Duration: 4 years (01/01/2004 – 12/31/2007)*  
*Amount: 42K*  
*Support: 0.8 months*

*Title: Pittsburgh Sciences of Learning Center*  
*PI: Kenneth Koedinger*  
*Agency: National Science Foundation*  
*Grant No: SBE 0354420*  
*Duration: 5 years*  
*Note: I have two subgrants under this grant:*

*Tutalk: Infrastructure for authoring and experimenting with natural language dialogue in tutoring systems and learning research, 10/1/2004-10/1/2006, 160K over 2 years (extended + 25K supplement)*  
*Support: 1 month*

*TagHelper 2.0: A Semi-Automatic Tool That Facilitates Reliable Content Analysis of Corpus Data, 136K over 1 year (extended for 2 more years)*  
*Support: 1 month*

# CONTRIBUTIONS TO EDUCATION

## CURRICULUM DESIGN

- *11-718 Conversational Interfaces*
- *11-344 Machine Learning in Practice (05-834, 05-434)*
- *05-899 Special Topics: Computer Supported Collaborative Learning*
- *11-899 Summarization and Personal Information Management*

## OTHER

- Helped lead a research workshop on machine learning at OurCS in Fall, 2007, run through Women in CS
- Organizer of AIED 2007 tutorial “TagHelper Tools: Tools for Supporting the Analysis of Verbal Data”
- Organized and ran a 2 week Math Camp for under-prepared middle school students in Summer 2006 with Ariane Watson at Propel Charter School in Homestead as part of a research project on supporting math communication. As a follow up, organized an afterschool program at the same school for Spring 2007.
- Invited instructor at the PSLC/ITS summer school Ken Koedinger and Vincent Aleven organized in Summer, 2004 and again in 2006, 2007, 2008
- Offered a full-day tutorial on TagHelper tools at CMU on June 19, 2007. 15 people came for the full day, including several from out of state, in addition to 12 more participants from the PSLC/ITS summer school who participated either for part of the time or the whole time, depending on their area of concentration within the summer school.

## STUDENT ADVISING

### CURRENT PHD STUDENTS

#### Gahgene Gweon

- 2005
- *Computer Supported Cooperative Work*

#### Rohit Kumar

- 2005
- *Dialogue Systems/ Speech*

### CURRENT MASTER OF LANGUAGE TECHNOLOGIES STUDENTS

#### Emil Albright

- 2005
- *Computational Linguistics*

#### Yi-Chia Wang

- 2006
- *Question Answering*

#### Mahesh Joshi

- 2006
- *Conversation Summarization*

#### Sourish Chaudhuri

- 2007
- *Text Classification*

#### Moonyoung Kang

- 2007
- *Machine Learning/Summarization*

#### Yue Cui

- 2007(*deferred*)
- *Tutorial Dialogue*

### M.S. OR PH.D. THESIS COMMITTEE SERVICE

#### Darren Gergle (PhD)

- *The Value of Shared Visual Information for Task Oriented Collaboration, 2006*

#### Rashmi Gangadharaiah (MLT)

- *Pattern Induction and Spectral Clustering for EBMT, 2007*

#### Brian Langner (PhD)

- *Speech generation, in progress*

#### Ananlada Chotimongkul (PhD)

- *Learning Dialog Structure of Task-Oriented Conversations from the Corpus, in progress*

**Alicia Tribble (PhD)**

- *Knowledge-Based Labeling of Semantic Relationships in English, in progress*

**OTHER**

- **PhD thesis committees in preparation:**
  - Satanjeev Banerjee (proposal in progress)
  - Brian Langner (proposal in progress)
- **Completed MLTs:**
  - Jaime Arguello
- **Outside reader:**
  - Andrew Marriott, December 2006, Curtin University of Technology, Perth, Western Australia
- **Outside committee member:**
  - Mihai Rotaru, Computer Science Department, University of Pittsburgh
- **Qualifying Exam Committee member:**
  - Sharad Oberoi, CEE, Carnegie Mellon University
- **Independent studies supervised:**
  - Gahgene Gweon (MHCI)
  - Satanjeev Banerjee (LTI PhD)
  - Chih-yu Chao (LTI Masters)
  - Adele Weitz (Heinz undergrad)
  - Stephanie Rosenthal (CSD undergrad)

## **UNIVERSITY SERVICE**

### **UNIVERSITY SERVICE AND COMMITTEE WORK**

- Accepted to serve on the Strategic Planning Committee for Education and the Student Experience under Indira Nair for the 2008 CMU reaccreditation

### **SCHOOL AND DEPARTMENT SERVICE AND COMMITTEE WORK**

- MHCI Admissions Committee, 2005, 2006
- LTI Admissions Committee, 2004, 2006, 2008
- HCII PhD Admissions Committee, 2007
- HCII Curriculum Committee Member 2006-present
- LTI Faculty Senator 2007-2009
- Organizer of LTI 2007 Faculty Retreat 2007
- Organizer for the LTI 2007 New Collaborations Competition
- Organizer of 2007 LTI Student Research Symposium

### **OTHER**

- Sciences of Learning Center Seminar Series Coordinator 2005-2007
- Facilitator for Collaborative Learning Reading and Discussion Group 2005-2006
- Facilitator for a Pragmatics reading group, Fall 2007
- Facilitator of the HCI in the Developing World reading group, Fall 2007