

Towards Conversational Agents as Collaboration Facilitators in Multiparty Human Dialogue

Diane Litman

Professor of Computer Science

University of Pittsburgh

How to optimize group conversational interactions is a passionately pursued topic across several disciplines. This talk will present research based on the hypothesis that linguistic entrainment, or the convergence of linguistic properties of spoken conversation, may serve as a valid and relatively easy-to-collect measure that is predictive of group outcomes in multiparty human dialogue. I will first introduce the educational applications of dialogue systems that are motivating our research. I will then introduce the *Teams Corpus*, a freely-available corpus that we have experimentally collected, where groups collaborate on a task where they converse. I will next present our development of a set of multi-party entrainment measures that are computable using speech and language technologies, and that are both motivated and validated by the literature on teamwork. Finally, I will demonstrate the utility of these measures in predicting group outcomes.

Bio: Diane Litman is Professor of Computer Science, Senior Scientist with the Learning Research and Development Center, and Past (Co-)Director of the Graduate Program in Intelligent Systems, all at the University of Pittsburgh. She was previously a researcher at AT&T Bell Laboratories / AT&T Labs - Research. Her research spans multiple areas of Artificial Intelligence, with a current focus on enhancing the effectiveness of educational technology through the use of spoken and natural language processing techniques. She is a Fellow of the Association for Computational Linguistics and was twice elected Chair of the North American Chapter of the Association for Computational Linguistics. She is also an elected member of the Executive Committee of the International Society for Artificial Intelligence in Education, as well as an Associate Editor of the International Journal of Artificial Intelligence in Education. She received her PhD from the University of Rochester, advised by James Allen. In 2020 she was a recipient of the Provost's Award for Excellence in Doctoral Mentoring at the University of Pittsburgh.