**COSI 233 – Discourse and Dialogue Models: Communicating with Computers and Robots**

**INSTRUCTOR: James Pustejovsky**

This is both an intensive literature-based reading seminar, as well as an examination of real dialogue systems in the field. We will review the field from the perspective of formal, pragmatic, and semantic approaches to discourse and dialogue modeling, and what theories are most descriptive and best explain the known data. We also review the NLP and AI literature on dialogue between humans as well as human-computer and human-robot dialogues. The recent move towards situated and contextualized interactions with computer agents will be a focus, as we examine how to handle the “situated grounding” of language, gesture, and action in interactions between humans and between humans and computers. Assignments will be reading reviews, and topic presentations; system reviews and critiques; and a final paper or programming project.

**READING ASSIGNMENTS:** We will review the literature in the field of communicating with computers and robots, focusing on the use of language and gesture, as well as other modalities. Each week, for 10 weeks, you will be required to read and comment on two technical research papers in the field, chosen from a list of 3-5 papers. This will involve a close reading and annotation, shared with other class participants and the instructor and TA through LATTE.

**WRITING ASSIGNMENTS:** You are required to write two short analytic papers during the semester. The **first paper** will be a detailed discussion of several of the papers discussed and annotated during the semester, as grouped by topic or theme.

You should focus on the following themes of analysis:

* Critical assessment of technical and research contributions made in the paper.
* System description, data developed, reported, or used for experiments.
* Existing approaches or algorithms used. Where appropriate, new algorithms developed.
* What is new and noteworthy about the paper? What does it contribute to the general problems in the field?

The **second paper** will be organized as a topical area survey article, covering one of the major themes in the course. This paper requires the student to provide:

* a broad overview of the problems and challenges in the field for the intelligent layperson;
* a description of the data contributing to describing the phenomena;
* the major approaches currently adopted to explain the datasets;
* shortcomings and limitations of the currently adopted theories and approaches
* suggestions for future directions

**DEADLINES:** Reading andannotation assignments are due every week, when the papers are discussed. Writing assignment papers are due by the end of the semester.

The instructor and TA will provide iterative comments and suggested edits for each paper.

**ASSESSMENT:** Reading assignment reports will each account for 5% of your grade. Writing assignments will each account for 10% of the grade.