Language use as rational behavior

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Accounting for ambiguities and underspecified natural language utterances is an active and growing research area in natural language processing. This research involves at least (i) the search for appropriate representations for underspecified utterances, and (ii) the specification of procedures for resolution of these underspecified representations. The first subtask has recently gained a lot of attention. This talk is concerned with the second subtask.

In the talk I will use general theories of rational behavior, like Game Theory, Decision Theory, and Information Theory, to develop suitable notions of RELEVANCE and of constructing OPTIMIZATION GAMES to employ contextual factors in systematic ways to resolve ambiguities or underspecifications and to account for conversational implicatures. The idea is that language use, just like any other kind of human behavior, can be explained in terms of rationality. In this talk I won't presuppose anything about these general theories of rationality, but will give a sketch of them along the way. I also won't go into detailed linguistic analysis, but concentrate instead on the general ideas behind the approach.