Seeing Interactions with New Eyes: Eye-trackers and Human Communication Management

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Abstract

Eye-tracking technology has recently matured so that its use in user experiments and natural human conversational studies has become easier to conduct. Simultaneously, human computer interactions have become more conversational in style, and also more challenging in that they require models that take rich human conversational strategies into account. Eye-gaze is an important means to signal the interlocutor's focus of attention, and thus eye-trackers provide a new objective way to study how gaze is used to provide feedback and take turns.

This talk will focus on various eye-tracking studies, and especially on the role of eye-gaze in interaction management. I will discuss issues related to the collection and analysis of eye-tracking data in natural human-human conversations, and present some experiments concerning the use of eye-gaze in giving feedback and managing turn-taking. The discussion is also extended towards other paralinguistic aspects of communication: e.g. head movement and gesturing also play crucial roles in signaling the speaker's intentions in interactive situations.