

Investigating Breakdowns in Human Robot Interaction: A Conversation Analysis Guided Single Case Study of a Human-Robot Communication in a Museum Environment

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Abstract : In a single case study, we show how a conversation analysis (CA) approach can shed light onto the sequential unfolding of human-robot interaction. Relying on video data, we are able to show that CA allows us to investigate the respective turn-taking systems of humans and a NAO robot in their dialogical dynamics, thus pointing out relevant differences. Our fine grained video analysis points out occurring breakdowns and their overcoming, when humans and a NAO-robot engage in a multimodally uttered multi-party communication during a sports guessing game. Our findings suggest that interdisciplinary work opens up the opportunity to gain new insights into the challenging issues of human robot communication in order to provide resources for developing mechanisms that enable complex human-robot interaction (HRI).

Keywords : human robot interaction, conversation analysis, dialogism, breakdown, museum

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