Robots in the Wild: An Interaction Analysis Perspective

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With increasing automation and digitalization, robots enter everyday settings such as roads, workplaces and homes. Certain challenges for such robots can only be identified by studying them in their real-life settings. Interaction is fundamentally social and it has no timeout (Atkinson & Heritage, 1984). We cannot “do nothing” since even inaction is treated as accountable, for instance when asked “what would you like to eat?”, our friends and partners will likely treat a non-response as a problem. As I will demonstrate, this also holds true for robots. Users make sense of a machine’s actions in the specific context that they occur in, rather than following idealized pre-programmed sequences (Suchman, 1987). A robot’s technological complexity is worth little, if it fails to follow basic human interactional patterns and thereby acts at odds with human expectations. I present an interaction analysis perspective on human-robot interaction, using video data to provide detailed insights into how humans and machines interact on a moment-by-moment basis. Specifically, I will present data from my field studies on a Cozmo robot in family homes and on autonomous buses in regular traffic. Instead of having users rely on manuals, design research strives for implicit (Ju & Leifer, 2008) and supple (Höök, 2018) interaction, which ideally would not require additional effort on the human side. In this talk, I will focus on how nonverbal and non-lexical resources can facilitate such smooth coordination of human and robotic bodies.


