Large Language Models and Laughter: Is it Still the Best Medicine?

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In this talk we present our study of laughter in interactions between humans and socially interactive agents (SIAs). Our study involved manipulating negotiative dialogue between individuals and the Furhat robot. Furhat's dialogue was generated by a large language model, and our pilot experiment focused on manipulating the robot's response to the user's laughter through an experimental intervention.

A number of studies have introduced interventions in text-based chat in relation to laughter use. For example, Mills et al. assessed laughter mimicry and the interrelation between laughter and emotional contagion. Maraev et al. inserted spoof contributions such as additional laughs and clarification requests ("lol?", "lol what", "what's funny" etc.) which appeared to come from the dialogue participants in online text-chat. This study extends this real-time intervention technique to interactions with a SIA.

For the pilot experiment the experimenter who observes the interaction modifies the behaviour of the robot in real time, based on their observations of a human user's laughter. Specifically, we investigated participants' perceptions of the robot in response to two distinct intervention types: laughter reciprocation and laughter clarification requests. For the inserted laughter, we used a sound sample representing a slight chuckle. Following the experiment, participants evaluated Furhat's naturalness, understanding, human-likeness, and empathy, and estimated emotional states using the Geneva Wheel of Emotions (GWE). We observed some rather surprising trends, such as a higher rating of naturalness and human-likeness in comparison to the control group in both intervention conditions.