

Title: What attitudes toward social robots are expressed in natural language? Corpus Of Speech About Robots (COSAR) study

Abstract:

Corpus of Speech About Robots (COSAR) is a manually annotated corpus that includes people's attitudes toward real social robots, as well as references to science fiction media, and fictional robot characters. Data for COSAR was retrieved from YouTube comments on videos presenting 16 different, really existing social robots.

The tagset of the COSAR is based on the source literature, studies on the linguistic data, and the existing questionnaires that measure attitudes toward robots. The structure of the tagset reflects the three-component structure of attitudes (see e.g. Breckler 1984, Reich-Stiebert et al. 2019): the cognitive component (people's thoughts, beliefs about a robot and cognitive evaluations of a robot), the affective component (feelings or emotions toward/about a robot) and the behavioral component (behavioral intentions or actual behavior toward a robot). Due to the research on the influence of science fiction media on attitudes towards real robots (see Bruckenberg et al. 2013), an additional category was developed, that concerns references to fictional robot characters and science fiction media.

I will present the results of a COSAR study concerning the structure of attitudes towards robots. The cognitive attitudes towards robots prevail in the entire sample. Second most often component of attitudes is the behavioral one and there is a little less attitudes which belongs to the affective component. I will present the detailed attributes of these attitudes. As a result we obtain the picture of human attitudes towards really existing robots which are present in natural language data. I will also describe how the observations for the entire sample are reflected on the level of single robots and ask a question whether observed attitudes may be related to the degree of humanlikeness of robots. I will discuss possible theoretical implications and applications of the COSAR findings.

## References

Breckler, S. J. (1984). Empirical validation of affect, behavior, and cognition as distinct components of attitude. *Journal of Personality and Social Psychology*, 47(6).

Bruckenberg, U., Weiss, A., Mirnig, N., Strasser, E., Stadler, S., & Tscheligi, M. (2013). *The Good, The Bad, The Weird: Audience Evaluation of a "Real" Robot in Relation to Science Fiction and Mass Media* (Vol. 8239, p. 310)

Reich-Stiebert, N., Eyssel, F. A., & Hohnemann, C. (2019). Involve the user! Changing attitudes toward robots by user participation in a robot prototyping process. *Computers in Human Behavior*, 91.