

## Social Robotics

B. Nebel, F. Lindner, T. Engesser,  
B. Kuhnert, L. Wächter  
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University of Freiburg  
Department of Computer Science

### Exercise Sheet 4

**Due: November 28, 2017, 10:00**

The following questions relate to the following paper, which you find in the git repository `slides`:

Bethel, C. L., Henkel, Z., Stives, K., May, D. C., Eakin, D. K., Pilkinton, M., Jones, A., and Stubbs-Richardson, M., Using robots to interview children about bullying: Lessons learned from an exploratory study, In *Proceedings of the 25th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, 2016.

#### Exercise 4.1 (Print and Read the Paper for the Reading Group)

- (a) Printing is necessary. We want you to be able to write notes on the paper, and you need to be able to flip back and forth during the reading group. Don't forget to bring your copy along on **Nov. 30th!**
- (b) Reading is necessary, as well. This is going to take up to a couple of hours. With *Reading*, we mean more than merely reading through it once. It means digesting the contents, trying to follow all arguments, getting theoretical background and hypotheses right, marking important things with a pen, writing comments to the border etc.

#### Exercise 4.2 (Analyzing the Paper along Guiding Questions)

Please go through all of the following questions and answer them writing in whole sentences. Give reasons for everything you write (e.g., use quotations, provide URLs).

- (a) Try to find the following information about the authors:
  - What is their background, e.g., what is/was their field of (under-)graduate study?
  - Where do they work (University, Research Institute, Industry etc.)?
  - What is their academic standing (Master Students, PhD candidates, Post-Docs, Assistant Profs, Associate Profs, Full Profs etc.)?
  - Are they experts on the topic of the paper, or rather new to the field?
  - What is their relation to each other, if any?
- (b) Find out about the publication venue:
  - Where has the paper been published (Journal, Conference, Collection of Papers)?
  - How can you rate the venue?
- (c) Summarize the scientific process reported in this paper by explaining in your own words how the five main components of empirical research we talked about in the lecture are addressed, viz.:
  - Initial Observation
  - Theory (Explanation)
  - Hypothesis (Prediction)
  - Data Collection (Experiment)
  - Data Analysis

- (d) Use the `chisq.test` function in R to verify the reported numbers in the paper. Set the `correct` parameter to *FALSE*, viz., `chisq.test(data, correct = FALSE)`.
- First, calculate the  $\chi^2$  statistics reported in the first and second paragraph of the result section. Can you find a mistake?
  - Second, calculate the  $\chi^2$  statistics also for the seven remaining items in Table 1. Can you find further significant results?
- (e) Summarize in your own words the core contributions and limitations of the paper.