

Judging a socially assistive robot (SAR) by its cover: The effect of SARs' visual qualities on users' perceptions and attitude

Abstract

Human-SAR relationships vary by context of use and interaction level. We argue that context and interaction considerations must be incorporated into the SAR's physical design requirements to align the robotic visual qualities with users' expectations. We propose to consider situational-based and dynamics-based human-SAR relationship models in constructing the requirements. Previous studies contributed to the understanding of users' perceptions and preferences regarding existing commercially available SARs. Yet, very few studies regarding SARs' appearance used designated SAR designs, and even fewer evaluated isolated visual features. In this work, we aim to systematically assess the effect of isolated visual qualities and design manipulations. Our empirical findings link visual qualities with perceptions of SAR characteristics. Together with the relationship models, the outcomes are an exemplar of how to form guidelines for the industrial design processes of new SARs to match user expectations.

Bio

Ela Liberman Pincu is an industrial designer and a doctoral candidate in the field of interaction design and HRI at ben Gurion university in Israel. She holds a bachelor's degree in industrial design from the Holon Institute of Technology, and a master's degree in industrial design (MID) for medical purposes from the Technion - Israel Institute of Technology.

Her research focuses on evaluating the effect of SARs' visual qualities on human perceptions and attitude using direct and extended interactions.