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Speaker: Dr. Heather Lum

Title: Human-robot interaction in context: Individual differences in perception and interaction with anthropomorphic and non-anthropomorphic robots

Abstract: Robotic technology has begun to flourish within the past ten years and recently robots have begun to be used for purposes outside of industrial and manufacturing of products. Indeed, we have seen robots becoming social beings developed to be our companions, our help, our entertainment, and it is that direct contact with us, which has allowed research in this area to be ever present. In this study, younger and older adults interacted with three robotic entities; an anthropomorphic robotic dog and robotic cat, and non-anthropomorphic circular robot. Low-level vocal measures of pitch and intensity were examined on minute intervals during the interaction with each entity. It was found that gender differences existed for the younger adults but that this difference was not present for the older adults who were more similar on vocal markers. The results of this study have implications for robotic designers and the robotic research community as a whole, especially in the design of products for a specific audience.

Bio: Dr. Heather Lum is an assistant professor at Penn State Erie, The Behrend College. She earned her Ph.D. in applied experimental and human factors psychology from the University of Central Florida in 2011. Her primary research interests focuses on perceptions of technology, specifically the ways in which technology is impacting the way we interact with each other as humans. Other areas of interest include the use of psychophysiological measures such as eye tracking and vocal analyses to better determine and study the critical applied cognitive and experimental topics of interest such as spatial cognition, human-human and human-robot team interactions. She has also turned her attention to the use of games for training and educational purposes.
In addition to her research pursuits, Heather is a faculty advisor for Psych Club- the local chapter of Psi Chi, is program chair-elect for the Education Technical Group and former webmaster and newsletter editor for the Aug Cog Technical Group. Since coming to Penn State, she has been instrumental in advertising the discipline of human factors throughout the university. She has successfully proposed an undergraduate interdisciplinary certificate in human factors, a course in the psychology of gaming, and a minor in game development on campus.