Robotics Seminar Series

Sight Cues for Robots from a Qualitative Analysis of Video Games

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Robots should be able to indicate when they notice someone with their sensors. Fortunately, video game developers have already implemented a variety of cues for in-game agents that we can learn from and apply to human-robot interaction. We did a thematic analysis of over 50 cues from video games to produce design recommendations for robots that can communicate about what they "see". Some non-diegetic cues that were only possible in video games in the past - e.g., a floating "!" over an agent's head - are now becoming possible for human-robot interactions via augmented reality (AR) headsets. The fact that all cues received by humans are interpreted makes it challenging not just to design the cues, but also to estimate how a robot is being understood by a particular user.

Dr. Matthew Rueben is an educator and human-robot interaction scholar. As a faculty member at the University of Portland he supports undergraduate students in engineering and computer science and graduate students in the Master's of Biomedical Engineering program. He also does research on how to help people understand robots' perceptual capabilities for effective, informed interactions.

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