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Department of Computer Science
Colloquium**

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Human Factors Experiments with Augmented Reality Systems

ABSTRACT

Augmented reality (AR) has shown much promise, but limited practical usage outside the laboratory environment. One reason is that some fundamental aspects of perception in AR are not well-understood. I will summarize some recent user studies on visual acuity, contrast sensitivity, color perception, and depth perception with augmented reality systems. Our strategy with these measurements is to compare objective standards, performance with a user's natural vision, and performance with an AR system. The results show a mixed set of comparable and distorted perception, depending on the display and the whether one is looking at real or virtual objects.

BIOGRAPHY

Mark A. Livingston, Ph.D. is a research scientist in Advanced Information Technology at the Naval Research Laboratory. He directs and conducts research on interactive graphics, including augmented reality and visual analytics, with a focus on perceptual and cognitive factors. He received his PhD in 1998 from the Univ. of North Carolina at Chapel Hill, focusing on tracking systems for augmented reality and medical applications of the technology.