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The Challenges of Virtual Reality Video

Robert Kooima, Assistant Professor

LSU Division of Computer Science and Engineering

Electrical Engineering Building 117
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Abstract:

It's an exciting time for interactive visualization and virtual reality. As investment in VR increases, displays improve, prices drop, and consumer-grade virtual reality hardware becomes widely available, a high-quality virtual reality experience is finally reaching a mass audience. In this context, we'll discuss the SENSEI project, an NSF-supported multi-university effort to develop an end-to-end pipeline for the capture, processing, delivery, and display of virtual reality video at a scale of gigapixels per second. The LSU team's role in this work is playback, and we'll examine the data structures and algorithms that orchestrate the real-time delivery of these huge streams of visual data onto immersive virtual reality environments and head-mounted displays.

Speaker's Bio:

Dr. Kooima is an Assistant Professor in the School of Electrical Engineering and Computer Science at Louisiana State University and a member of the faculty of the Center for Computation & Technology. He studies real-time 3D computer graphics, interactive display technology, digital imaging, and image processing.

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