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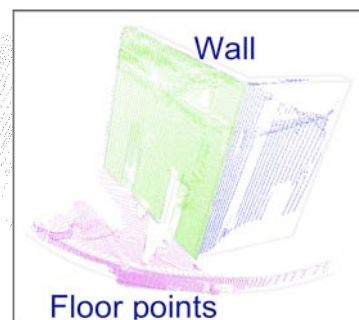
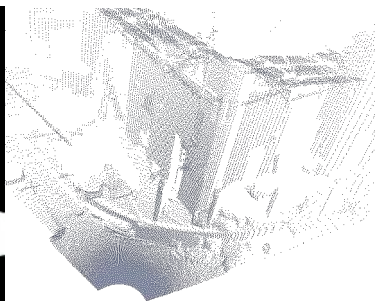
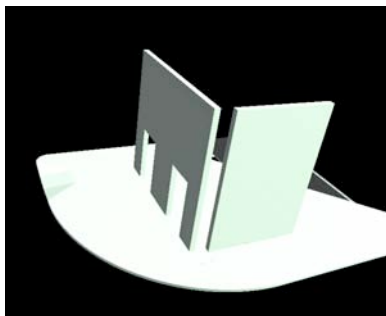
Center for **IMAGING** SCIENCE

Seminar Series

Three-Dimensional Modeling and Recognition in the Real World

Daniel Huber

*Systems Scientist, Vision and Mobile Robotics Laboratory
Robotics Institute, Carnegie Mellon University*



4pm, Wed, April 18, 2007

Auditorium of the Center for Imaging Science

www.cis.rit.edu/seminar

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Abstract

Three-dimensional (3D) sensors, such as laser scanners, can capture the shape and appearance of the world with high accuracy and incredible resolution. Such sensors are well-suited for creating 3D models of objects and environments and for recognizing objects embedded within these environments. These capabilities are central to the long-term computer vision goal of 3D scene understanding. In the real world, however, 3D modeling and recognition must overcome a number of challenges, including occlusion, clutter, noisy data, sensor artifacts, scalability, speed requirements, and environmental factors. This talk will review our group's efforts to address these challenges in our recent work on 3D modeling and recognition in pursuit of practical 3D computer vision applications that work in the real world.

Speaker Bio

Daniel Huber received a PhD in Robotics from Carnegie Mellon University in 2002. He also holds a BS in Electrical Engineering from the University of Texas and an MS in Computer Science from Stanford. Dr. Huber is currently a Systems Scientist in the Vision and Mobile Robotics Laboratory at Carnegie Mellon's Robotics Institute. His research interests are centered on three dimensional computer vision, including modeling from reality, 3D object recognition, and real-time 3D systems. His thesis research focused on automating the process of digitizing 3D models using laser scanners. Currently, he is developing modeling and recognition algorithms for applications ranging from inspection of construction sites to evaluation of inflammation in arthritis patients. Recently, Dr. Huber's medical imaging algorithms provided the technical foundation for a new start-up company, Cartesia DX, which he co-founded with colleagues from Carnegie Mellon and the University of Pittsburgh.