UNIVERSITY OF CENTRAL FLORIDA

CENTER FOR RESEARCH IN COMPUTER VISION

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"Perceiving the 3D world"

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ABSTRACT

In this talk I will introduce a novel paradigm for jointly addressing two fundamental problems in computer vision: 3D reconstruction and object recognition. Most of the state-of-the-art methods deal with these two tasks separately. Methods for object recognition typically describe the scene as a list of object class labels, but are unable to account for their 3D spatial organization. Most of the approaches for 3D scene modeling produce accurate metric reconstructions but are unable to infer the semantic content of their components. A major line of work from my group in recent years is to explore methodologies that seek to fill this gap and to coherently describe objects and object components while simultaneously integrating their 3D spatial arrangement in the scene's physical space as well as understanding the activities that are taking place in the scene. This research is relevant to many application areas such as autonomous or assisted navigation, robotics, augmented reality, human-computer interaction, automatic 3D modeling of urban environments and surveillance.

BIOGRAPHY

Silvio Savarese is an Assistant Professor of Electrical Engineering at the University of Michigan, Ann Arbor. After earning his Ph.D. in Electrical Engineering from the California Institute of Technology in 2005, he joined the University of Illinois at Urbana-Champaign from 2005–2008 as a Beckman Institute Fellow. He is recipient of several awards including the James R. Croes Medal in 2013, a TRW Automotive Endowed Research Award in 2012, an NSF Career Award in 2011 and Google Research Award in 2010. In 2002 he was awarded the Walker von Brimer Award for outstanding research initiative. His research interests include computer vision, object recognition and scene understanding, shape representation and reconstruction, human activity recognition and visual psychophysics.

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