

Real-time Capture of People and Environments for Immersive Computing

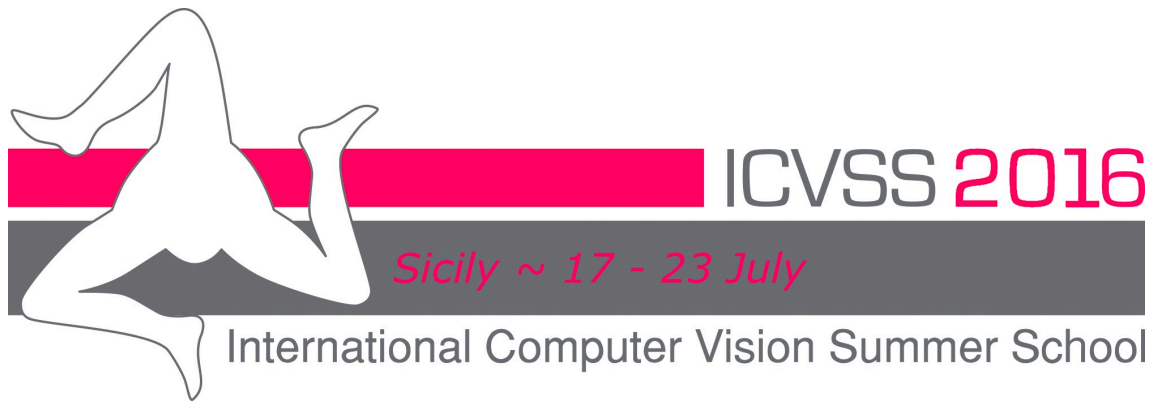
**Shahram Izadi
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Abstract

In this talk I will outline a wide range of techniques, algorithms, and technologies to create advanced computing applications that can sense, reconstruct and interact with the real world. All the presented work focuses on using new types of sensors that give computers an understanding of their environment and users in real-time. Algorithms include real-time rigid scene reconstruction at scale, non-rigid high quality reconstruction of people, and tracking of hands, faces and bodies. All this is for immersive computing applications i.e. augmented and virtual reality experiences that require computers to perceive and understand the real-world in real-time. I will talk about how these technologies can be used in the context of immersive computing by describing work on Holoportation and HoloLens.

Speaker Bio:

Professor Shahram Izadi is a Partner Researcher and Research Manager within Microsoft Research Redmond. He leads the Interactive 3D Technologies (I3D) group. He describes his work as: mashing together exotic sensing and display hardware with signal processing, vision and graphics algorithms to create new interactive systems, which enable users to experience computing in magical ways. His group has had many notable projects and publications to date: HoloLens; KinectFusion; RetroDepth;



MotionKeyboard; Digits; Augmented Projectors; KinEtre; Vermeer; HoloDesk; Mouse 2.0; SurfacePhysics; SecondLight; and ThinSight. He was involved in a number of products including the Microsoft HoloLens, Touch Mouse, Sensor-in-Pixel, Kinect One and the Kinect for Windows SDK. Shahram has been at Microsoft Research since 2005 and prior to that spent two years at Xerox PARC. He received a TR35 award in 2009 and was nominated one of the Microsoft Next in 2012.