UNIVERSITY OF TEXAS ARLINGTON | DEPARTMENT OF ELECTRICAL ENGINEERING

Development of Custom Haptic Interfaces for Virtual Reality Surgical Simulators

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ABSTRACT: Virtual reality surgical simulators are now being widely used for training in various procedures. Haptics (touch) feedback is an essential feature in these simulators for increased realism and maximum skill transfer. In this talk, I will introduce the field of haptics and focus on developing custom haptic feedback devices with examples from my research. Specifically, I will focus on mechanism design, device characterization and real-time control of these devices.

BIOGRAPHY: Dr. Ganesh Sankaranarayanan received his MS from the University of Texas at Arlington in 2002 and a Ph.D. from the University of Washington in 2007, both in Electrical Engineering. From 2008 to 2010 he was a postdoctoral research associate at the Advanced Computational Research Laboratory and from 2010 until 2014 he was a Research Assistant Professor in the Department of MANE and a faculty member at the Center for Modeling, Simulation and Imaging in Medicine (CeMSIM) at the Rensselaer Polytechnic Institute, Troy, NY. Currently he is the Assistant Director of the Center for Evidence Based Simulation at the Baylor University Medical Center in Dallas and a Clinical Associate Professor in the Department of Surgery, Texas A&M Health Science Center. He is also an Adjunct faculty in the Department of Electrical Engineering at UTA. His research is focused on simulation in healthcare, surgical robotics and haptics.

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