

Speaker: Dr. Jonathan Dowdall, University of Houston

Title: Tracking Tissue in Thermal Video

Abstract:

The extraction of high-level information from video through the use of computer vision algorithms has become increasingly important over the past decade. We propose a novel tracking method that uses a distributed network of independent trackers whose interactions are modeled using coalitional game theory. Our tracking method maintains pixel level accuracy and can negotiate target deformations. We tested our method on a substantial video set featuring non-trivial motion from over 40 objects in both the visual and infrared spectra. The tracker demonstrated fault tolerant behavior that exceeds the state of the art. Our method represents a shift from the typical tracking paradigms and may find application in demanding imaging problems across the electromagnetic spectrum.

Bio:

Dr. Dowdall's background includes a mixture of research and industrial experience, with a focus on computer vision systems. He has worked with researchers at Honeywell, Siemens, and the Computational Physiology Lab at the University of Houston on numerous projects dealing with infrared and medical imaging. He received his Ph.D. from the University of Houston in the fall of 2006 working under Dr. Ioannis Pavlidis.