

Sl. No	Title	Authors	Year	Technique	Merits	Demerits
1	A gesture-based tool for sterile browsing of radiology images	JUAN P. WACHS, PHD, HELMAN I. STERN, PHD, Yael EDAN, PHD, MICHAEL GILLAM, MD, JON HANDLER, MD, CRAIG FEIED, MD, PHD, MARK SMITH, MD	2008	“Gestix,” a vision-based hand gesture capture and recognition system that interprets in real-time the user’s gestures for navigation and manipulation of images in an electronic medical record (EMR) database is used. Navigation and other gestures are translated to commands based on their temporal trajectories, through video capture.	Ease of use, Rapid reaction, An unencumbered interface, Distance control—the hand gestures can be performed up to 5 meters from the camera	The setup time for the whole “Gestix” system was approximately 20 minutes.
2	Hand-gesture-based sterile interface for the operating room using contextual cues for the navigation of radiological images	Mithun George Jacob, Juan Pablo Wachs, Rebecca A Packer	2012	Computer vision algorithms were developed to extract intention and attention cues from the surgeon's behavior and combine them with sensory data from a commodity depth camera.	It uses environmental cues to determine intent allowing the user to perform gestures anywhere in the field of view of the sensor and also the framework can be extended to a large gesture vocabulary.	The tracking algorithm occasionally failed in the presence of several people in the camera field of view.

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REALISM:  
Real-Time  
Hand  
Gesture  
Interface for  
Surgeons  
and Medical  
Experts

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2010

The project was  
developed using  
OpenCV, a computer  
vision library originally  
developed by Intel and  
Cascade Classifiers,  
PCA and Nearest  
Distance Matching.

The hand  
detection module  
was able to  
achieve  
higher precision  
and recall in well  
lighted  
environment.

Although the  
system detects  
most of the  
hands present in  
the camera's  
vision, it still mis-  
classify some  
objects as  
hands. The  
performamce  
was not that  
good in poorly  
illuminated  
environment