

## **LITERATURE REVIEW**

<b>S.NO</b>	<b>Title</b>	<b>Author</b>	<b>Year</b>	<b>Inference</b>
<b>1</b>	<b>Hand-gesture-based sterile interface for the operating room using contextual cues for the navigation of radiological images.</b>	<b>1. M. Jacob 2. J. Wachs 3. R. Packer 4. JAMIA's</b>	<b>2013</b>	<ul style="list-style-type: none"><li>•This paper presents a method to improve the navigation and manipulation of radiological images through a sterile hand gesture recognition interface based on attentional contextual cues.</li><li>•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.</li><li>• The developed interface was tested in a usability experiment to assess the effectiveness of</li></ul>

				<i>the new interface.</i>
<b>2</b>	<b><i>A gesture-based tool for sterile browsing of radiology images.</i></b>	<b><i>1.J. Wachs, 2. H. Stern, 3.Y. Edan 4. M. Gillam, 5. J.Handler, 6.C.Feied, 7.Mark S. Smith</i></b>	<b>2008</b>	<ul style="list-style-type: none"> <li><b><i>•This paper presents "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 .</i></b></li> <li><b><i>• "Gestix" was tested during a brain biopsy procedure. In the in vivo experiment, this interface prevented the surgeon's focus shift and change of location while achieving a rapid intuitive reaction and easyinteraction .</i></b></li> </ul>
<b>3</b>	<b><i>Gesture-controlled image system positioning for minimally invasive interventions</i></b>	<b><i>1.Benjamin Fritsch, 2. T.Hoffmann, 3.A.Mewes, 4. G. Rose</i></b>	<b>2021</b>	<ul style="list-style-type: none"> <li><b><i>•Abstract This work examines how a touchless interaction concept contributes to</i></b></li> </ul>

				<p><i>an efficient, direct, and sterile interaction workflow during CT-guided interventions.</i></p> <ul style="list-style-type: none"> <li>• <i>Two hand gesture sets were designed specifically under consideration of the clinical workflow and the hardware capabilities.</i></li> </ul>
<ul style="list-style-type: none"> <li>•</li> </ul> <p><b>4</b></p>	<p><b><i>A gesture-controlled projection display for CT-guided interventions</i></b></p>	<p><b><i>1.A. Mewes, 2. P.Saalfeld, 3. Oleksandr Riabikin, 4.M. Skalej, 5. C. Hansen</i></b></p>	<p><b>2015</b></p>	<ul style="list-style-type: none"> <li>• <i>A gesture set to control basic functions of intervention software such as gestures for 2D image exploration, 3D object manipulation and selection and is well suited to become an integral part of future interventional suites.</i></li> <li>• <i>Purpose The interaction with interventional imaging systems within a sterile environment is</i></li> </ul>

				<i>a challenging task for physicians</i>
5	<i>Gesture-Controlled Image Management for Operating Room</i>	<i>1.Rolf Wipfli</i> <i>2.V. Dubois-Ferrière,</i> <i>3. SylvainBudry4. P.Hoffmeyer,</i> <i>5.C. Lovis</i>	2016	<ul style="list-style-type: none"> <li>•<i>Under the premise that mouse cannot be used directly during surgery, gesture-controlled approaches demonstrate to be superior to oral instructions for image manipulation.</i></li> <li>•<i>Objective In this work, we aim at comparing formally three different interaction modes for image manipulation that are usable in a surgery setting:</i> <ul style="list-style-type: none"> <li><i>1) A gesture-controlled approach using Kinect ®;</i></li> <li><i>2) oral instructions to a third part dedicated to manipulate the images;</i></li> <li><i>3) direct manipulation using a mouse.</i></li> </ul> </li> </ul>

6	<i>Introducing a brain-computer interface to facilitate intraoperative medical imaging control</i>	1.H.Esfandiari, 2.PascalTroxler 3.S.Hodel 4.DanielSuter 5.M.Farshad, 6.Nicola Cavalcanti, 7. O.Wetzel, 8.SylvanoMani 9.F.Cornaz, 10.Farah Selman,	2022	<ul style="list-style-type: none"> <li>•Background Safe and accurate execution of surgeries to date mainly rely on preoperative plans generated based on preoperative imaging.</li> <li>•Frequent intraoperative interaction with such patient images during the intervention is needed, which is currently a cumbersome process given that such images are generally displayed on peripheral two-dimensional (2D) monitors and controlled through interface devices that are outside the sterile field.</li> </ul>
---	--	--	------	---