

# **LITERATURE SURVEY**

**Team Id : PNT2022TMID40865**

**Team Title : Gesture Based Tool For Sterile Browsing Of Radiology Images**

**College Name : Narasu's Sarathy Institute of Technology**

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<b>1</b>	<b>Paper title</b>	Combining Hand detection and gesture recognition algorithms for minimizing Computational cost - Roman Golovanov,Darina Kalina - <b>2020</b>
	<b>Problem definition</b>	Hand gesture is very important in human-computer interactions(HCI).The most common way to build a recognition system is to use a pretrained CNN.
	<b>Methodology/ Algorithm</b>	Convolution layer of neural network(CNN)
	<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Relatively new architectures called convolutional pose machines can represent a skeleton model of a hand or body from an image with sufficiently high accuracy.</li> <li>• Computational cost is minimum.</li> </ul>
	<b>Disadvantages</b>	It presents a combined hand gesture recognition system that uses a hand detector to detect a hand in the frame and then switches to a gesture classifier if a hand was detected.

2	<b>Paper title</b>	Deep learning based approach for sign language gesture recognition with efficient hand gesture representation - Muneer Al-Hammadi,Wadood Abdul - <b>2020</b> .
	<b>Problem definition</b>	Hand gesture recognition is an attractive research field with a wide range of applications including video games and telesurgery techniques
	<b>Methodology/ Algorithm</b>	Multiple deep learning architectures for hand segmentation, local and global feature representations, and sequence feature globalization and recognition.
	<b>Advantages</b>	However developing an efficient recognition system needs to overcome the challenges of hand segmentation,local hand shape representation,global body configuration representation,and gesture sequence modeling
	<b>Disadvantages</b>	Another important application of hand gesture recognition is the translation of sign language, which is a complicated structured form of hand gestures.

<b>3</b>	<b>Paper title</b>	A method for recognition of dynamic hand gestures based on wrist tendon sounds - Bailin He,Can Wang - <b>2021</b>
	<b>Problem definition</b>	.In this paper,a novel method for dynamic hand gesture recognition based on sounds of wrist tendon is proposed.
	<b>Methodology/ Algorithm</b>	<ul style="list-style-type: none"> <li>• Support Vector Machine(SVM)</li> <li>• Continuous Wavelet Transform(CWT)</li> </ul>
	<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Hand gesture recognition are widely applied in rehabilitation engineering.</li> <li>• Gestures allow the user to handle multiple points of input and even define several parameters at once.</li> </ul>
	<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• Some kind of input also raises issues that are not relevant with traditional input.</li> <li>• The ambient noise may cause some interrupt.</li> </ul>

4	<b>Paper title</b>	Multiview hand gesture recognition using deep learning - Mallika Garg,Pyari Mohan,Pradhan - 2021
	<b>Problem definition</b>	Gesture recognition is a challenging research topic since different gestures have different sizes,poses,and sometimes face occlusion.
	<b>Methodology/ Algorithm</b>	Multiview gestures in a convolutional neural network(convnet)
	<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Utilizing multiview gestures for recognition.</li> <li>• Evaluations are performed based on the system accuracy and found that as the number of views increases, the system more accurately recognizes the gestures</li> </ul>
	<b>Disadvantages</b>	Extensive experiments are performed on isolated gestures for different possible combinations of multiview training and testing sets.

5	<b>Paper title</b>	A Structured and Methodological Review on Vision-Based Hand Gesture Recognition System - Fahmid Al Farid , Noramiza Hashim - <b>2022</b> .
	<b>Problem definition</b>	Researchers have recently focused their attention on vision-based hand gesture recognition systems in real time has remained a challenge.
	<b>Methodology/ Algorithm</b>	<ul style="list-style-type: none"> <li>● Conventional neural network algorithm.</li> <li>● Kanada-Lucas-Tomas(KMT)tracking algorithm.</li> </ul>
	<b>Advantages</b>	<ul style="list-style-type: none"> <li>● To operate powerpoint and VLC media players,proposed a hand gesture detection method.</li> <li>● High recognition rate was achieved 94% from testing the dataset</li> </ul>
	<b>Disadvantages</b>	Many training images needed for testing the system performance.The whole system implemented in MATLAB which is slower than other languages that have complexity in design but speed in execution time.