# Literature Survey: Gesture Based Tool for Sterile Browsing of Radiology Images

| Title | Authors | Techniques Used | Merits | Demerits | Published Date |
|---|---|---|---|---|---|
| **EchoFlex: Hand Gesture Recognition Using Ultrasound imaging** | Jess McIntosh, Asier Marzo, Mike Fraser and Carol Phillips | Ultrasound Imaging, Machine learning, Computer vision | High accuracy and high responsiveness because of the use of ultrasound waves for imaging internal muscle contraction and expansions | Wearable device like glove is needed , Gel should be used between the hand and wearable device | May 2017 |
| **A Gesture-based Tool for Sterile Browsing of Radiology Images** | Juan P. Wachs, Helman I. Stern, Yael Edan, Michael Gillam, Jon Handler, Craig Feied, Mark Smith | `Image segmentation using the color-model back-projection and motion cues, Thresholding, Neural network | Has good user interface for browsing radiology images<br>Has dynamic image capturing with higher frame rate | High resolution camera is needed<br>Setup time is about 20 minutes | June 2008 |
| **Using Fuzzy Inteval Hand Gesture Recognition System** | Mr. Nilesh J. Patel | Hand region is identified with help of white wrist band,<br>Black background is used to reduce the complexity in background elimination,<br>Binary imaging is used | Wearable device is not needed,<br>Camera is only needed as an input device | Not platform independent because of specific control command is assigned to each gesture,<br>Difficult to develop because of the complexity and cost | March 2012 |

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| **Towards a Feasible Hand Gesture Recognition System as Sterile Non-contact Interface in the Operating Room with 3D Convolutional Neural Network** | Roy Amante A. Salvador and Prosperco C. Naval, Jr. | 3D convolutional neural network, Deep computer vision | Real time robust, High Accuracy because 14,000+ samples are available dataset | Difficult to achieve performance because of large number of samples | 16 February, 2021 |
| **Hand Gesture Recognition System Using Deep Learning** | Dr.Mary Praveena S, Pavithra P, Teena sree G, Winonah Rajendran | Image enhancing, Neural network, Arduino hardware and IDE | Simple to construct and low cost | Not a complete product but only a prototype | July, 2020 |
| **Vision Based Hand Gesture Recognition** | Pragati Garg, Naveen Aggarwal and Sanjeev Sofat | 3D hand model based approach, Appearance based approach | Can be used in sign language detection, medical systems | Working under controlled lab settings but do not generalized to arbitrary settings | August, 2009 |
| **Comparative Learning of Hand Gesture Recognition Method** | Seema Sharad Devkule, Lalitkumar P. Khairnar | Tracking using optical sensor, Flesh tone segmentation, Neural network | It can be applied on real systems | Training process requires large amount of data | March, 2018 |

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