A Gesture-Based Tool for sterile Browsing of Radiology Images

Literature Survey

1. HAND GESTURES RECOGNITION USING RADAR SENSORS FOR HUMAN-COMPUTER-INTERACTION

Author Name : Shahzad Ahmed, Karam Dad Kallu – 2021

About This : A huge upsurge and rapid advancement of radar-based HGR was witnessed in the past decade. This paper reviewed some of the research related to HGR applications using radars. Currently, the researchers rely heavily on the commercially available radars made by tech companies such as Infenion, Novelda and Texas Instrument. With these systems being on chips, much attention has been paid to develop the gesture detection and recognition algorithms. In recent years, interest is shifting from signal-processing-based HGR algorithms to deep-learning-based algorithms. Particularly, variants of CNN have shown promising applicability. Although radar sensors offer several advantages over the other HGR sensors (i.e., wearable sensors and cameras), the adoption of radar-based HGR in our daily lives is still lagging behind these competing technologies. Attention must be paid to miniature hardware development and real-time recognition algorithms' development.

Technology: suggests that hand gestures are the most widely used gestures for making HCIs. Additionally, the trends shown in Figure 11a represent that, in the last decade, the use of radar sensors for gesture recognition has increased rapidly. The last few years have shown a particularly huge growth. The types of radar used for HGR are (1) pulsed radar (Ultra-Wideband Impulse radars) and (2) CW radar

Link: https://www.mdpi.com/2072-4292/13/3/527/htm

2. INFECTION CONTROL FOR RADIOLOGY

Author Name: FATMA AMER, MBBCh, MSc, PhD

About This: The objectives of this chapter is to highlight the importance of IPC in activities related to the RD and to provide applicable recommendations. At the very beginning, good basic hygiene standards are crucial. All equipment, devices and instruments should be easily decontaminated and must be approved prior to use. All items coming in direct patient contact must be properly reprocessed in the way rendering it safe for the intended use. Currently, the importance of the RD has been emphasized with the emergence and spread of COVID-19. The close and frequent contact of radiographers with patients during radiological workflow have placed radiographers at a great infection risk. Key management and IPC procedure during the outbreak have been outlined.

Link: https://isid.org/guide/hospital/infection-prevention-and-control-in-the-radiology-department-service/

3. DIAGNOSTIC IMAGING IN THE COMMUNITY

Author Name : Philip E.S. Palmer, Gerald P. Hanson – 2011

About This : Imaging equipment in an X-ray room need not be expensive. The initial outlay will yield dividends because of thespeed and efficiency with which patients are treated and can return home or to work.Fewer patients will need transport to other hospitals so that the correct diagnosis can be made, which may prevent the further spread of infectious diseases. Doctors will be more satisfied with their work and patients and their relatives will be happier to have X-rays and ultrasound available locally so that they can be treated by doctors and nurses they know.
There are many items involved when starting an imaging department, but the essentials are similar in a wide variety of clinics and hospitals: This manual lays down principles for the choice and installation of X-ray equipment for routine radiography as well as the choice and installation of equipment for general-purpose ultrasound
In most countries there are regulations and guidelines for all aspects of Diagnostic Imaging departments.

Link: https://www.paho.org/hq/dmdocuments/2011/HSS-diagnostic-imaging-2011.pdf

4. GESTURE RECOGNITION APPARATUS AND METHOD

Author: Youichi miyake
Year: 2018
Context:
A gesture recognition apparatus which controls a display device based on a gesture operation performed by a user in a vicinity of a screen includes: a picture obtainment unit which obtains a picture of the vicinity of the screen; a direction determination unit which determines, based on position information indicating a direction of a movement to be recognized as the gesture operation; a gesture recognition unit which recognizes, as the gesture operation. A movement to recognized as the gesture operation; the movement of the whole part of the body of the user in the operational direction determined by the direction determination unit.

5.REAL-TIME HAND GESTURE RECOGNITION

Author: Pranjali Manmode, Rupali Saha, Manisha N

Year: 2021
Context:
The paper researches a set of overall flows for hand gesture recognition. Using AdaBoost classifier based on Haar feature, hand gesture segmentation realizes the acquisition of hand gesture area in a complicated environment. Using camshaft algorithm for hand gesture tracking according to the movement of hand gestures and features of deformation ensures to acquire the hand gesture area in real time, finally, the hand gesture area is classified by a convolution neural network.