A GESTURE-BASED TOOL FOR STERILE BROWSING OF RADIOLOGY IMAGES

LITERATURE SURVEY

1. **HAND TRACKING AND GESTURE RECOGNITION SYSTEM FOR HUMAN-COMPUTER INTERACTION USING LOW-COST HARDWARE**

Author Name : Hui-Shyong Yeo, Byung-Gook Lee & Hyotaek Lim
Year : 2013

About : We developed a robust marker-less hand/finger tracking and gesture recognition system for human-computer interaction using low-cost hardware. Users can interact with PC applications or games by performing hand gestures instead of relying on physical controllers. It is therefore more natural and intuitive. This kind of interactive gaming is also much cheaper and flexible compared to console motion gaming. Our solution is intuitive and low-cost. It can be easily calibrated to suit any skin color and work against almost any background. It can track hand and finger locations in real time and is able to recognize simple hand gestures. Our method is also able to differentiate the left hand from the right hand, even when they are crossing each other.

Link: https://www.researchgate.net/profile/Hui-Shyong

2. GOOD INFECTION PREVENTION PRACTICE: USING ULTRASOUND GEL

Author Name: UK Health Security Agency
Year : 2021.

About This: Standard ultrasound gel is not produced as a sterile product, although sterile versions are available. This document provides guidance on the safe use of ultrasound gel to reduce the risk of transmission of infection arising from these products. This replaces interim guidance first published by Public Health England (PHE) in January 2021 and is an outcome of close collaboration between the UK Health Security Agency (UKHSA) and key stakeholders with expertise relating to the use of ultrasound. This updated guidance clarifies the aims, implications and user groups targeted. It includes additional guidance on scenarios when sterile gel is recommended and which types of gel containers should be used.

Link : https://www.gov.uk/government/publications/ultrasound-gel-good-infection-prevention-practice

3. COMPUTER VISION AND PATTERN RECOGNITION

Author Name : Jia Deng, Wei Dong, Richard Socher , Li-Jia Li , Kai Li , Li Fei-Fei
Year : 2009

About : Imaging equipment in an X-ray room need not be expensive. The initial outlay will yield dividends because of the speed 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.

4. Hand Gesture Recognition Using a Radar Echo I–Q Plot and a Convolutional Neural Network

Author Name : Takuya Sakamoto

Year : 2018

About : A radar-based hand gesture recognition technique, which applies a CNN-based machine learning algorithm to time domain I–Q plot trajectory images. The measurement data were analyzed to evaluate the accuracy in recognizing six different hand gestures for the ten participants. The proposed technique achieved average accuracy of 91.3% for the ten participants, which suggests the feasibility of gesture recognition using computationally inexpensive time domain signal representation. Nonetheless, additional studies considering existing micro-Doppler-based techniques will be necessary to assess its real-time performance. In addition, a neural network itself can be computationally expensive, which must be also considered in such applications.

5. Real-Time Hand Gesture Recognition

Author Name : Park, J.; Cho, S.H

Year : 2016

About : A new algorithm for hand gesture recognition are proposed using IR-UWB radar. We can recognize hand gesture by analysis characteristic of received radar signal. But it is very difficult to human, it need to new strategy. The new strategy is machine learning, and we use neural network. Using principal component analysis, we can extract useful features and reduce number of features. The neural network has advantage of distinguish trained gesture and untrained gesture. The trained neural network can classify gestures and noise. The proposed algorithm is reliable, and it need to more study.