ABSTRACT

Examination of the respiratory rate is included in the calculation of vital sign parameters used by the medical team to determine whether a person's condition is good or not. Researchers want to develop a method of checking the respiratory rate that is easy to use by the general public and can display fast and precise results. During this pandemic, we are forced to reduce direct human-to-human contact with the aim of suppressing the exchange of viruses. From this condition, the researcher wants to develop a measuring instrument to measure the respiratory frequency with the non-contact method. This method is expected to reduce direct contact between humans and still get the results of the respiratory rate value which can be used as a parameter to determine a person's condition. To get the value of the respiratory rate, researchers have an idea by monitoring changes in temperature using a thermal camera. For the respiratory rate parameter, the researcher observed the nose area by detecting changes in expiratory and inspiration temperatures and then calculating the respiratory rate. To get these results, the researcher uses a method of detecting the face area or called face recognition and then detecting the ROI point in the area of interest in the nose area. In observing the respiratory rate, the temperature value during expiration is 31.05 $^\bullet$C while at the time of inspiration is 30.01 $^\bullet$C. This temperature difference will be carried out in the process of calculating the respiration rate value by the system made by the researcher. In the results of this study, it was found that the respiration rate module can be used as a reference with a normal use range of 60-120 cm with an error value of 1% if the distance is above 100 cm, then the results of this study are that this research can be implemented on a breathing frequency measuring instrument with a non-standard method. - contact.