

DETECTION OF N95, SURGICAL AND CLOTH FACE MASKS

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Abstract

With the worldwide spread of COVID-19, wearing face masks in a public setting has become a common behavior. Face masks aren't worn regarding to this pandemic alone, there are many other sectors in the world where face masks usage is essential. Throughout these areas there are health and safety guidelines for the usage of medically approved face masks according to the job or activity which is being taken place. In cases of medical first responders of this pandemic, construction workers and others where humans interact with fumes and particles which cannot be fully filtered by a cloth mask, masks such as N-95 and surgical masks are essential. But these health safety guidelines to wear these specific masks at specific environmental conditions are not upheld at times.

Thus, to address this matter, a system to identify and verify the type of masks used was implemented. This work proposes a face mask identification system which can identify the differences and verify the type of face mask worn of N95, surgical and cloth face masks. With the use of machine learning, object detection and image processing this system as created, which will dramatically assist to increase the following of these health and safety guidelines regarding the types of masks which should be used in respect to its environment. This research aims to confirm the usage of correct type of masks at necessary environments to increase the health safety of human beings and to help reduce spread of viruses.

Keywords—face mask identification, face mask detection, face detection, image processing, object detection