

Automatic Face Mask Detection using PCA

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Abstract: *The corona virus COVID-19 pandemic is causing a global health crisis so the effective protection methods is wearing a face mask in public areas according to the World Health Organization (WHO). The COVID-19 pandemic forced governments across the world to impose lockdowns to prevent virus transmissions. Reports indicate that wearing facemasks while at work clearly reduces the risk of transmission. An efficient and economic approach of using AI to create a safe environment in a manufacturing setup. This paper represents an implementation of Principal Component Analysis (PCA) on masked and no masked face recognition. Security is an essential term in our today's life. In various Biometric technology, face recognition is widely used to secure any system because it is better than any other traditional techniques like PIN, password, fingerprint etc. and most reliable to identify or verify a person efficiently. In recent years, face recognition is a very challenging task because of different occlusion or masks like the existence of sunglasses, scarves, hats and different types of make-up or disguise ingredients. The accuracy rate of face recognition is influenced by these types of masks. Many algorithms have been developed recently for non-masked face recognition which are widely used and give better performance. Still in the field of masked face recognition, few contributions has been done. Therefore, in this work a statistical procedure has been selected which is applied in non-masked face recognition and also apply in the masked face recognition technique. PCA is more effective and successful statistical technique and widely used. For this reason in this work, PCA algorithm has been chosen. Finally, a comparative study also done here for a better understanding.*

Keywords: Machine learning, PCA Algorithm, Eigen Face, Eigen Value. Face Mask Detection

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