

GMR Institute of Technology, Rajam

Face Mask Detection using Deep Learning Techniques

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Abstract

The prevalence of airborne diseases poses a significant threat to public health and the economy globally. To mitigate the risk of transmission, the wearing of masks in public spaces has become a vital preventive measure. This research addresses the imperative for effective face mask detection in the context of general airborne diseases, employing machine learning frameworks such as Keras, TensorFlow, and OpenCV. The algorithm assesses whether individuals are wearing masks, a prerequisite for accessing various services and public areas. To enhance the face mask detector's accuracy, a diverse dataset is curated, including individual not wearing masks and those covering their faces with non-mask items like scarfs, garments, and hands. This approach ensures a robust detection method, reducing the potential for circumvention. Moreover, the dataset facilitates ongoing advancements in face mask detection challenges. The proposed model operates in real time, offering swift and reliable identification of individuals adhering to mask-wearing protocols. This research contributes to the development of a comprehensive and efficient tool for enforcing mask mandates, safeguarding public health in the face of airborne diseases.

Keywords: *Face Mask Detection, OpenCV, Deep Learning, TensorFlow, CNN*

1. CMAK. Zeelan Basha ,B.N. Lakshmi Pravallika, E. Bharani Shankar Year: 2021An Efficient FaceMask Detector with PyTorch and Deep Learning path
2. Boulila, Wadii & Alzahem, Ayyub & Almoudi, Aseel & Afifi, Muhanad & Alturki, Ibrahim & Driss,Maha. (2021). A Deep Learning-based Approach for Real-time Facemask Detection.
3. Militante, Sammy & Dionisio, Nanette. (2020). Real-Time Facemask Recognition with Alarm Systemusing Deep Learning. 106-110. 10.1109/ICSGRC49013.2020.9232610.
4. Chowdary, Gutta & Punn, Narinder & Sonbhadra, Sanjay & Agarwal, Sonali. (2021). Face MaskDetection using Transfer Learning of InceptionV3.
5. Gupta, Vishan & Kumar, Pankaj & Singh, Devesh. (2023). Face Mask Detection Using ConvolutionNeural Network