

MASKED OR MANIPULATED: A DEEFAKE DETECTION FRAMEWORK FOR FACE MASKED INDIVIDUALS

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This paper addresses the societal concerns posed by deepfake technology, especially in the context of face masks during the corona virus pandemic. To combat this evolving threat, we propose the Deepfake Face Mask Dataset (DFFMD) and introduce an innovative detection approach using Xception, featuring preprocessing, feature-based analysis, residual connections, and batch normalization. Our results demonstrate superior accuracy compared to state-of-the-art methods like InceptionResNetV2 and VGG19 in detecting face-mask-enhanced deepfake videos. Additionally, we advocate for the effectiveness of Convolutional Neural Networks (CNN) and propose an extension using Xception to enhance deepfake detection accuracy. Future research should focus on iterative experimental evaluations to develop robust methods for increased deepfake detection in the ever-evolving technological landscape.