Review

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Paper title: **Face recognition under maskwearing based on residual inception networks**
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This research work developed the technique for recognizing human faces under both
scenarios of mask-wearing and non-mask-wearing. The proposed method was based on the
FaceNet model using the residual inception network of Inception-ResNet-v1 architecture. In
addition, the simulated masked-face images were constructed on top of the original
unmasked-face images from the publicly available face datasets. Both simulated masked-face
images and original unmasked-face images were applied in the transfer learning process of
the original FaceNet model. The best model based on our experiments was the fine-tuned
FaceNet with the retraining from Inception Block A on the M-CASIA dataset. In the
evaluation, this model achieved 99.2% accuracy on the masked-face test dataset. Despite the
variety of masks in a real-world situation, the model could recognize faces with any type of
mask, varying in colors and patterns. Also, from the experiments, we could conclude that

having masked-face images along with the original unmasked-face images in the gallery.

Advantages:

this model achieved 99.2% accuracy on the masked-face test dataset. Despite the
variety of masks in a real-world situation, the model could recognize faces with any type of
mask, varying in colors and patterns. Also, from the experiments, we could conclude that
having masked-face images along with the original unmasked-face images in the gallery.

Disadvantages:

database could improve the accuracy of the model by 0.6%. However, this would consume a
double space of the computation resource for storing the database. However, the proposed
method also has the limitation. Since the dataset that we used was the simulated masked-face
images, any unrealistic part in the simulated images might cause some inaccuracies in the
recognition. Therefore, in the future work, to improve the recognition performance, the
proposed model could be further trained with real masked-face images. Also, another attempt
could be retraining the model with face images without a bottom part covered by a face mask.

In terms of the application-based usage, the trained model could be plugged-in to a web
application, as an example, with user-friendly interfaces.