

ABSTRACT

Face recognition system is still vulnerable to spoofing, which is a face-faking using counterfeited photograph of somebody or even using a mask. Face recognition system will only register face authenticity of somebody which is put into the system. If it is registered, the access will be accepted, however, if it uses a picture, that supposed to be denied, the face on it would also be registered as the face of the one who has access. Thus, a system to cover this spoofing problem is so much needed to avoid the unwanted access.

The original-face detection system is done by firstly searching sources which are related to this topic so that the system built will be right on point. The search for data collection is done after getting suitable information, which are from NUAA Imposter. The next thing to be done is the system building, then followed by assesment. The method used is the Local Binary Pattern Variance as the factor which is able to distinguish the original face from the photograph is the texture and contrast of the photograph. It is then helped by the classification of K-Nearest Neighbour.

After conducting several scenarios for the assesment of the built spoofing, then it has got the best configuration of the system. Using preprocessing Histogram Equalization, used value of $R=3$ in the Local Binary Pattern texture extraction process, then has done down sampling of a photograph in size of 2×2 , and also using the value of $K=31$ in the KNN classification, it has got an accuraction of 88.19%.

Keyword : *spoofing, local binary pattern variance, segmentation, histogram equalization, k-nearest neighbor, nuua imposter*