Abstract

Facial recognition system is still vulnerable to spoofing attacks, an attack by falsifying the face owner by using photos or videos. In this research, spoofing detection system used image distortion analysis (IDA) method, with specular reflection, blurriness, chromatic moment and color diversity as feature extraction. Experiment in intra-dataset and cross-dataset scenarios using four different public datasets of MSU MFSD, NUAA Imposter, CASIA FASD and Idiap REPLAY-ATTACK. Three different classifiers of SVM, Naive Bayes and kNN are also used in this experitment. Experiment in intra-dataset scenario performed to find out which features and classifiers generate best performance. The best feature and classifier will be used in cross-dataset scenario. The result of the experiment shows that in intra-dataset the system achieved the best performance using chromatic moment feature, with average performance of F1-Score is 87.71% and in cross-dataset scenario the system achieved average performance of F1-Score is 80.53%.

Keywords: Spoofing detection, Image Distortion Anlysis, intra-dataset, cross-dataset.