IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 2, August 2023

# Detection of Real and Spoofed Faces based on Handcrafted Features using Support Vector Machine

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**Abstract:** *Infringement in biometric authentication is one of the crucial concern in today's scenario. Many of the robust authentication systems fall prey to crude spoofing attacks and their performance had been drastically dropped due to several unseen attacks owing to technological advancementsavailable at no cost. The objective of the proposed work is to design a robust spoof detection system which can sustain even the worst undetectable unseen interference that can fool a state of art authentication technique. The work comprise of four stages and consists of removing artifacts (contrast measurement and correction system, filtering with automatic face cropping), extracting the optimum features conventionally (statistical coarse and the window based fine features), reducing the dimensionality of the feature vector (Principal Component Analysis) and the classification system (Support vector Machine). The 75:25 percent train: test analysis showed that selecteddimension of the handcrafted features usingGaussian kernel of Support Vector Machinewas able to produce remarkable results over IDIAP dataset*

**Keywords:** Face Biometric, spoofing attacks, real and the fake images, contrast measurement and correction, statistical features, automatic face cropping and principal component analysis.

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