Deep Convolutional Neural Networks: from recognition to anti-spoofing

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Résumé

In biometrics, Presentation Attacks (PA also referred to as spoofing) are performed by falsifying the biometric trait and then presenting this falsified information to the biometric system, one such example is to fool a fingerprint system by copying the fingerprint of another person and creating an artificial or gummy finger which can then be presented to the biometric system to falsely gain access. This is an issue that needs to be addressed because it has recently been shown that conventional biometric techniques are vulnerable to presentation attacks. One of the main challenges in Presentation Attack Detection (PAD also referred to as anti-spoofing) is to find a set of features and models (mostly classifiers) that allows systems to effectively distinguish signals that were directly emitted by a human from those reproduced by an attacker. This talk will focus on the use of Deep Convolutional Neural Networks (DCNNs) in face recognition and face PAD.