Indian Institute of Technology Indore
Discipline of Computer Science & Engineering
Face Liveness Detection

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Introduction

Face recognition systems are becoming ubiquitous. They are used everywhere from surveillance to biometrics. However it is vulnerable to a number of spoof attacks based on non-real faces. To identify these attacks 2D face live detection approaches are developed.

Methodology

We will solve this by considering it a binary classification problem. Images will be classified based on some liveness indicators.

Liveness Indicator

There are three categories of liveness indicators:

1. Motion analysis - it is based on the clue that 2D objects move differently than 3D objects.
2. Texture analysis - based on the assumption that printed images contain some texture patterns.
3. Life sign detection - analyzing signs of life from images. For example eye blinking, lip movements, etc.

Intended experimental analysis

We will use one or a combination of the above mentioned liveness indicators to train our model in order to classify images as live or not.

Database

https://www.idiap.ch/dataset/printattack
http://www.ee.surrey.ac.uk/CVSSP/xm2vtsdb/

References

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