

Master/ Bachelor Thesis

Generative Adversarial Networks for Face Presentation Attack Detection

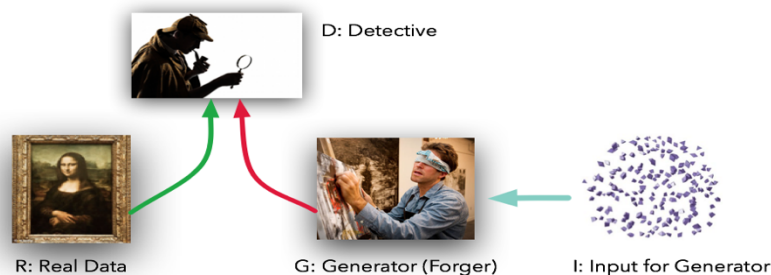
da/sec



da/sec is the biometrics and internet security research group and is affiliated with University of Applied Sciences Darmstadt and the National Research Center for Applied Cybersecurity (ATHENE). The group is led by Prof. Dr. Harald Baier and Prof. Dr. Christoph Busch. The focus of the group is on highly innovative and applied IT security research in the special fields of biometrics, internet security, and digital forensics. Read more on <http://www.dasec.h-da.de/>.

Motivation & Goals

The task of determining whether a sample stems from a real subject (i.e., it is a bona fide presentation (BP)) or it comes from an artificial replica (i.e., it is an attack presentation (AP)) is a mandatory requirement for biometric capture devices, which has received a lot of attention in the recent past. Nowadays, most face Presentation Attack Detection (PAD) are based on binary classifiers which try successfully identifying the given sample category building upon numerous known BP and AP samples. In this context, Generative Adversarial Networks (GANs) consist of a Generative Model which builds fake samples to fool a Discriminative model that can be used as classifier for Face Presentation Attack Detection.



Tasks

- Design and implementation of several GAN-based PAD approaches.
- Evaluation and benchmark of the implemented systems.

Requirements

- High motivation
- Interest in security technologies and biometrics
- Strong interest in research
- Good programming skills (Python) are of advantage.

Start / Period

Immediately / by appointment

Contact

Lazaro Janier Gonzalez-Soler
lazaro-janier.gonzalez-soler@h-da.de

h_da
Faculty of Computer Science
ATHENE– National Research Center for Applied Cybersecurity
da/sec – biometrics and internet security research group
Schöffersstraße 8b
64295 Darmstadt