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HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES
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FACHBEREICH INFORMATIK

ATHENE
Nationales Forschungszentrum
für angewandte Cybersicherheit

Master/ Bachelor Thesis

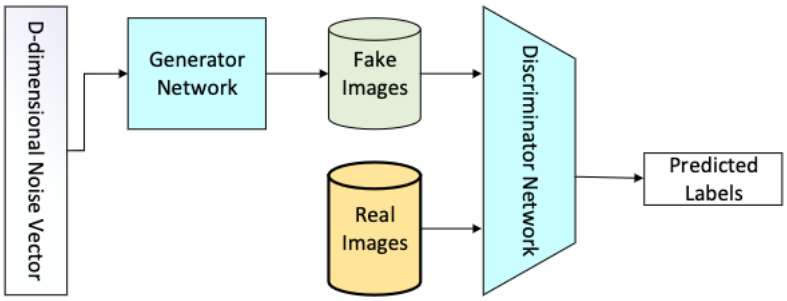
Generate Near Infra-red iris Images using GANs

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. Christoph Busch. The focus of the group is on highly innovative and applied IT security research in the special fields of biometrics. Read more on www.dasec.h-da.de.

Motivation & Goals

Generating iris images which look realistic is both an exciting and challenging problem. Most of the classical statistical models need to be more powerful to capture the complex texture representation in iris images and, therefore, fail to generate realistic iris images and preserve the identity. This topic looks for generated high-quality and lifelike images and evaluates their performance in the Iris recognition system.



* The general architecture of generative adversarial networks

Tasks

- Analyse the State of the art of GAN applied to NIR iris images
- Train a GAN to created Iris images
- Evaluation and benchmark of manually labelled tagged images and automatic iris images.
- Evaluate iris recognition System

Requirements

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

Start / Period

Immediately / by appointment

Contact

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