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HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES
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FACHBEREICH INFORMATIK

CRISP
Center for Research in Security and Privacy

Master Thesis

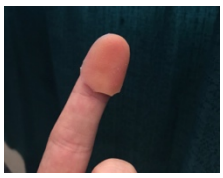
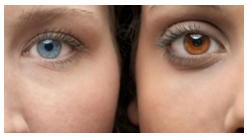
GUI / API for Presentation Attack Detection in Biometric Systems

da/sec

da/sec is the biometrics and internet security research group and is affiliated with the Center for Research in Security and Privacy (CRISP). It 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 deployment of biometric recognition systems has increased over the past decades in a wide variety of scenarios, ranging from access control to smartphone and laptop unlocking. In spite of its numerous advantages over traditional token or password based authentication systems, recent security and privacy concerns have fostered the development new methods to detect and prevent different attacking strategies.
In particular, fingerprint and iris have been considered two of the most secure and accurate strategies. The aim of this project will be the development GUI /API for new sensors dealing with Presentation Attack Detection (PAD) techniques for iris and / or fingerprint, in order to prevent attacks carried out by presenting fake biometric characteristics (e.g., gummy fingers, printed eye contact lenses). This is a joint research project with the Norwegian University of Science and Technology (http://www.ntnu.no/) and the Swiss Idiap Research Institute (www.idiap.ch).

Tasks

- Implementation of GUI / API for new sensors and PAD techniques for iris
- Implementation of GUI / API for new sensors and PAD techniques for fingerprint

Requirements

- High motivation
- Good programming skills
- Knowledge in RESTful Web Services, Docker containers, Python

Start / Period

To be arranged / at least 6 months

Contact

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