

## Bachelor / Master Thesis

### Fingerprint Presentation Attack Database Creation

#### 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 has been considered one of the most secure and accurate strategies. The aim of this project will be (1) the creation of Presentation Attacks, in the form of gummy fingers, and (2) the acquisition of both gummy and real fingers with different commercial and highly innovative sensors developed within one of our research projects. 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](http://www.idiap.ch)).



#### Tasks

- Fabricate Presentation Attacks (PAs, gummy fingers) following pre-defined guidelines
- Acquire PAs and real samples with a set of innovative sensors
- Optionally: Apply existing Presentation Attack techniques to the acquired samples in order to detect the fake fingers

#### Requirements

- High motivation
- Interest in security technologies and biometrics

#### Start / Period

Immediately

#### Contact

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