h_da
HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES

fbi
FACULTY OF COMPUTER SCIENCE

ATHENE
National Research Center
for Applied Cybersecurity

– Master-/Bachelor Thesis –

Workload Reduction for Biometric Identification in the Encrypted Domain

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 www.dasec.h-da.de.

Motivation & Goal

Biometric identification over a large reference database introduces significant computational requirements. Adding biometric information protection by cryptographic means increases this overhead even further. Therefore, computational workload reduction is desired for protected biometric identification. The challenge of this task is to combine workload reduction techniques like preselection and feature transformation with the respective encryption scheme, maintaining the security of the biometric data.

Tasks

- Select a workload reduction approach for biometric identification
- Apply the approach in the encrypted domain
- Benchmark computational efficiency

Requirements

- High motivation and creativity
- Strong interest in research
- Programming experience

Start Date

By appointment

Contact

Pia Bauspieß
pia.bauspiess@h-da.de
h_da
Faculty of Computer Science
ATHENE– National Research Center for Applied Cybersecurity
da/sec – biometrics and internet security research group
Schöfferstraße 8b
64295 Darmstadt