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HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES
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FACULTY OF COMPUTER SCIENCE

CRISP
Center for Research
in Security and Privacy

iCOGNIZE

– Master/Bachelor Thesis or Student Job –
Application of DNN/ML in Vascular Biometric Systems

da/sec

da/sec is the biometrics and internet security research group and is affiliated with University of Applied Sciences Darmstadt and the Center for Research in Security and Privacy (CRISP). 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.

iCOGNIZE GmbH

iCOGNIZE GmbH (Ltd.) settled in Dietzenbach, Germany is setting its primary focus on biometric access-control systems. With our extensive experience in digital image processing, video processing, biometrics, embedded and pervasive computing, FPGA design and connectivity we also develop contract developments for customers on platform independant architecture. iCOGNIZE GmbH offers various services for biometric 3D face recognition and / or palm vein recognition. Along with those services, iCOGNIZE GmbH also offers experienced consulting, design, research and development, both in hardware and software.

Motivation & Goal

Accuracy, especially in terms of false positive occurrences, is one of the key challenges in large-scale biometric deployments, where an exhaustive database search is performed in the identification and de-duplication scenarios. Key for a high accuracy of such systems are robust pipelines (e.g. ROI detection, quality metrics, alignment, etc.), which - in current systems - are implemented with fixed algorithms that are highly tailored to a specific application or environment. Goal is to replace one, some or all algorithms used in a vascular biometric systems' preprocessing pipeline with a DNN/ML method and evaluate the feasibility of such approach.

Tasks
- Independent research in the area of vascular-biometric systems
- Selection or implementation of required DNN/ML systems
- Implementation and evaluation of proposed methods

Requirements
- High motivation and creativity
- Strong interest in research
- Good programming skills
- Good analytical skills

By Date

By now / by appointment

Contact

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