



– Master/Bachelor Thesis or Student Job – Hardware/Software Acceleration for 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 independent 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

Efficiency, in terms of execution speed, 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. Crucially important for high throughput rates are efficient algorithm implementations, and maximising the utilisation of available computing resources. The goal of the project is to create highly efficient implementations for one, some or all algorithms used in a vascular biometric systems' pipeline utilising specialised hardware (e.g. GPUs or FPGAs), hardware-software co-design, parallelism, concurrency or distributed computing, or perform low-level code optimisation.

Tasks

- Independent research in the area of vascular-biometric systems
- Implementation, benchmarking and evaluation of the proposed methods

Requirements

- High motivation and creativity
- Very good programming skills
- Good analytical skills
- Interest in research

By Date By now / by appointment

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