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## –Master/Bachelor Thesis –

### Demographic Factors in Face Image Manipulation

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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](http://www.dasec.h-da.de).

#### Motivation & Goal

In recent years, systemic biases inherent to several facial biometrics systems have been reported in several preliminary studies. In this context, a biased algorithm produces statistically different outcomes (decisions) for different groups of individuals, e.g. based on sex, age, and ethnicity. This project will investigate the impact of such demographic factors on facial manipulations (e.g. make-up, tattoos, beautification, presentation attacks etc. and algorithms for automatic detection thereof).

#### Tasks

- Selection/creation/annotation of suitable databases of facial images
- Experimental evaluation of the impact of demographic factors on the selected facial manipulations

#### Requirements

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

By Date

By now / by appointment

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