

– Master/Bachelor Thesis – Bias and Fairness in 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.

Motivation & Goal

In recent years, systemic biases inherent to several facial recognition 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. In the context of biometric recognition, this means that chances of false positives and/or false negatives for certain groups of individuals can be increased. The goal of this project is to conduct a more comprehensive study of this project, involving different types of biometric algorithms and biometric characteristics.

Tasks

- Survey on current research in this area
- Benchmark of existing open-source and commercial algorithms
- Research into bias mitigation and fair biometric algorithms

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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