

## Bachelor/Master Thesis

### Evaluating facial image quality scores as workload-reduction strategy

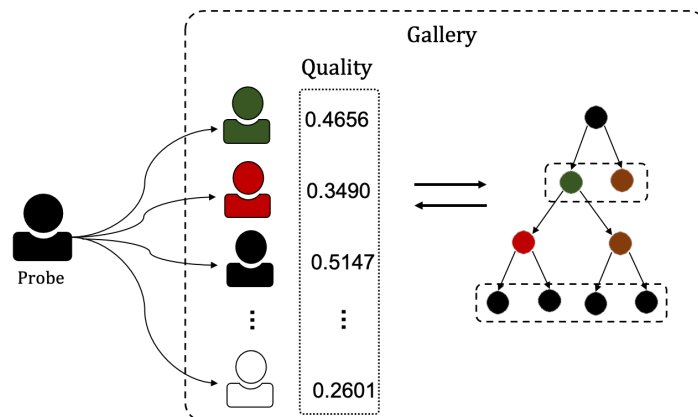
da/sec



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. 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 <http://www.dasec.h-da.de/>.

#### Motivation & Goals

Nowadays, the development of large-scale facial identification systems leads to an increase of the response time in the system. In this context, indexing (workload reduction) strategies can be employed in order to reduce the search space and hence decrease the time-consuming exhaustive searches. On the other hand, it is shown that lower image quality (or variations) could lead to higher chances of running into false positive in open-set scenarios. However, image quality scores could be used for search strategies, thereby leading to a better inherent order of the samples (or face embeddings) to compare.



#### Tasks

- Evaluate different image quality algorithms/estimators (e.g. FaceQNet, SERFIQ) over facial images.
- Analyse the feasibility of using the image quality scores as search strategy.
- Evaluate the proposed strategy in closed-set and open-set identification scenarios on publicly available databases using different state-of-the-art open-source face recognition systems.

#### Requirements

- Passion and high motivation for research
- Good programming skills in python.

#### Start / Period

Immediately / by appointment

#### Contact

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