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HOCHSCHULE DARMSTADT
UNIVERSITY OF APPLIED SCIENCES
fbi
FACULTY OF COMPUTER SCIENCE

ATHENE
National Research Center
for Applied Cybersecurity

– Master-/Bachelor Thesis –

Pairwise Face Image Quality Assessment

da/sec

da/sec is the biometrics and 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 www.dasec.h-da.de.

Motivation & Goal

The quality of face images for face recognition or other biometric purposes can be assessed in various ways. Modern quality assessment models typically produce a single "unified" scalar quality score per image that has higher-is-better semantics, which means that images can be discarded individually based thereon. But it is also possible to compute quality components for which a straightforward higher-is-better semantic may not be optimal, such as pose angles. It may instead be better to compare these quality components for image pairs. For example, images with similar pose angles may be easier to compare using a face recognition model. The aim of this topic is to investigate this pairwise quality assessment for various quality components.

Tasks

- Develop and evaluate various pairwise face image quality assessment functions for various quality components.
- Investigate the combination of multiple quality components for the pairwise face image quality assessment.
- Compare the pairwise approaches against pair-independent approaches using the same quality components.
- Compare the pairwise approaches against state-of-the-art unified quality score assessment models.

Start / Period

By now / by appointment

Contact

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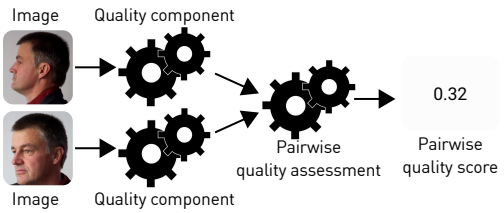

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