

– Master-/Bachelor Thesis – Face Image Quality Assessment Fusion

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 biometric purposes such as face recognition can be assessed in various ways. For example, the [“Open Source Face Image Quality \(OFIQ\)”](#) project includes separate [measures such as “UnderExposurePrevention” and “Sharpness”](#). Each of these measures produces one quality score output for one face image. This topic is about the creation and evaluation of models that “fuse” the output from multiple existing measures into one single quality score, so that this new fused quality score indicates the overall utility of a face image for automatic face recognition.

Tasks

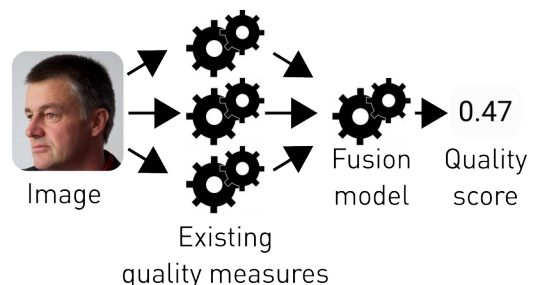
- Develop/train various models that fuse existing face image quality assessment measures, such as those provided by [OFIQ](#).
- Evaluate the face recognition utility assessment performance of the created models and the existing separate measures, for example with [“Error versus Discard Characteristic” \(EDC\) plots](#).
- Investigate the created fusion models with respect to their input measures: Are some input measures significantly more important than others? Are some unimportant enough to be removed from the models? And how easy is it to see which input measures caused the fusion model output for each particular image?

Start / Period

By now / by appointment

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