
– Master-/Bachelor Thesis –

Compressed Face Image Quality Assessment

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 www.dasec.h-da.de.

Motivation & Goal

The performance of face recognition or face analysis systems depends on the quality of the acquired face data, and automatic face quality assessment algorithms can be used to assess quality in this context. Lossy image compression can degrade the quality - but how do different compression methods and compression ratios affect the quality as assessed by different algorithms? And how do the quality scores correlate with actual face recognition performance for the compressed images? These questions are relevant when images need to be stored with limited space, for example on passports, and answering them for various configurations is the primary task in this project.

Tasks

- Evaluate the impact of various compression configurations on different face image quality assessment algorithms.
- Evaluate the correlation with face recognition performance.
- Optional task ideas: 1. Video compression could be used to compress multiple images at once. 2. A deep learning model could be trained to assess compression specifically. 3. Compression could be controlled via quality assessment.

By Date

By now / by appointment

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