Face Image Quality Measures and Assessment

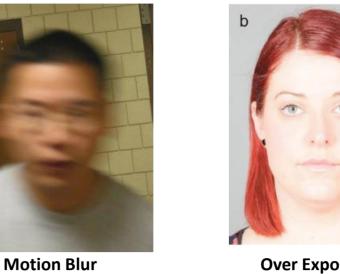


Motivation

- Facial biometric systems performance is limited by the quality of the input images.
- Actionable feedback to the capture subject or the operator of the system on what to do to enhance the quality of the image is required.
- Morphed and low-quality images pose a threat to facial biometric systems.





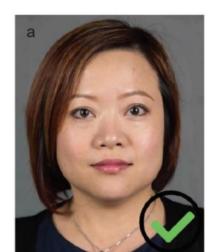




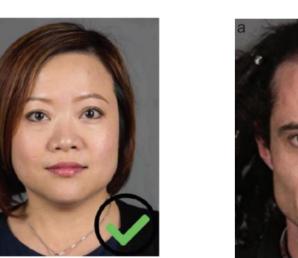
Over Exposure

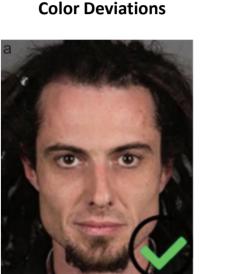


Under Exposure



Bad Illumination







Examples of good and bad quality components

Objectives

- Propose face image quality assessment methods that are predictive for recognition accuracy.
- Improve the explainability of face image quality assessment methods.
- Propose face image quality assessment methods that can be instrumental in morphing attack detection.
- Produce methods that contribute to the standardization efforts in the area of face image quality.

Approach

- Feature-based as well as deep learning-based approaches for assessing individual quality components.
- End-to-End as well as fusion-based approaches for computing a unified image quality score.
- Intrinsic as well as extrinsic approaches for methods' interpretability and explainability.
- A cascaded framework for incorporating face image quality in quality-agnostic morph attack detection.







wassim.h.kabbani@ntnu.no

Wassim Kabbani Kiran Raja



kiran.raja@ntnu.no



Christoph Busch christoph.busch@ntnu.no



Raghavendra Ramachandra raghavendra.ramachandra@ntnu.no