

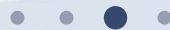
**COMPUTER  
GRAPHICS  
NIGHT** DONNERSTAG  
05.12.2024



**BEST PAPER  
AWARD**



**PREISTRÄGER  
»IMPACT ON SCIENCE«**



# COMPUTER GRAPHICS NIGHT

DONNERSTAG  
05.12.2024

## Best Paper Award

»Impact on Science«

PREISTRÄGER



»Pixel-Level Face Image Quality Assessment  
for Explainable Face Recognition«

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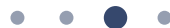
Damer, Naser (Fraunhofer IGD / TU Darmstadt GRIS)

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IEEE Transactions on Biometrics, Behavior, and Identity Science





# PREISTRÄGER

## PROBLEM



In face recognition, assessing image quality at the pixel level is important.

- Most face image quality assessment methods focus on global quality but don't explain why an image is high or low quality. Current systems lack tools to understand pixel-level contributions to quality and recognition.
- Many approaches require labeled datasets, which may introduce errors and biases. Training-free, model-agnostic FIQA methods are scarce.



# PREISTRÄGER

# RESULT

A training-free method for generating pixel-level quality maps in face recognition models.

- The work bridges the gap between FIQA and explainability by introducing a pixel-level perspective, providing insights into FR models' decision-making and enhancing trust and transparency.
- The proposed PLQ-maps enhance FR systems' robustness and performance by guiding improvements in image quality.

# USP

- This paper introduces a novel, training-free approach to generate pixel-level quality maps, enhancing the explainability and interpretability of FR systems. It uniquely provides actionable insights into image quality, enabling improved recognition performance and transparent decision-making.

