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Peer Review

Review of: "Eyelid Fold Consistency in Facial Modeling"

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The article effectively highlights a significant limitation in existing parametric face models: their inability to accurately represent the diversity of eyelid shapes across different ethnicities and ages. This is a timely and relevant problem, given the importance of eyelid morphology for facial identity and likeness, as well as its implications for fairness and inclusivity in computer graphics and vision applications. Eyelid shapes can be interpolated meaningfully, support a common texture space, and allow for consistent animation by fixing the fold to a specific edge-loop. This addresses practical needs in graphics applications and is inclusive of diverse eyelid types, such as hooded and epicanthal folds.

The article provides both qualitative and quantitative evidence of improvement. Visual comparisons show enhanced likeness and accuracy in the retrained model, while quantitative metrics, such as the "hoodedness" measure and error reductions, validate the results across demographics. However, the article does not address the computational cost or complexity of the retrained model compared to the original model. The consistency definition assumes a single primary eyelid fold and a shared edge-loop for epicanthal and eyelid folds, which may not reflect real-world complexity (e.g., multiple folds or disconnected features). I would suggest including metrics such as inference time, memory usage, or model parameter count for both the original and retrained models. If the retrained model is more demanding, suggest potential optimizations, such as pruning or simplifying the topology templates. Also, please cite literature or dataset statistics on the prevalence of multiple folds or disconnected epicanthal folds.[1][2][3][4][5] Discuss potential performance degradation in such cases (e.g., using qualitative examples) and propose interim solutions, such as adaptive edge-loops.

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Declarations

Potential competing interests: No potential competing interests to declare.