

Automated Blendshape Personalization for Faithful Face Animations Using Commodity Smartphones

Supplementary Material

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1 BLENDSHAPE RECONSTRUCTION ERRORS

In this document we provide additional test results for our blendshape personalization method compared to example-based facial rigging by Li et al. [1] and deformation transfer by Sumner and Popović [2].

1.1 Subject 2

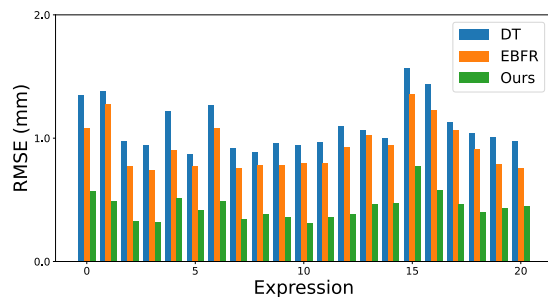


Figure 1: Root-mean-square reconstruction error of deformation transfer (blue), example-based facial rigging (orange) and our method (green) for Subject 2.

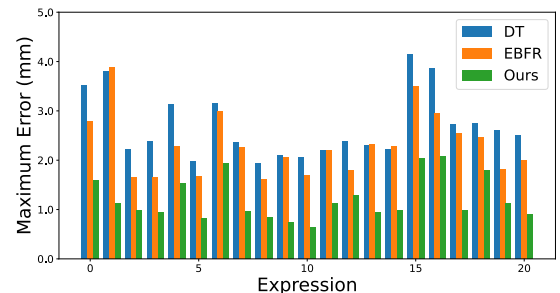


Figure 2: Maximum reconstruction error of deformation transfer (blue), example-based facial rigging (orange) and our method (green) for Subject 2.

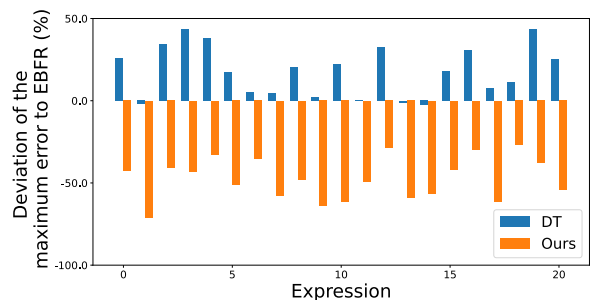


Figure 3: Deviation of the maximum reconstruction errors from deformation transfer (blue) and our method (orange) to the errors produced by example-based facial rigging for Subject 2.

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1.2 Subject 3

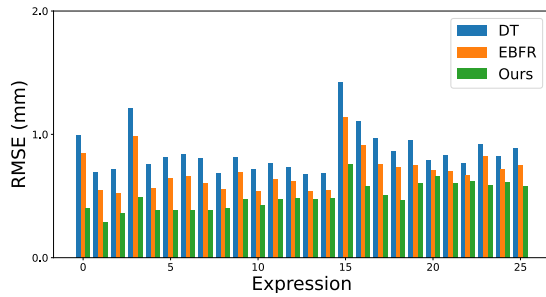


Figure 4: Root-mean-square reconstruction error of deformation transfer (blue), example-based facial rigging (orange) and our method (green) for Subject 3.

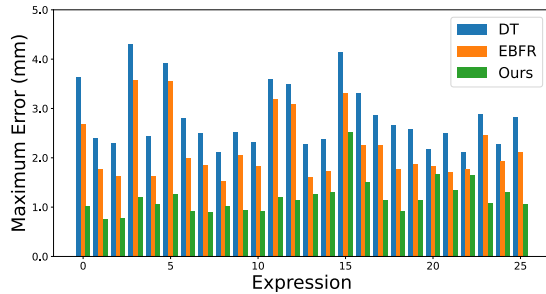


Figure 5: Maximum reconstruction error of deformation transfer (blue), example-based facial rigging (orange) and our method (green) for Subject 3.

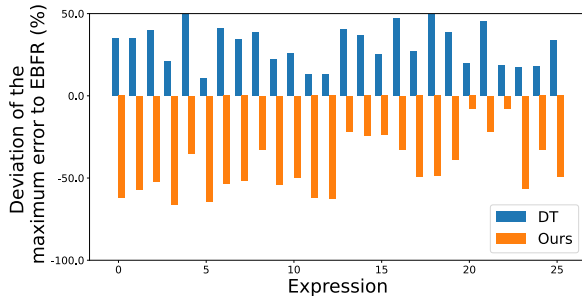


Figure 6: Deviation of the maximum reconstruction errors from deformation transfer (blue) and our method (orange) to the errors produced by example-based facial rigging for Subject 3.

1.3 Subject 4

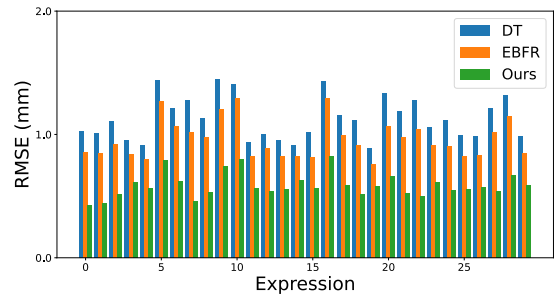


Figure 7: Root-mean-square reconstruction error of deformation transfer (blue), example-based facial rigging (orange) and our method (green) for Subject 4.

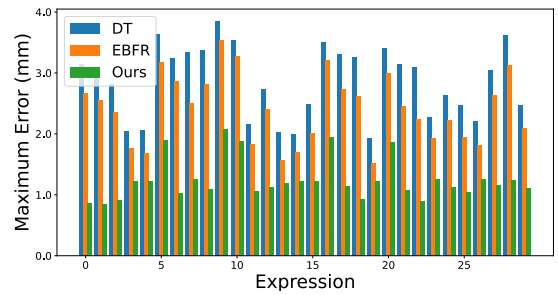


Figure 8: Maximum reconstruction error of deformation transfer (blue), example-based facial rigging (orange) and our method (green) for Subject 4.

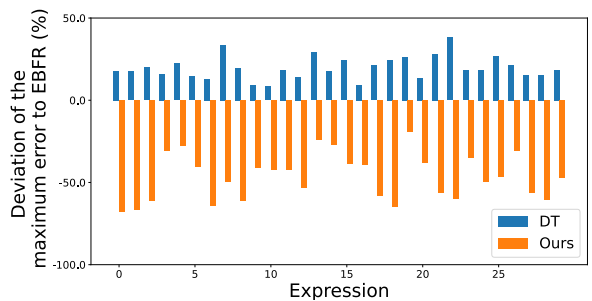


Figure 9: Deviation of the maximum reconstruction errors from deformation transfer (blue) and our method (orange) to the errors produced by example-based facial rigging for Subject 4.

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- [1] Hao Li, Thibaut Weise, and Mark Pauly. 2010. Example-based facial rigging. *ACM Transactions on Graphics* 29, 4 (2010), 1–6. <https://doi.org/10.1145/1778765.1778769>

- [2] Robert W. Sumner and Jovan Popović. 2004. Deformation transfer for triangle meshes. *ACM Transactions on Graphics* 23, 3 (2004), 399–405. <https://doi.org/10.1145/1015706.1015736>.

1145/1015706.1015736