KBody: Balanced monocular whole-body estimation Supplementary Material

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https://klothed.github.io/KBody

1. Qualitative Results

Figs. 1 to 25 present 112 qualitative result comparisons between the presented KBody method (rightmost - pink) the optimization-based SMPLify-X [2] (leftmost - light green), and the single-shot models PyMAF-X [3] (middle left - purple) and SHAPY [1] (middle right - green), focusing on pose and shape capturing respectively.

References

[1] Vasileios Choutas, Lea Müller, Chun-Hao P Huang, Siyu Tang, Dimitrios Tzionas, and Michael J Black. Accurate 3D Body Shape Regression Using Metric and Semantic Attributes. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pages 2718–2728, 2022. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

[2] Georgios Pavlakos, Vasileios Choutas, Nima Ghorbani, Timo Bolkart, Ahmed AA Osman, Dimitrios Tzionas, and Michael J Black. Expressive body capture: 3d hands, face, and body from a single image. In *Proceedings of the IEEE/CVF conference on computer vision and pattern recognition*, pages 10975–10985, 2019. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

[3] Hongwen Zhang, Yating Tian, Yuxiang Zhang, Mengcheng Li, Liang An, Zhenan Sun, and Yebin Liu. PyMAF-X: Towards Well-aligned Full-body Model Regression from Monocular Images. *arXiv preprint arXiv:2207.06400*, 2022. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29

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Figure 1. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

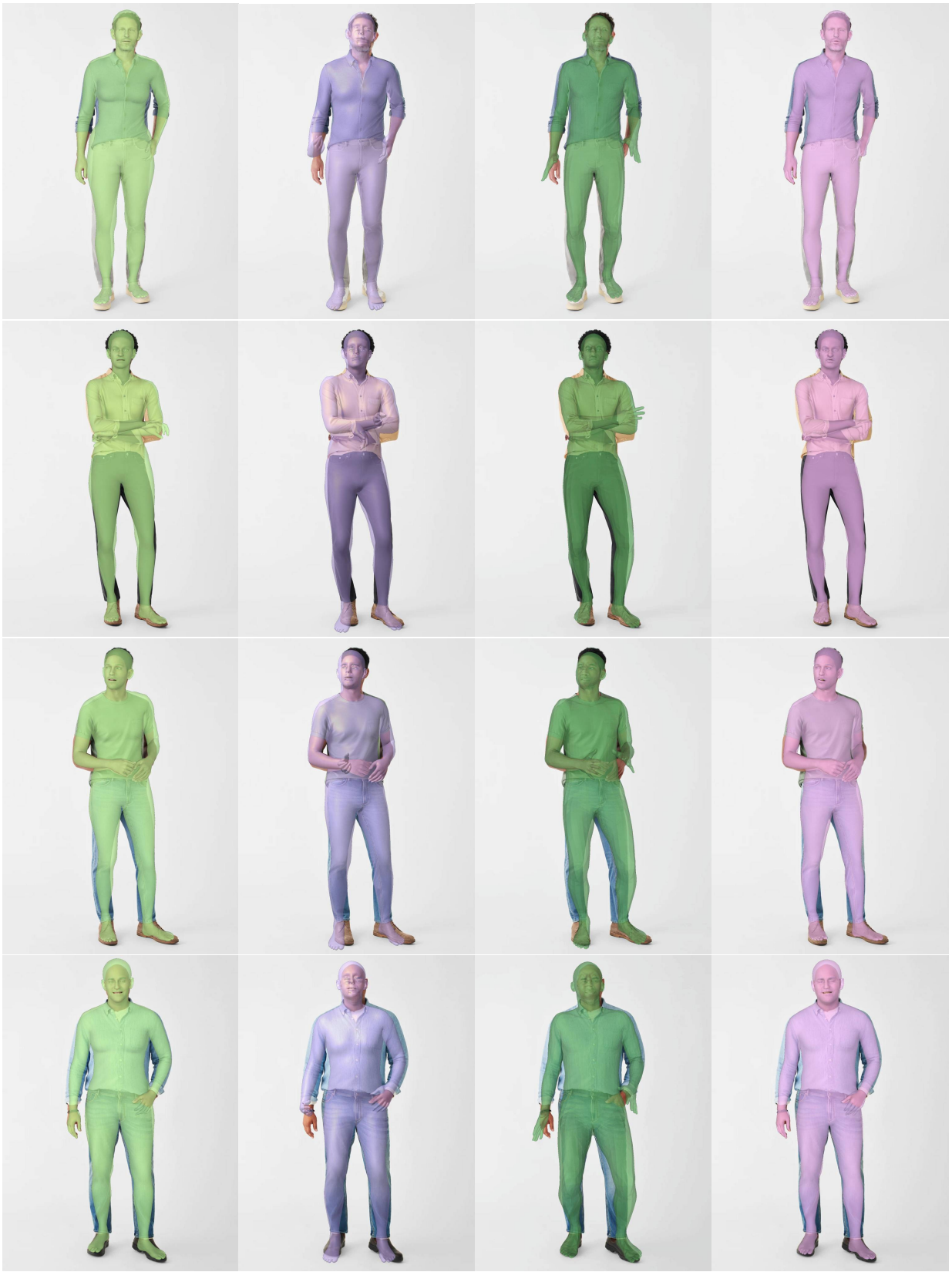

Figure 2. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 3. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

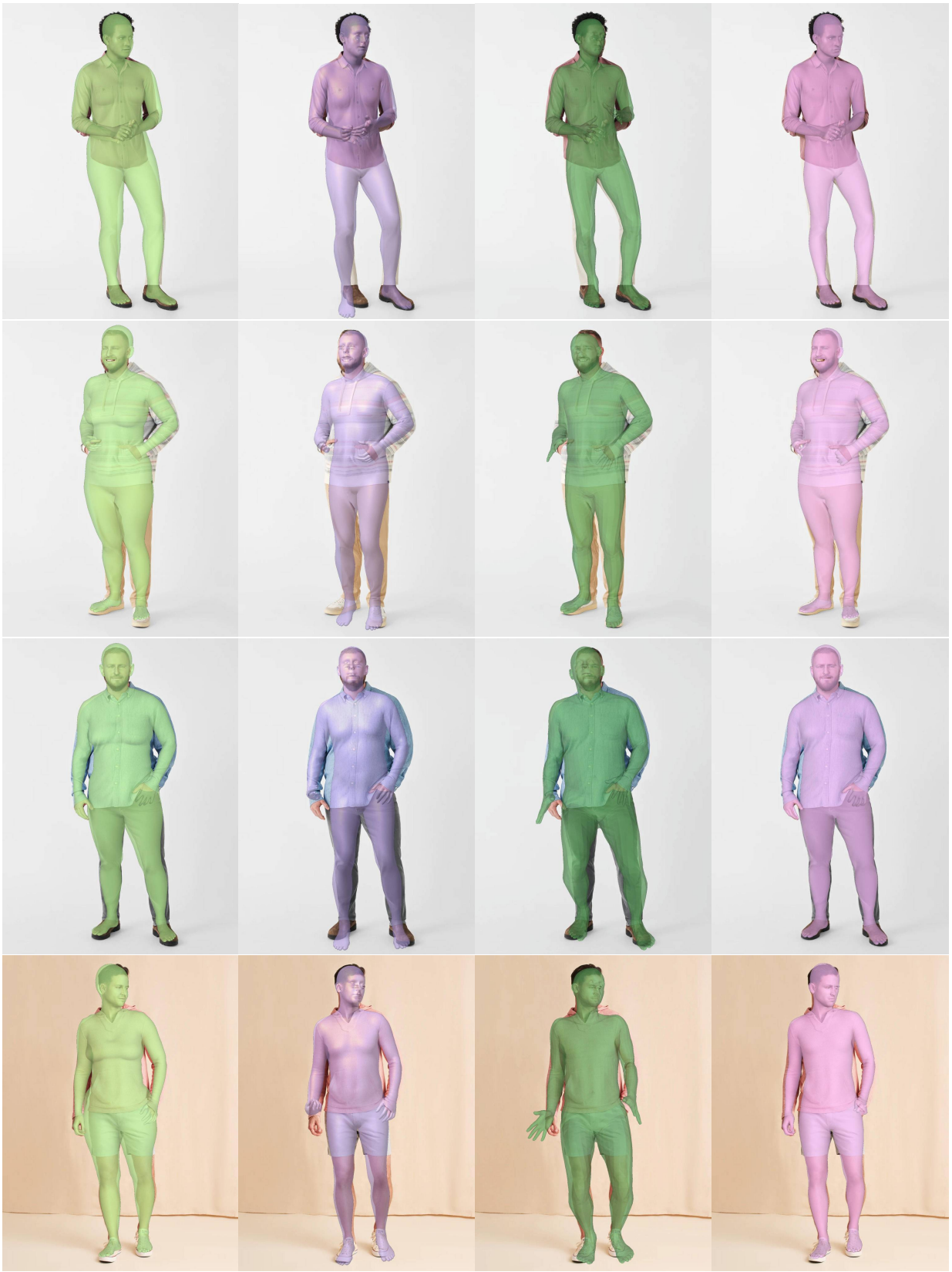

Figure 4. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 5. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 6. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

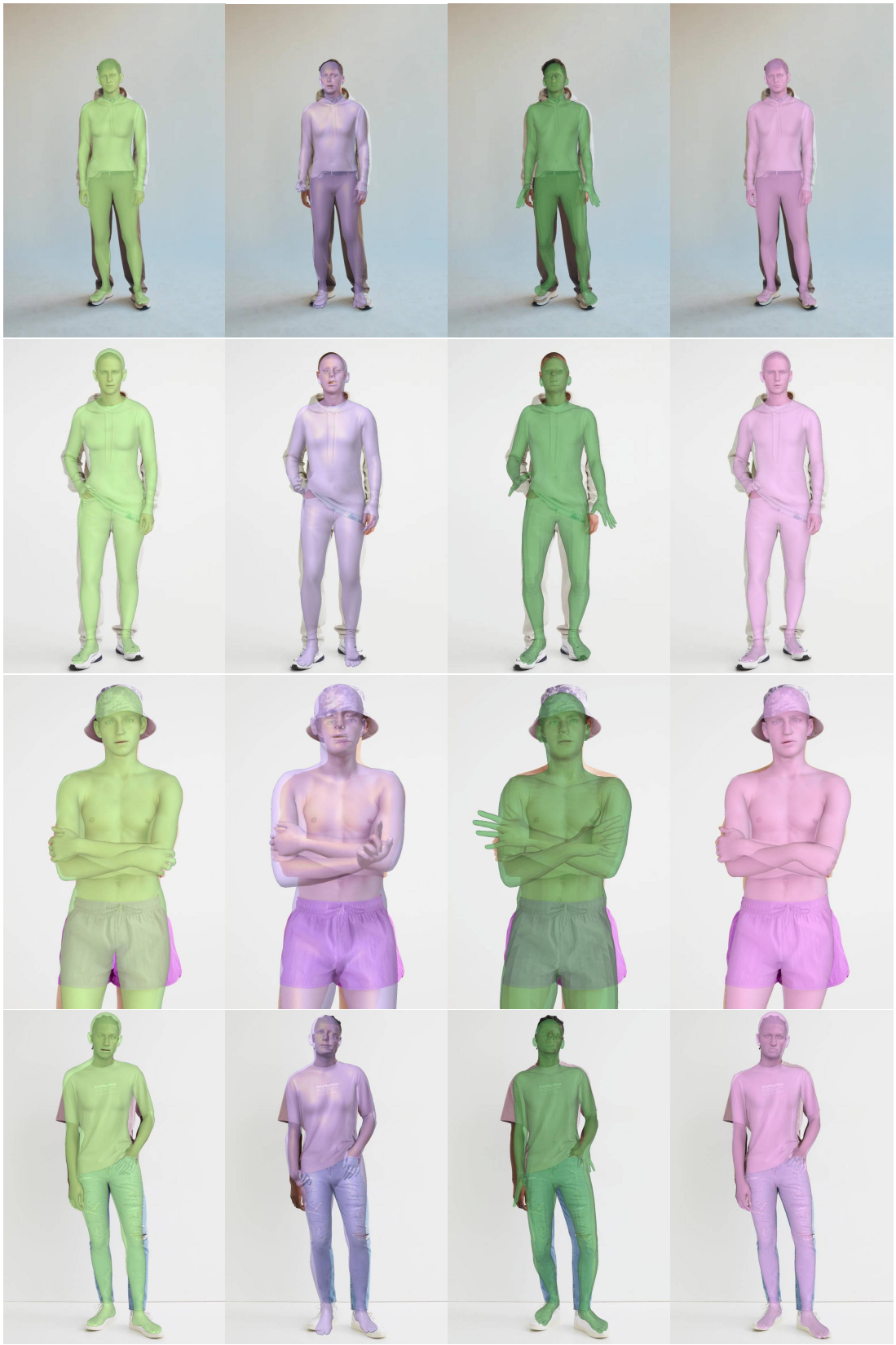

Figure 7. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 8. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 9. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 10. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 11. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

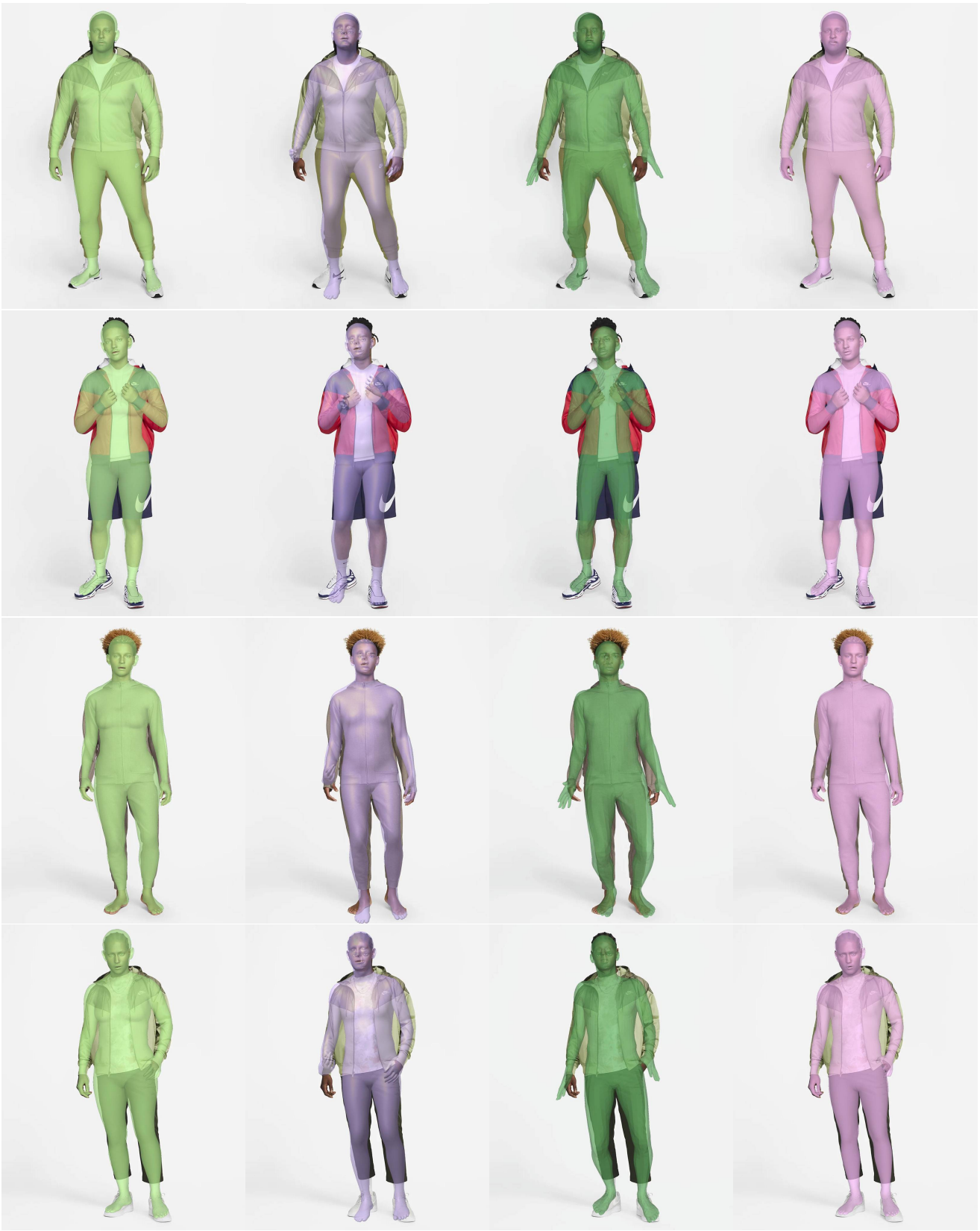

Figure 12. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 13. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 14. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 15. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 16. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 17. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 18. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 19. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

SMPLify-X [2] PyMAF-X [3] SHAPY [1] KBody (Ours)

Figure 20. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 21. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

SMPLify-X [2] PyMAF-X [3] SHAPY [1] KBody (Ours)

Figure 22. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 23. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 24. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 25. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 26. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 27. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).

Figure 28. Left-to-right: SMPLify-X [2] (light green), PyMAF-X [3] (purple), SHAPY [1] (green) and KBody (pink).