

HairStep: Transfer Synthetic to Real Using Strand and Depth Maps for Single-View 3D Hair Modelin

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Domain: Single-view 3D Hair Modeling



Figure: Single-view 3D Hair Modeling

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- ▶ Use `itemize` a lot.
- ▶ Use very short sentences or short phrases.

You can create overlays:

- ▶ Using the `pause` command:
 - ▶ First item.

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- ▶ Using the `pause` command:
 - ▶ First item.
 - ▶ Second item.
- ▶ Using overlay specifications:
- ▶ Using the general `uncover` command:

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References

- [1] Y. Zheng, Z. Jin, M. Li, *et al.*, “Hairstep: Transfer synthetic to real using strand and depth maps for single-view 3d hair modeling”, in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2023, pp. 12 726–12 735.
- [2] K. Wu, Y. Ye, L. Yang, H. Fu, K. Zhou, and Y. Zheng, “Neuralhdhair: Automatic high-fidelity hair modeling from a single image using implicit neural representations”, in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2022, pp. 1526–1535.
- [3] Y. Zhou, L. Hu, J. Xing, *et al.*, “Single-view hair reconstruction using convolutional neural networks”, in *European Conference on Computer Vision*, 2018. [Online]. Available: <https://api.semanticscholar.org/CorpusID:49666680>.
- [4] L. Yang, Z. Shi, Y. Zheng, and K. Zhou, “Dynamic hair modeling from monocular videos using deep neural networks”, *ACM Transactions on Graphics (TOG)*, vol. 38, pp. 1–12, 2019. [Online]. Available: <https://api.semanticscholar.org/CorpusID:207997743>.
- [5] S. Saito, L. Hu, C. Ma, H. Ibayashi, L. Luo, and H. Li, “3d hair synthesis using volumetric variational autoencoders”, *ACM Transactions on Graphics (TOG)*, vol. 37, pp. 1–12, 2018. [Online]. Available: <https://api.semanticscholar.org/CorpusID:54101192>.