

DermSynth3D: Synthesis of in-the-wild Annotated Dermatology Images

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Highlights

- Synthesis of skin lesion images by rendering 2D views of a 3D scene.
- Skin lesion blending on 3D human textured meshes at optimized body locations.
- Controlled lighting, choice of background, and optimal camera viewpoint.
- 2D images with dense annotations for skin, lesion and body-part segmentation.
- Open-source modular code and datasets for academic research.

DermSynth3D: Overview



Sample Synthetic Images





Trained

on FUSed

10-

Ground

1 20 -

Dense Annotations

Qualitative Results: Downstream Tasks









Lighting Variation



Quantitative Results



Acknowledgements

IoU



Digital Research Alliance of Canada Alliance de recherche numérique du Canada Skin lesion images: Fitzpatrick17k

3D meshes of humans: 3DBodyTex.v1

Background scenes: SceneNet-RGBD



Lesion

Ground Truth

Multi-Class

Prediction