Segmentation of ordered skin layers within histological images with a structural guarantee

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Résumé

This presentation aims at introducing a novel approach to segmentation providing a structural guarantee, resulting from a study carried out in collaboration with Oréal research. In this study, consisting in the segmentation of different skin layers within histological images of reconstructed human epidermis, we combined a U-Net type architecture with a " cumulative layer " in order to enforce a layered structure of the output. Moreover, we include an alternate sequential filter within the network to further constrain the shape of the layer contours. The resulting model is trained end-to-end and is fully convolutional.

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