



Motivation

Generative models of humans, e.g. SMPL, have enabled many applications such as human reconstruction, pose estimation ...



But the gap between such models and real humans is still large due to the lack of details.



Goal

A **generative model** from which we can sample **3D detailed humans** with diverse

Geometric Details $\mathbf{z}_{\text{detail}}$

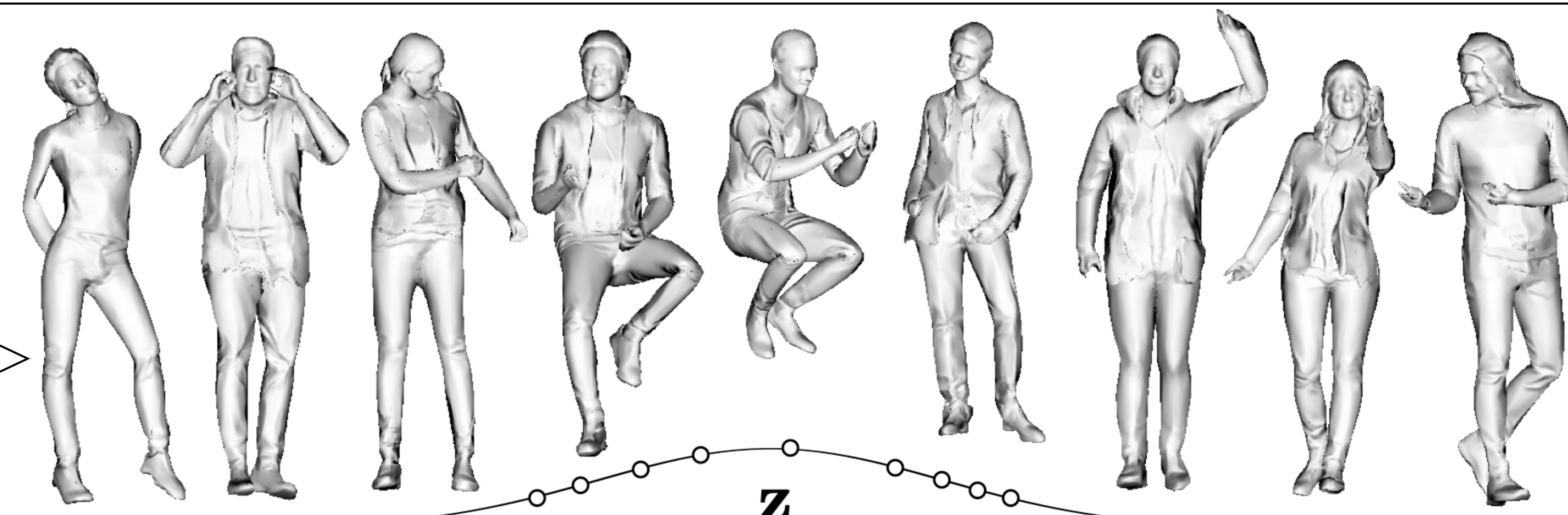
Clothing Styles $\mathbf{z}_{\text{shape}}$

Identities

Body Poses θ

Body Shapes β

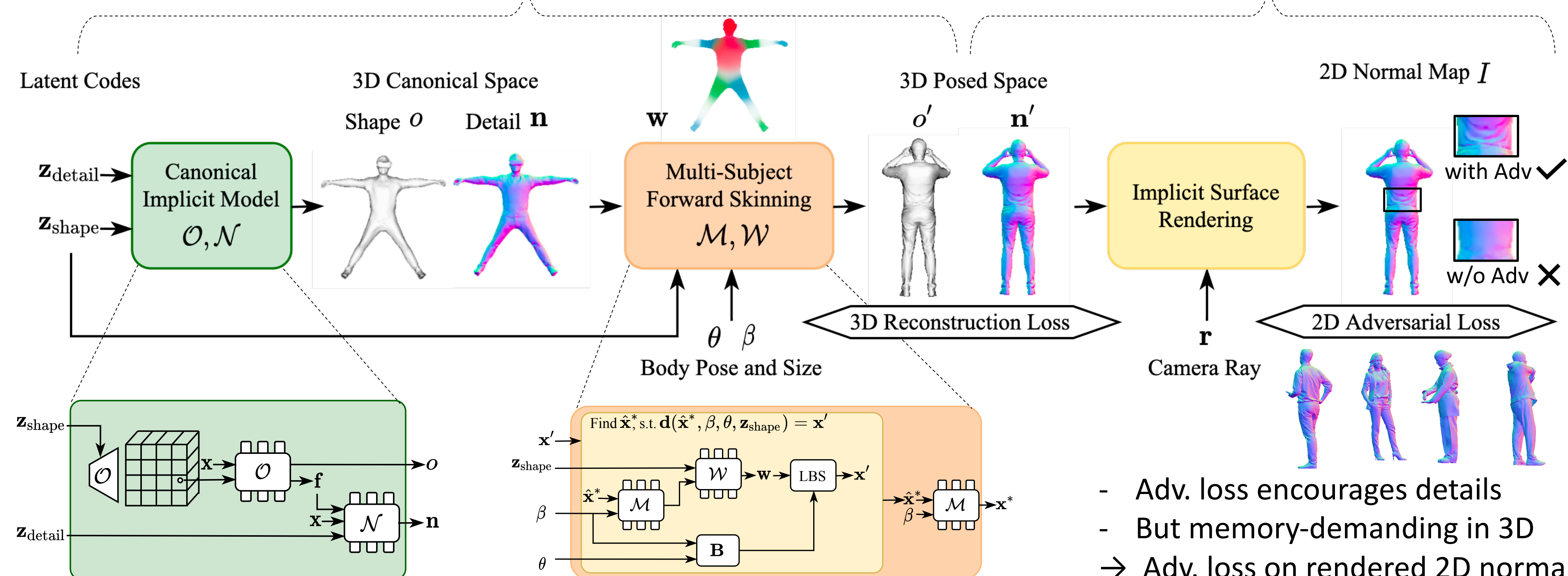
gDNA



Method

A multi-subject skinned implicit human model that learns from posed 3D scans (1-3 scans per subject)

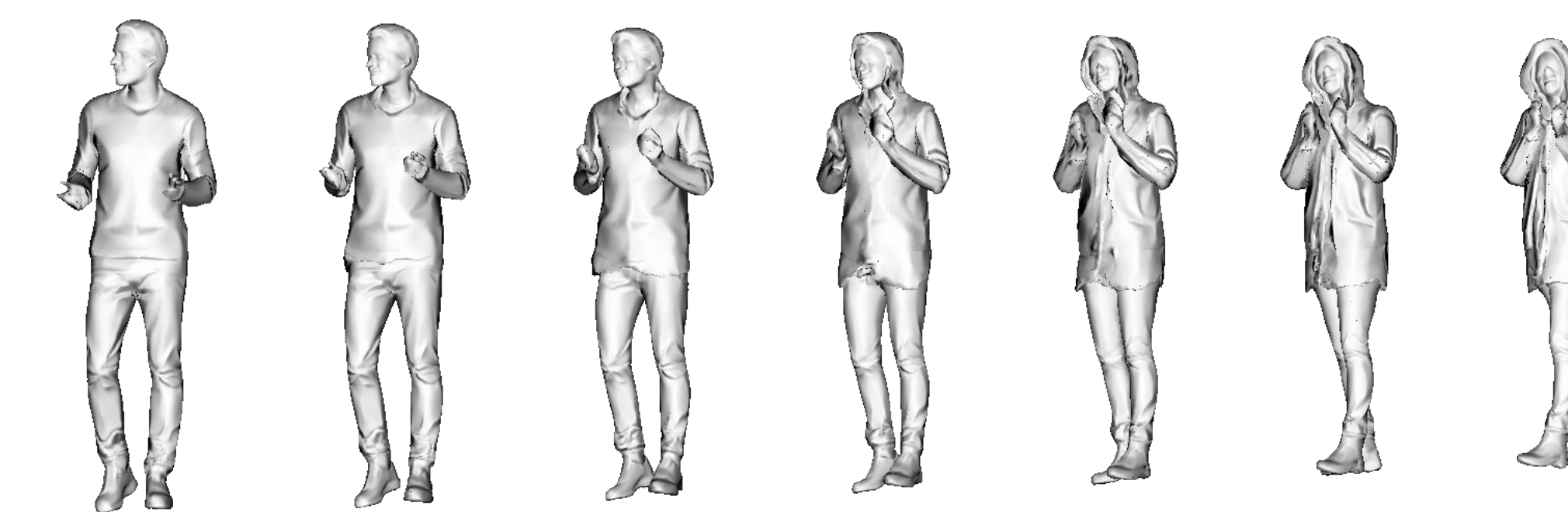
3D detail modeling via 2D adversarial learning



Results

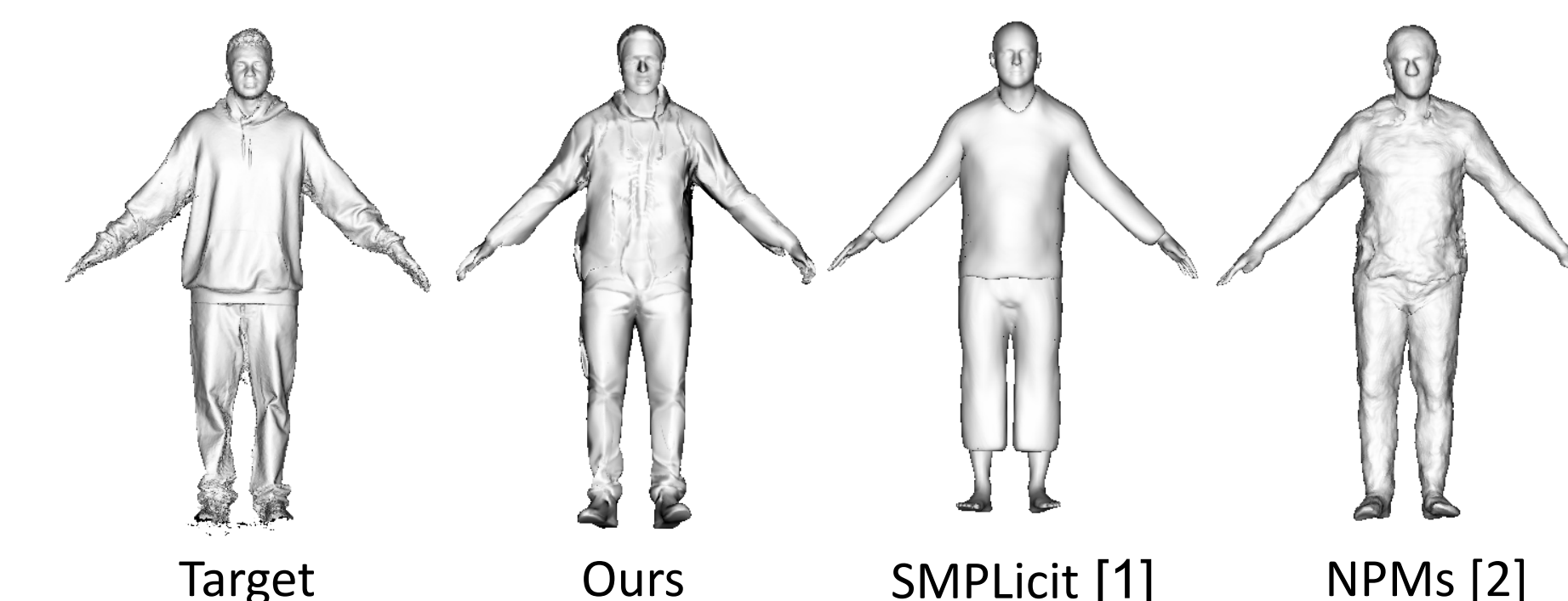
Interpolation

Smooth shape transition between very different clothing/identities.

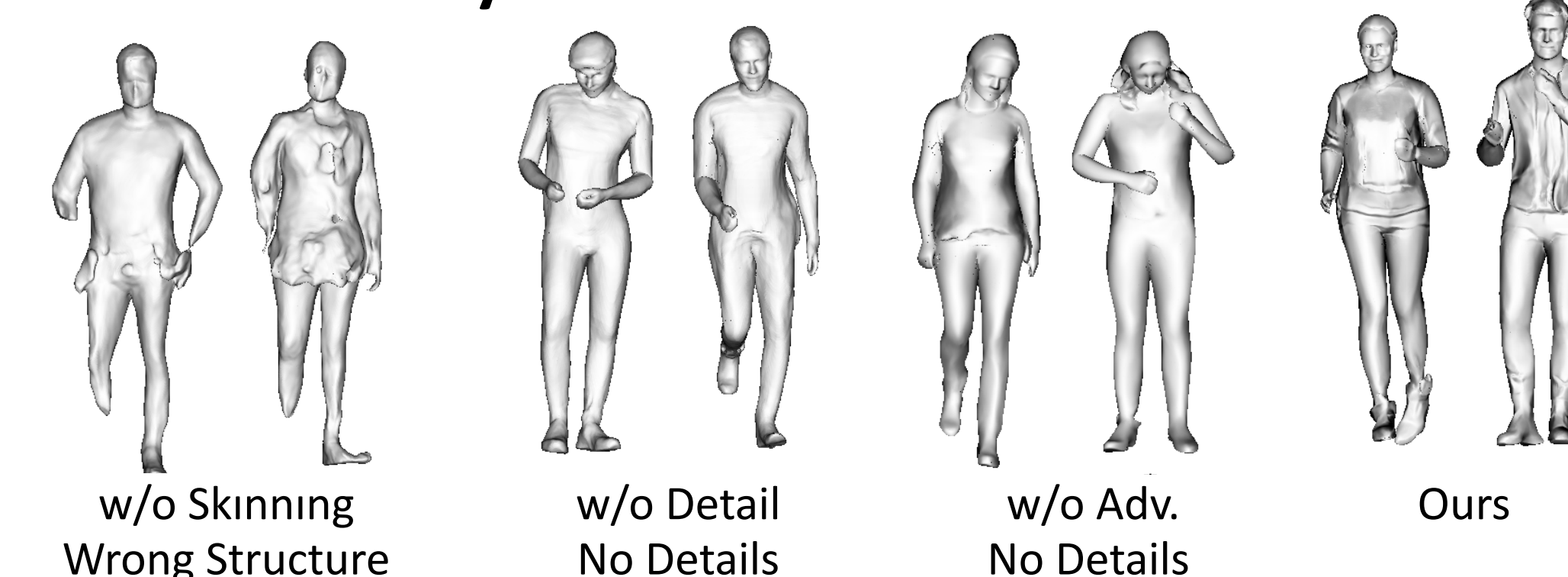


Fitting

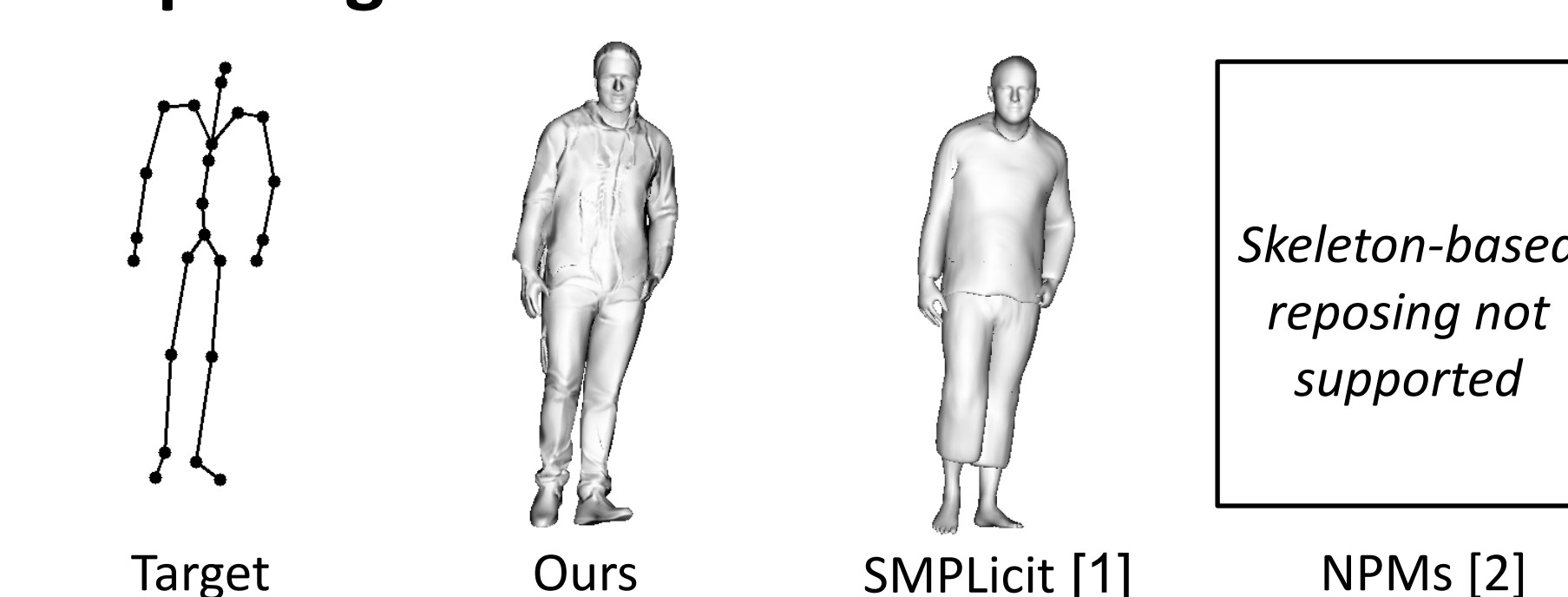
Ours achieves better alignment and details.



Ablation Study



Reposing



[1] SMPLicit: Topology-aware Generative Model for Clothed People, Corona et. al., CVPR 2021
[2] NPMs: Neural Parametric Models for 3D Deformable Shapes, Palafox et. al., ICCV 2021