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CVPR
VANCOUVER, CANADA

NeuralDome: A Neural Modeling Pipeline on Multi-View Human-Object Interactions

CVPR2023

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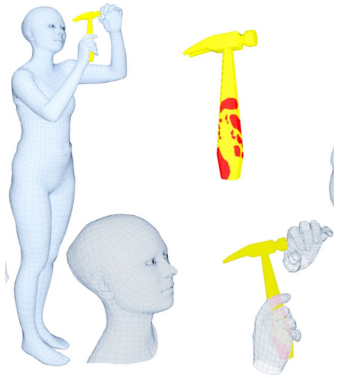
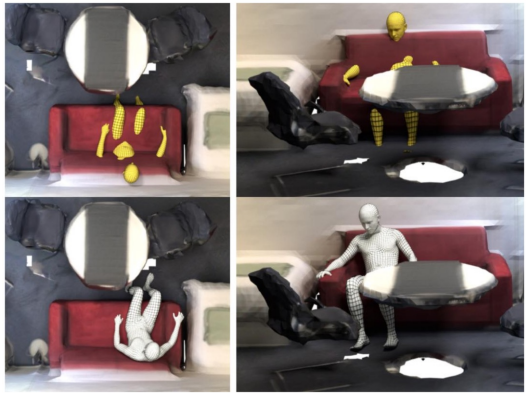
Related Work

w/o RGB

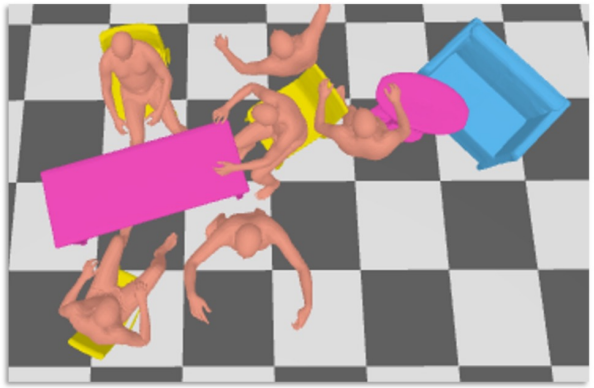


GRAB

Static Scene Only

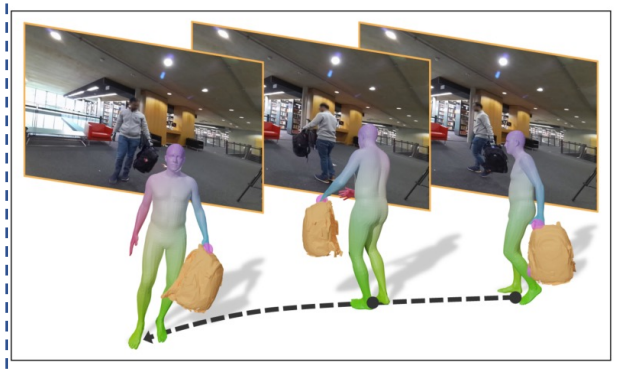


PROX

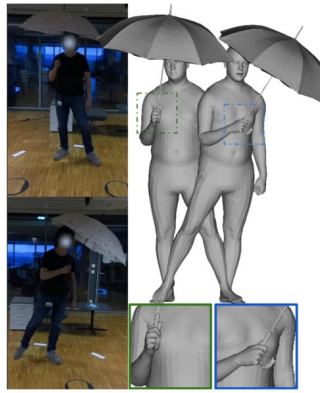


MOVER

Capturing Only

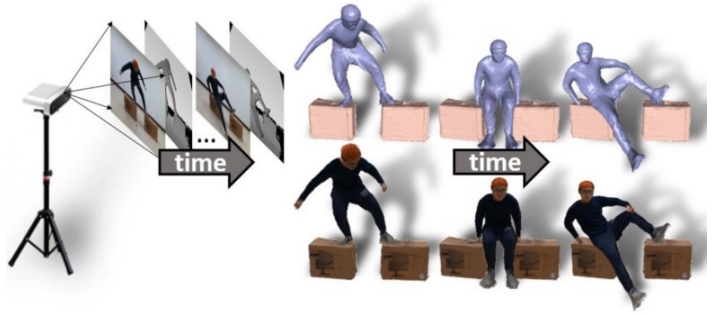


BEHAVE

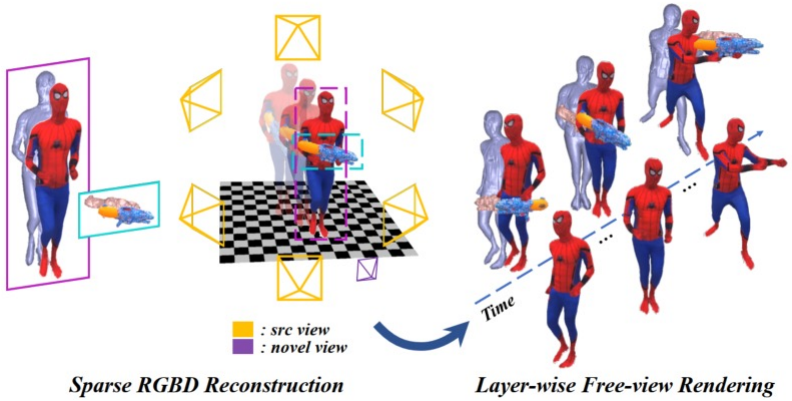


InterCap

w/o Dense View Recording



RobustFusion

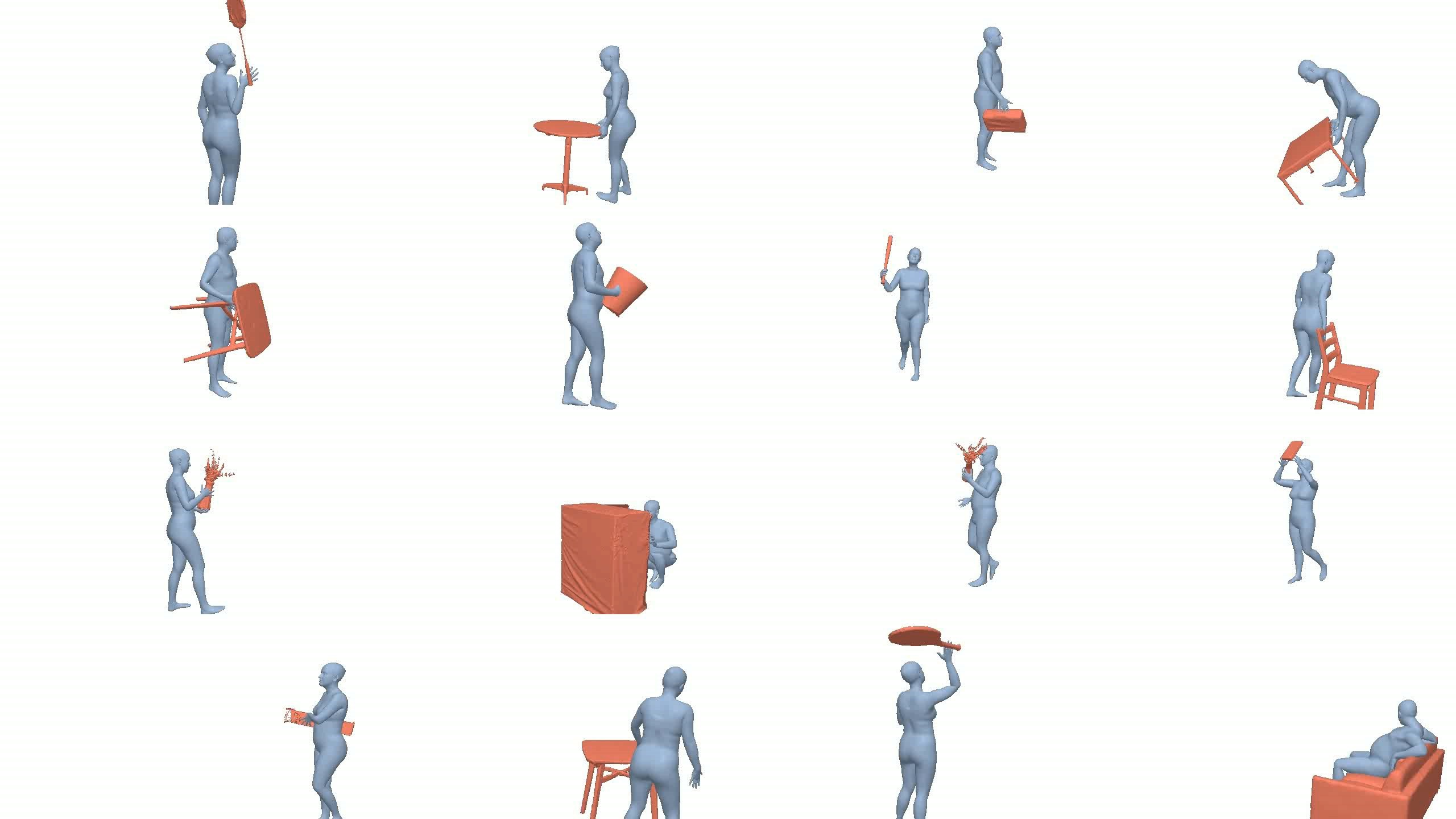


NeuralHOFusion

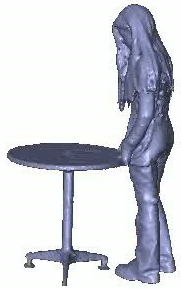
Neural Free-Viewpoint

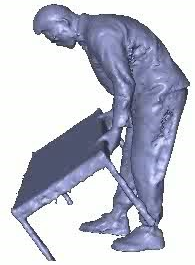
HODome Dataset

Mocap



Geometry

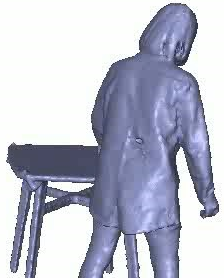












Novel view







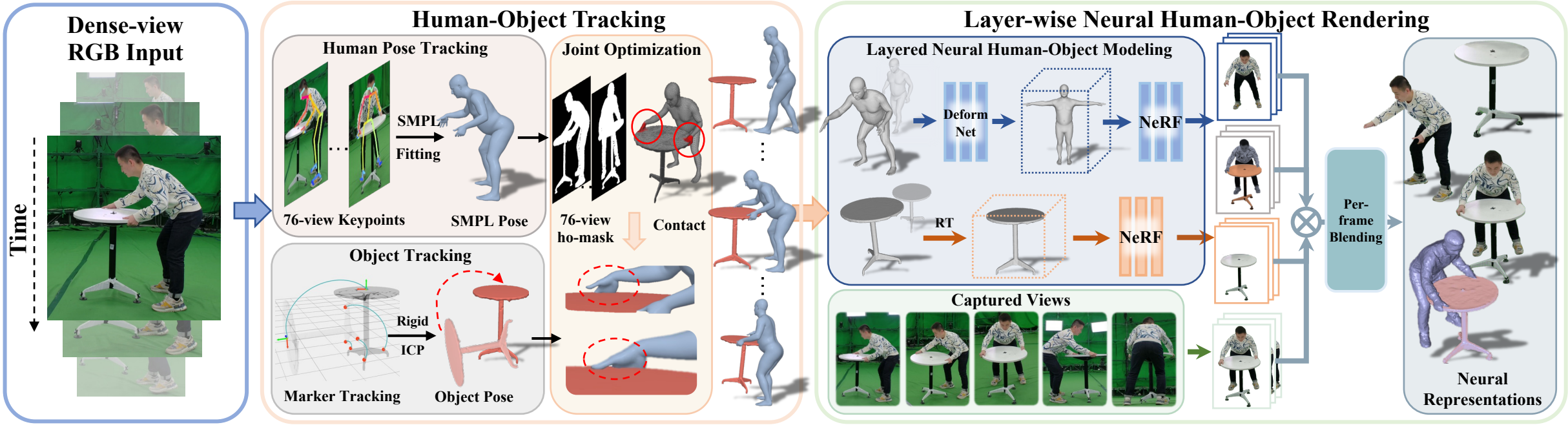






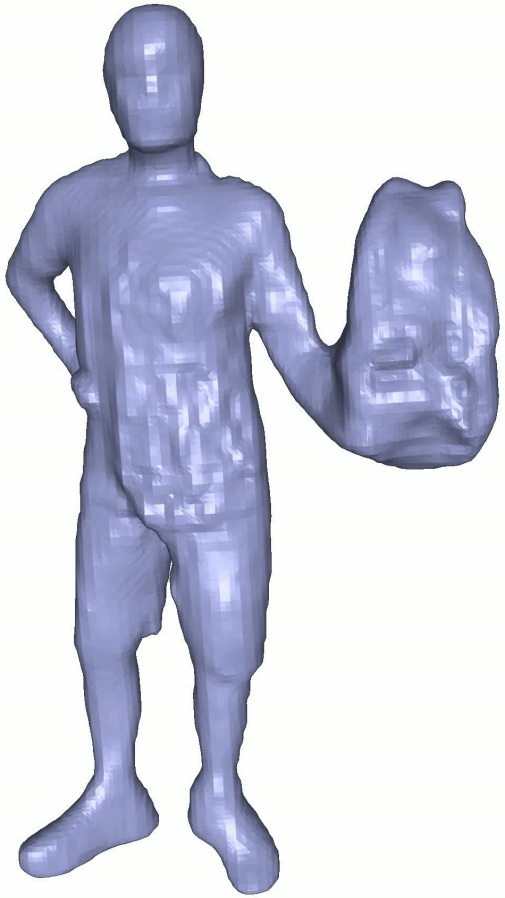



NuralDome Pipeline

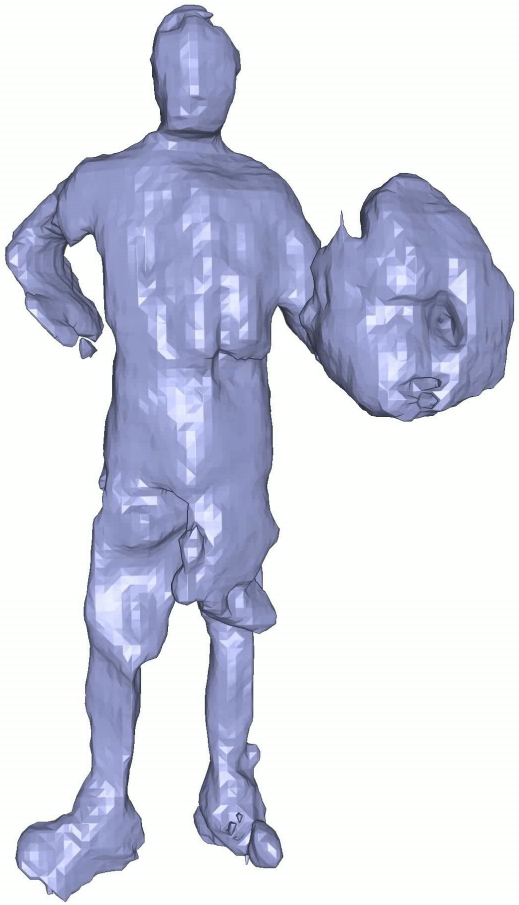

Dense-view RGB Input
Time
Human-Object Tracking
Human Pose Tracking
SMPL Fitting
76-view Keypoints
SMPL Pose
Joint Optimization
76-view ho-mask
Contact
Object Tracking
Rigid ICP
Marker Tracking
Object Pose
Layer-wise Neural Human-Object Rendering
Layered Neural Human-Object Modeling
Deform Net
NeRF
RT
NeRF
Captured Views
Per-frame Blending
Neural Representations

Evaluation

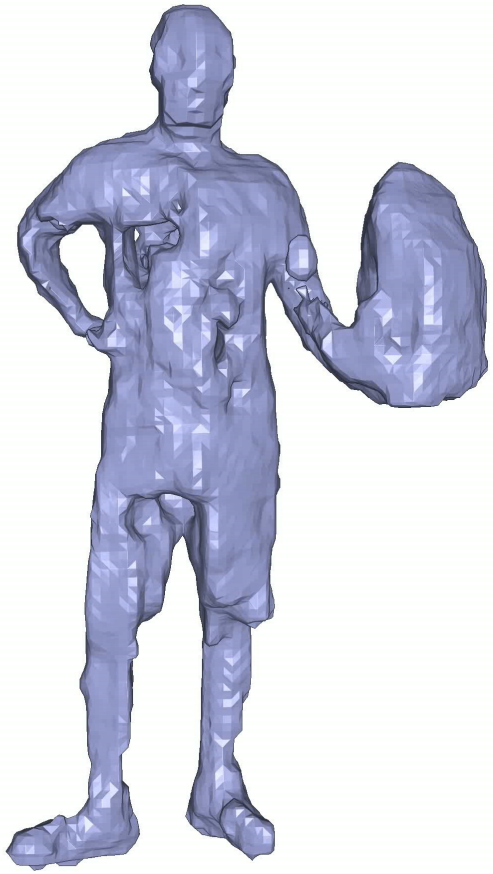
Geometry Reconstruction Benchmark



PIFU-Origin



Monocular
PIFU-Trained



Six View
PIFU-Trained

Human-object Rendering Benchmark

NeuRay

IBRNet

NeuralHOIFVV

Thank you for watching!