

Contact

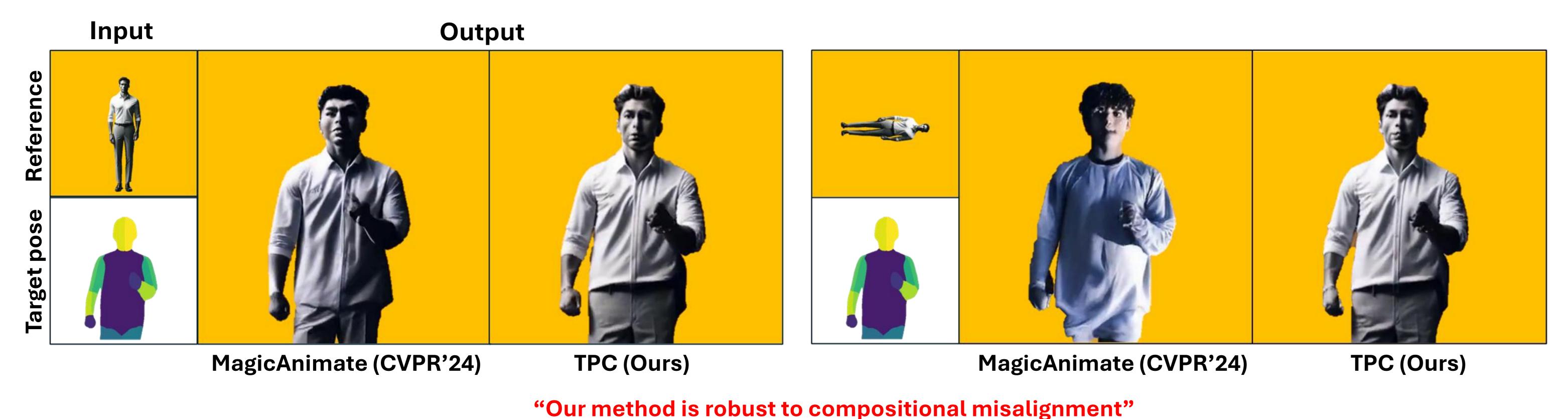
TPC: Test-time Procrustes Calibration for Diffusion-based Human Image Animation

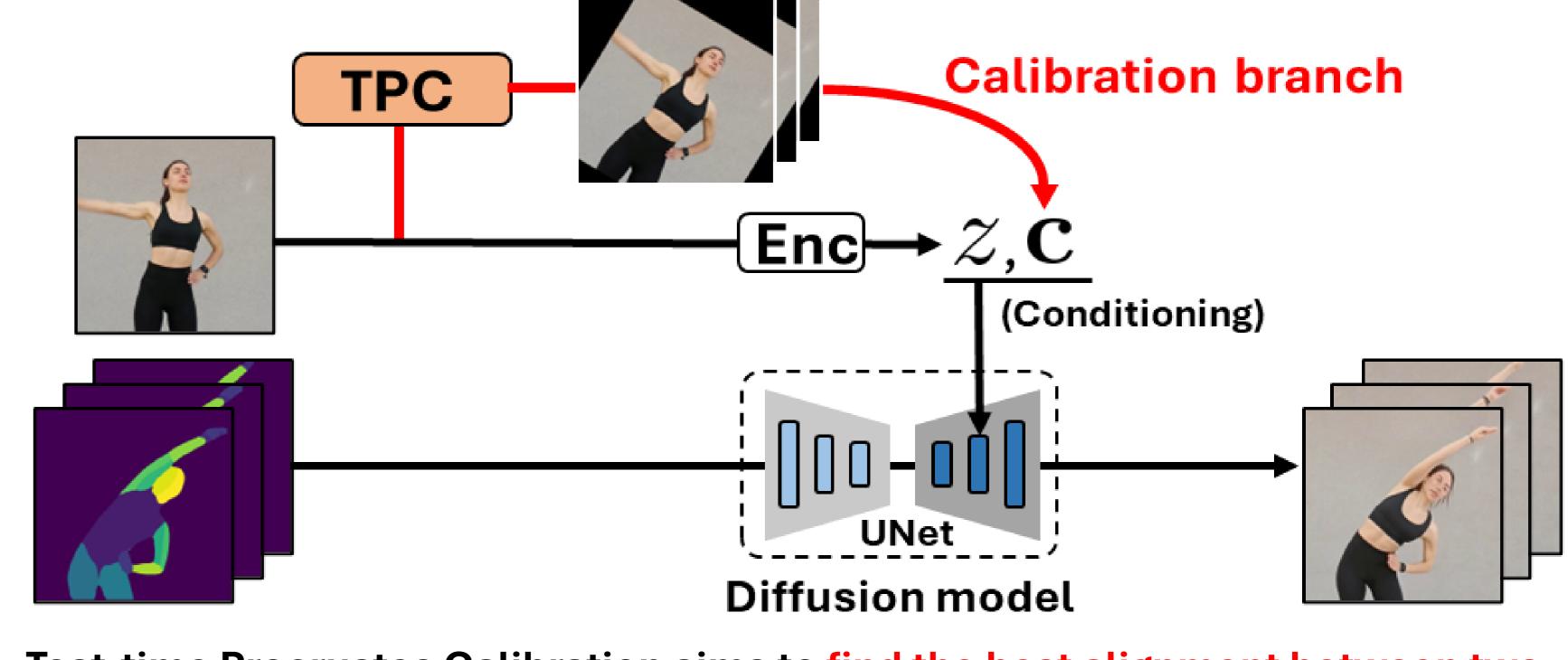
NEURAL INFORMATION PROCESSING SYSTEMS

Sunjae Yoon, Gwanhyeong Koo, Younghwan Lee, Chang D. Yoo Korea Advanced Institute of Science and Technology (KAIST)

Problem: Compositional misalignment of human shape

Method: Test-time Procrustes Calibration (TPC)



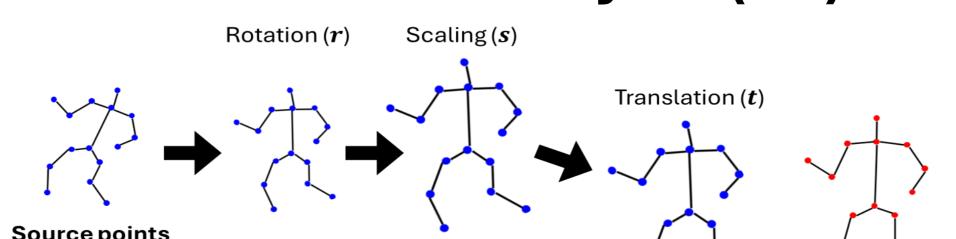


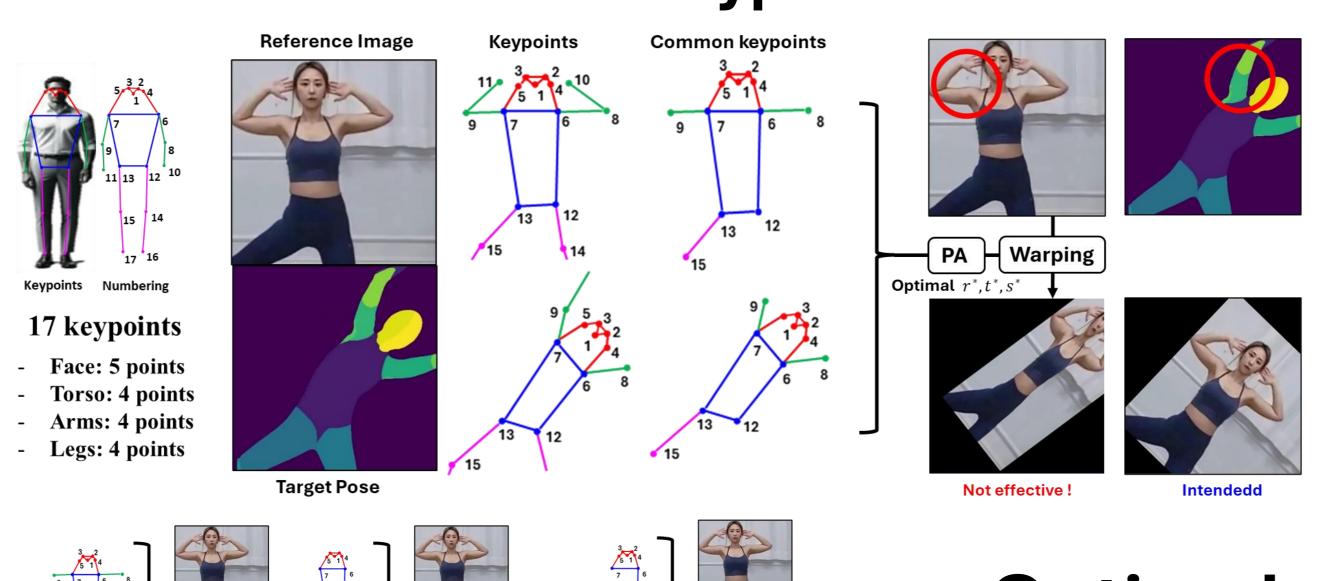
Test-time Procrustes Calibration aims to find the best alignment between two human shapes by scaling, translating, and rotating

Compositional misalignment: human shapes in reference and target are not aligned in terms of scale and rotation

high



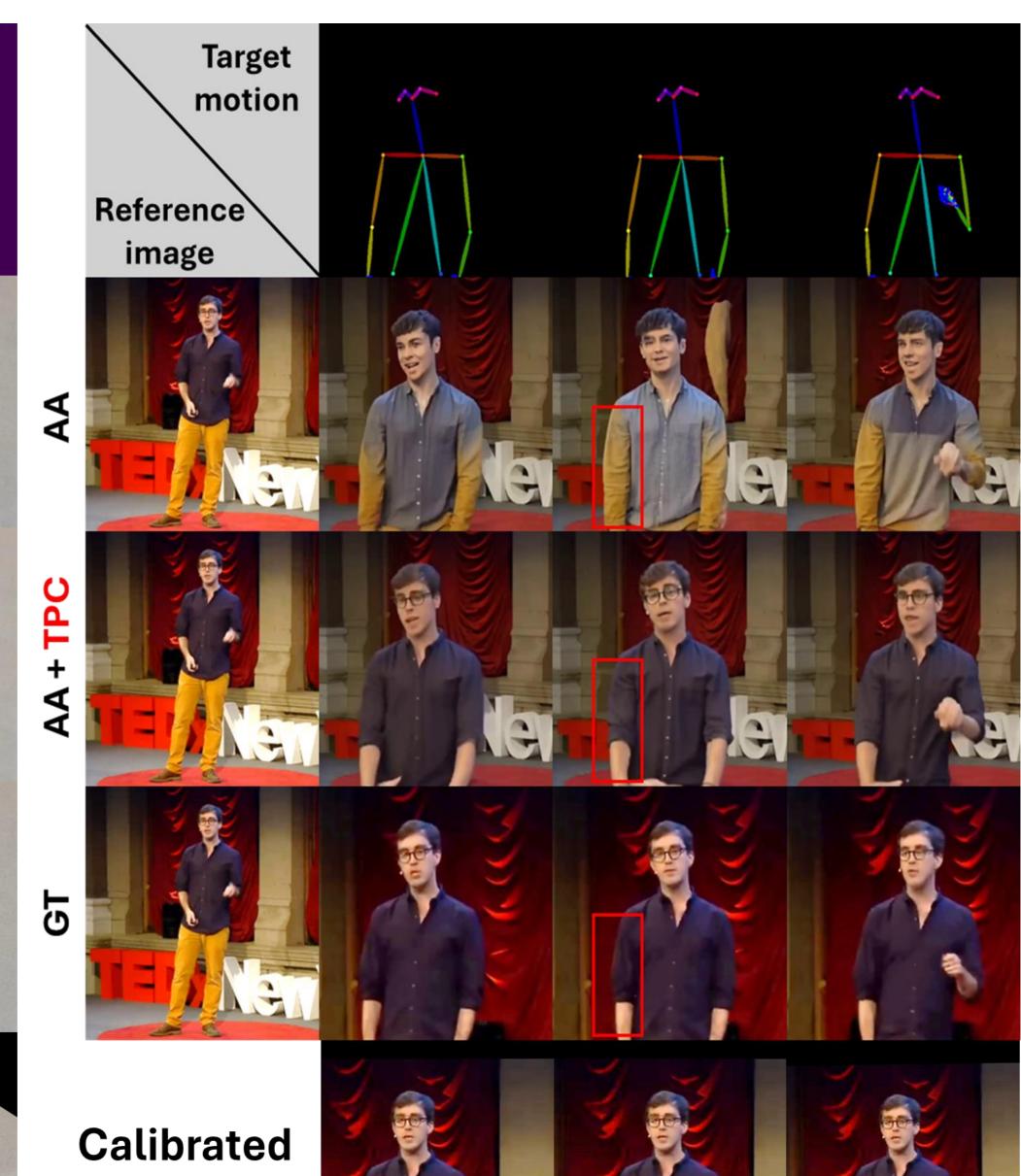


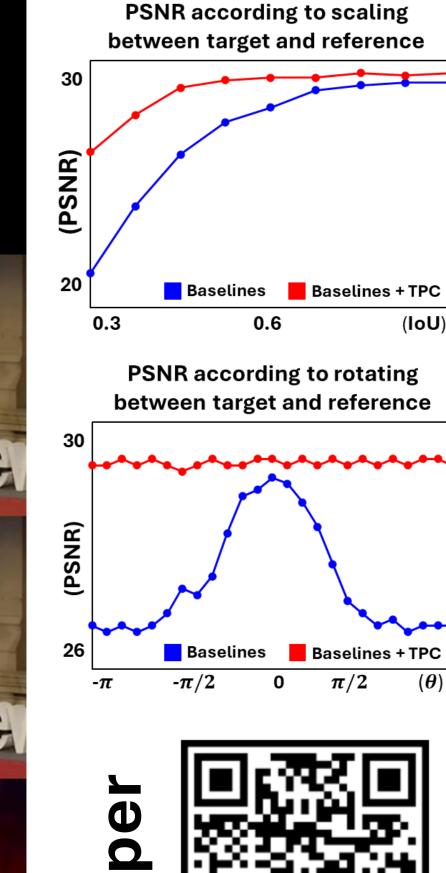




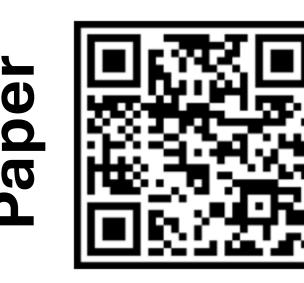
Experiments Qualitative results

Target Reference Calibrated





Robustness





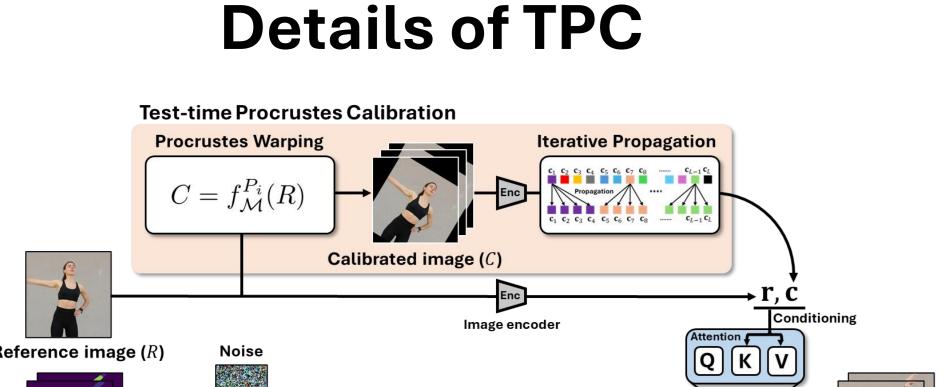
961 Denoising step 79

Observation

Target pose

Attention maps on reference image

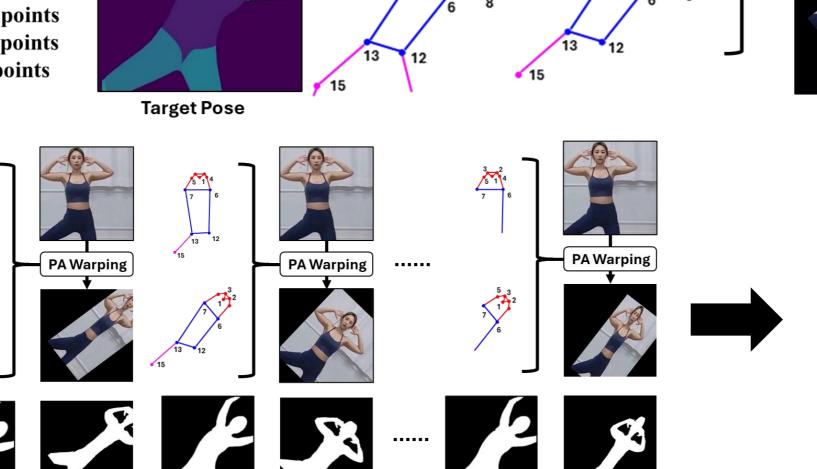
961 Denoising step 79



Procrustes Analysis (PA)

$X = \{x_1, \cdots, x_n\}$ $\widehat{Y} = s \cdot Xr + t \qquad Y = \{y_1, \dots, y_n\}$

Common visible keypoints for PA



 $C^* = \operatorname{argmax}_{C_i} h(C_i, P)$

Optimal frames